

# Strategic and Financial Valuation of Össur



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## **Executive summary**

The focus of this thesis was to find the fair value per share of Össur as of today. The thesis also seeks to estimate whether the shares are over- or undervalued. In the last year, share price has been fluctuating. On January 9<sup>th</sup>, the share price was 29.50 and fell to 26.50 in May. Since then, Össur's share price has been increasing rapidly and shown a 22% increase from beginning of May.

The economic factors influencing Össur's value were estimated in a strategic analysis. The analysis included a macro-, industry- and internal analysis which were summed up in a SWOT analysis. The result from the analysis showed that the market drivers for Össur's industry is growing steadily which is giving Össur opportunity to grow. The analysis showed few threats and weaknesses as well. The ones influencing the future growth were changes in reimbursement, currency fluctuations and the fact that Össur may be depend on certain raw materials.

Followed by the strategic analysis, financial analysis was made to estimate the key financial drivers. It showed that Össur's profitability has been increasing as well for sales. Profitability analysis and an analysis of both short-term liquidity risk and long term were made which showed result of excellent ability to pay future obligations.

The valuation of Össur was then performed by using the Discounted Cash Flow (DCF) model and also the Economic Value Added model (EVA). Both models showed similar results, a share price of 28.3 DKK and 28.8 DKK on the 9<sup>th</sup> of February 2019. Compared to the value of 31.1 DKK on November 28<sup>th</sup> 2018. A Sensitivity analysis was performed in the end to see how sensitive the stock price is to changes in growth and risk. The analysis revealed that stock price is more sensitive to changes in WACC than to changes in growth rate.

Therefore, I conclude Össur's share price being undervalued.

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## 1 Introduction

In this paper, I have chosen to perform a strategic and financial valuation of the Icelandic based company Össur. The company specializes in non-invasive orthopedics, such as artificial legs and braces and support systems. Össur is the world's second largest manufacturer of non-invasive orthopedic products holding a leading market position in prosthetics (artificial limbs) and in bracing and support products.

There is often asymmetric information between potential investors and management in a firm. Decisions around investment are often characterized by uncertainty and the same for the stock market and performing a fundamental firm valuation is one way to overcome that knowledge gap. The paper will be based on publicly available data gathered by annual reports of the company to find out if the share price of Össur is under- or overvalued.

The most used technique when valuing a company is the two-stage Discounted Cash Flow (DCF) model. The first stage is a period of explicit forecast and the second stage assumes a growing cash flow at a constant growth rate. The second stage, the stage after the explicit forecast uses a value called a Terminal Value which will mostly be account for the estimated Enterprise Value

### 1.1 Problem statement

The purpose of this thesis is to estimate the fair value of Össur and analyze if it is over or undervalued. Using the result to make a further recommendation to the private investor if buying or selling stocks in the company. The problem statement the thesis will try to answer is:

*What is the fair value per share of Össur as of today?*

To focus and narrow the investigation fostering the necessary insight, a few other questions have been included:

- What factors in the external and internal environment influence Össur? Given this, what are the key market drivers?
- What characterizes Össur competitive sphere? Moreover, how does the forecast for industry profitability look?
- What characterizes Össur's financial profitability?
- What is the expected future growth of the company?

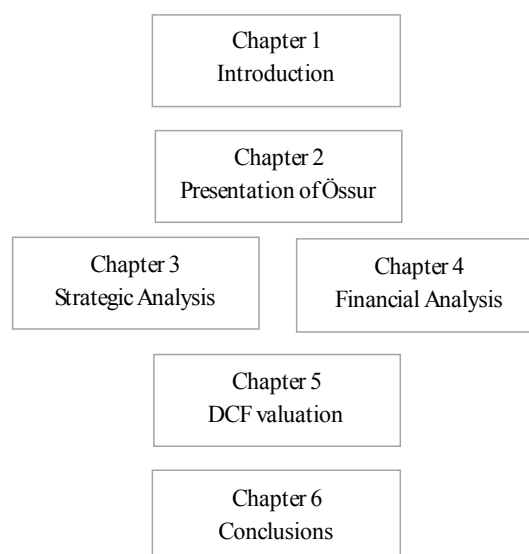


- Using a DCF valuation model, what is the fair value of Össur?
- Using the EVA valuation model, what is the fair value of Össur?
- How sensitive is the share price to changes regarding risk and growth?

## 1.2 Structure

The structure of the thesis is constructed around five chapters as shown in Figure 1. In chapter two, the company is presented where I go over the organization, the management, and Össur's products. Chapter three is a strategic analysis where the external and the internal environments are analyzed to get an overview over possible competitive advantages the company could possess as well to demonstrate the market drivers for both segments. In chapter four, a financial analysis of Össur is conducted to get an overview of the profitability of the company as well to get the historical trends that will be used for the forecast. Chapter five, practical application of DCF and EVA on Össur using the fundamental analysis from previous chapters. Chapter five has two parts, the first part covers the forecast, focusing on estimating the future growth potentials for the company by using the information conducted in the strategic and financial analysis. The second part calculates the value of Össur by using the Discounted Cash Flow model (DCF) and Economic Value Added model (EVA). Sensitivity analysis is performed in the end to see how sensitive the stock price is to changes in growth and risk. Chapter six includes the conclusions where findings from the valuation will be discussed.

**Figure 1 Thesis Structure**



### **1.3 Methodology and delimitation**

The valuation for this thesis is done by collecting data using publicly available data. Thus, the valuation is from an external point of view. Assumptions are therefore made without certainty about the decisions of the company regarding future growth. The information collected about Össur is taken from annual reports unless stated otherwise. Primary empirical data could have given a better insight into the capital budgeting decisions and given a more accurate framing of the valuation.

Methods used to find the fair value of Össur is the discounted cash flow model (DCF) and the Economic Value Added model (EVA) where future cash flow is discounted back to find the present value of the cash flow. The numbers and data for the DCF and EVA are found by analyzing the historical performance of Össur, gathered from the annual reports. The numbers for the annual reports are reformulated to take out non-recurring events. Moreover, the estimation is based on tangent cash from operations. The discount factor used to discount the cash flow is based on the weighted average cost of capital (WACC) which is the cost of capital for Össur. The future cash flow is predicted using the findings from the strategic analysis. The strategic analysis is based on the PEST framework with a purpose to see how Össur's strategy is affected by the macro environment.

The share price of Össur on November 28<sup>th</sup> was 31.1 DKK. The valuation model is in USD since Össur reports its earnings in USD. An exchange rate of DKK/USD of 6.62 will be used, since it was the given exchange rate on November 28<sup>th</sup>.

Össur's main competitors are privately listed which makes it almost impossible to do a peer group analysis for the industry analysis. Thus, it increases the uncertainty of the outcomes.

## **2 Presentation of Össur**

Össur is a global leader in non-invasive orthopedics; innovating, producing, and providing advanced technological solutions within prosthetics and bracing & supports (B&S). Originating from Iceland, the company started out as a producer of leg prosthesis (artificial limbs) for amputees and today claims a rank as number two with 20-22% market share after Otto Bock GmbH. Over the years, it has expanded into the larger segment of B&S products through acquisitions and holds a number two rank with 6-8% market share after DJ Global.

The stock price of the company has been steadily growing since 2011 after falling dramatically after the world financial crisis in 2005-2008. Össur was listed on the NASDAQ OMX Copenhagen Stock Exchange in 2009 (Össur, 2017). One year later the stock price of Össur had gone from 5.5 DKK to 9.4 DKK.

Headquarters are in Iceland where it produces most of its prosthetic devices but has consolidated a large proportion of manufacturing in Mexico (Carnegie, 2015). Össur has 3000 employees in main locations around the world, Americas Europe and Asia (Össur, 2017).

The EBITDA margin was 17% at the beginning of 2018 and the financial goal and the full year guidance is around 19% before one-offs, so Össur has to improve the margin by nearly 300bps in H4(18) (Carnegie, 2015). The EBITDA is expected to improve due to developments in product mix, scalability in the underlying business and synergies from integration. Moreover, the improvements should come from higher organic sales growth and a continued shift in product mix towards high-end products (Carnegie, 2015). However, the EBITDA margin will be slightly negatively impacted in 2018 due to Össur's hedging agreements (Össur, 2017). To achieve financial goals a number of strategic initiatives have been employed. They are:

- To be a leading company in non-invasive orthopedics
- Grow above market and through acquisitions
- Customer value creation
- Forward integration
- New technology

The goal has always been to invest in foreign companies whose operations are the same or similar. The orthopedics industry is very competitive and characterized by constant innovation and rapid technological development. In the past, the B&S industry has been very fragmented with many small market players focusing on small customer segment (Össur, 2005).

Össur made its first acquisition in 2000 initiating the consolidation process of customers preferring getting a total solution in one place. Hence, Össur became the second largest player in the world. Since then, competitors have reacted to the initiative, resulting in further consolidation of the industry (Össur, 2005). The acquisitions in 2005 moved Össur closer to realizing its strategic objectives and positioned Össur as one of the leading companies. Moreover, the strategic initiatives have put Össur on a very competitive market with products having the same physical characteristics. Thus, Össur emphasis is on research and

development. Össur core competencies were focused on low-cost production through economies of scale and through Royce medical acquisition in 2005, Össur acquired competencies of low-cost production. With Össur's most recent acquisition in prosthetics, the company is now providing a full product offering that includes the most technologically advanced prosthesis in the world with an increased focus on innovation.

Össur has distribution offices located in the USA, Europe, APAC, and the Asia Pacific. For the distribution, the company relies on its relationship with orthopedic professionals and other agents to sell their products. It's always a risk of vertical integration between the distributor and the company's competitors when dealing with third-party distributors. Össur is not overly dependent on one customer as the company's largest customer accounts for 11% of total sales. Össur has many manufacturing facilities in many different strategic locations around the world and preparations begun to move part of the feet manufacturing and assembly from Iceland to Mexico manufacturing plant (Össur, 2017). There has been a major shift in Össur's market place which includes the consolidation of prosthetics manufacturers and the additional momentum that forward integration is gaining in the industries where the company operates (Össur, 2017). The financial year 2016/2017 has been a turning point for Össur. There is an increase in the mergers of healthcare solutions and product providers with increasing cost pressure and the need for scale, creating an opportunity for forwarding integration. The company continues to achieve growth by commercializing their innovation through their local go-to-market strategy. Net profit for the company grew by 13% and amounted to USD 58 million in 2017 which can be attributed to strong performance in sales (Össur, 2017).

## **2.1 Acquisitions**

In 1999, Össur's director said: "...To secure growth and progress, companies need to develop and meet the demands of their own goals as well as changes in the external environment". That year, Össur listed on the Icelandic stock exchange which allowed them to get access to funds through the capital markets. It was the most important changes for the company as they used the capital for strategic acquisitions of prosthetics workshops and in the B&S market. The growth started with the acquisition of American company, Flex Food. Össur's strategy and acquisitions over the years have put the company on a very strong competitive footing, consolidating a range of highly innovative products and expertise (Össur, 1999). The biggest acquisitions were made in 2005 and 2006 where Össur became a player in the bracing and support market of orthopedics' and three years later, they became a market leader in B&S.

Going into the B&S market gave Össur more market penetration through new sales channels for existing products and their new products got access to their old channels. Reason for why Össur should operate in both markets is their expertise in carbon fiber technology. Carbon fiber is used in both B&S products and in prosthetics products and is the carbon composite design and capability a core competency of the company (Össur, 2000). A brief overview of the acquisitions is given below.

### **2.1.1 Overview of the acquisitions**

In 2003 Össur acquired Linea Orthopedic A.B and the Generation II Group and became an orthotics and prosthetics company, allowing Össur to expand into a market which is much larger than the prosthetics market. The Generation II Group was a leading company in the development and manufacture of knee braces in North America, at a price of 31 million US dollars. The acquisitions were merged into Össur's offices in Eindhoven, Holland. The acquisition was seen as an excellent fit for Össur since their emphasis was on research and development (Össur, 2003). Over that year net sales increased over 16% which was a result from the new acquisition and also from the impact of the falling price of the US dollar against the euro and other European currencies. The fall in the price also increased production costs and operating expenses (Össur, 2003).

The year 2005 the company acquired Royce medical which harmonized well with the company's policy of expanding operations into other segments of orthopedics and hence Össur increased their weight of bracing and support products in the product portfolio. The company was acquired for 216 million US dollars. Össur also acquired the UK orthopedics products company Innovative Medical Products Holdings (IMP) for 18.5 million US dollars. IMP was a manufacturing, sales and distribution company and was the largest in the orthopedics' sector in the UK. At the end of the year 2005, Össur acquired a Swedish distributor, GBM medical AB. The key benefits of the acquisitions were the acceleration of Össur's progress towards becoming a top player in the industry as for opportunities to utilize low-cost production capabilities and knowledge regarding outsourcing. Moreover, the opportunities for sales of Össur's products through the acquired distribution channels in North America and in Europe (Össur, 2005).

In January 2006, Össur acquired Innovation Sports Inc. for 38.4 million US dollars. Innovation Sports was a US-based developer and manufacturer of ligament braces. In December they also acquired Gibaud Group in France for 132 million US dollars. The company was a local leader

in the production, design, and distribution of medical devices, specializing in bracing and compression therapy products. The motivation for these four acquisitions in 2005 and 2006 (See figure 2) was based on strengthening bracing and support products as well as sales channels (Össur, 2006).

The Four major acquisitions made was a crucial step towards the company's goal. In addition, Gibaud brought a new dynamic product segment, Phlebology. After the year 2006, Össur acquired several players operating in bracing and support along with three O&P clinics in 2013 with the objective of better understanding the end-users needs (Össur, 2017).

**Figure 2 Acquisitions in 2005-2006**

	ROYCE MEDICAL	MEDISTOX	INNOVATION SPORTS	GIBAUD
<b>PURCHASE DATE</b>	August 2005 \$216 million	December 2005 \$18.5 million	January 2006 \$38.4 million	December 2006 \$132 million
<b>BUSINESS DESCRIPTION</b>	Manufacturing, sales and distribution of bracing and support products	Manufacturing, sales and distribution of bracing and support products	Manufacturing, sales and distribution of ligament braces	Manufacturing, sales and distribution of bracing and support products and compression therapy products
<b>STRATEGIC RATIONALE</b>	Product Sales Channel Access Outsourcing know-how	Sales Channel Access	Product Sales Channel Access	product Sales Channel Access
<b>FINANCIALS</b>	Sales: \$68 million EBITDA margin: 26%	Sales: \$14 million EBITDA margin: 20%	Sales: \$19 million EBITDA margin: 19%	Sales: \$55 million EBITDA margin: 21%

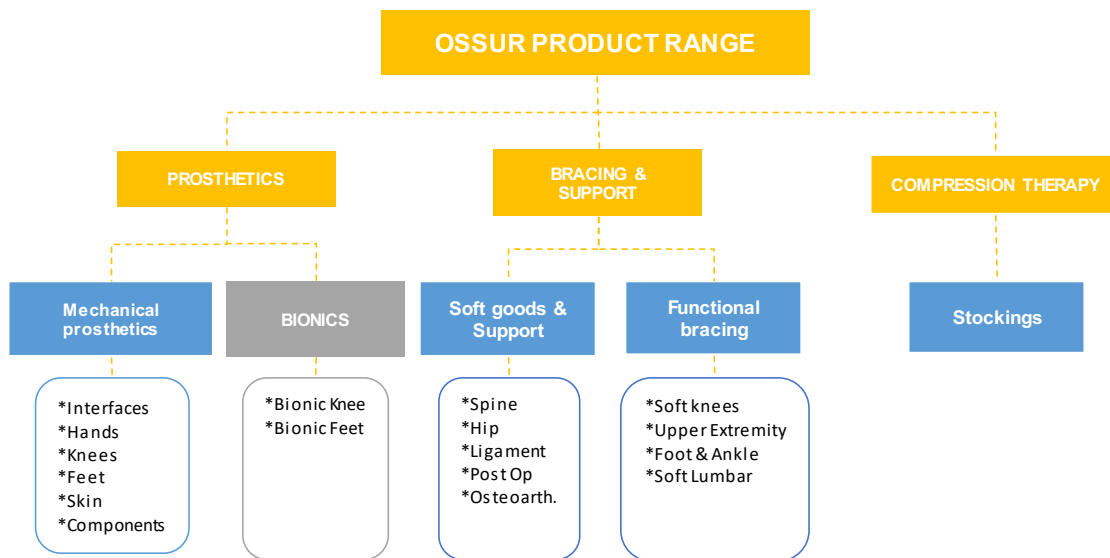
*Source: (Authors own creation based on Össur's annual reports)*

In the following years Össur made an acquisition within both segments, most recently Touch Bionics and Medi prosthetics in 2016 (Össur, 2017). Medi Prosthetics is a global provider of mechanical lower limb prosthetic components, located in Germany. The purchase price for the Touch Bionics was 39 million US dollars. The acquisition of Touch Bionics is a further display of Össur's commitment of upgrading prosthetic technology resulting in effective clinical outcomes and with this acquisition, Össur enters into the upper limb prosthetic market allowing the company to offer a complete bionic product portfolio to customers. Moreover, it is expected to increase the EBITDA margin (Össur, 2016).

## 2.2 Product Portfolio

Össur operates mainly in two markets, the prosthetics, and B&S. The company also has a market share in compression therapy in France through their acquisition on Gibaud. The products for the compression therapy are only sold in France so Össur’s main focus is on prosthetics and B&S.

Figure 3 Product range



Source: (Authors own creation based on annual reports)

### 2.2.1 Bracing and Support

The Bracing and support market includes knee, ankle, wrist, walker boots, elbow, neck, and back bracing devices. The B&S products are used to support joints and other body parts, both for therapeutic and preventive purpose. There has been growth in all regions for the past three years and around 50 products have been launched since 2016 (Össur, 2016). The launch of new products has resulted in further strengthening Össur's product offering throughout the entire product portfolio. Hence, the goal is to increase brand awareness of their current brands such as Form Unloader One®, Miami J®, Form Fit®, and Rebound®. Due to the growing prevalence of obesity and diabetes there is an increasing number of orthopedic surgeries such as knee and hip replacement which means the market is growing for the lower extremity braces and support segment (market). The overall most important growth driver for B&S is the change in demographics (Össur, 2017).

In Figure 3 the products for B&S can be seen. The largest segment of the bracing and support market is knee support, such as knee sleeves which provides warmth, compression, and stability for post-injury treatment. These products are typically used by athletes and elderly people (Össur, 2017). The rising number of accidental cases also increases the adoption of these products in the market (Maida, 2017). In 2017, Össur introduced more than 10 new B&S products. These include the Unloader One Lite knee brace, which is a new addition to the growing OA solutions. Össur has 6-8% market share, estimating the size of the market around three million US dollars. According to Össur, the annual growth rate for the B&S market is 3-5%.

### **2.2.2 Prosthetics**

Prosthetic products include artificial limbs and related products for people who were born without limbs or have lost one. Össur offers a large spectrum of high quality lower and upper limb prosthetic components. The product portfolio goes from solutions to support less active individuals who struggle with ideal balance of safety, comfort, and mobility all the way to solutions designed to enable especially active people to engage in high-impact endeavors (Össur, 2017). The product range of lower extremity prostheses can be divided into three categories: Knees, feet, and liners.



**Figure 4 Prosthetics products**



*Source: (Authors own creation from annual reports)*

Össur began with liners which are the interface between the human body and the prosthesis. The liners are usually made out of silicone and come on many versions and sizes. The most complex lower extremity prosthetics and also the most expensive are the artificial knees. The Bionic knees is a technological revolution, allowing amputees to walk naturally on steps, stairs, and uneven surface. The feet market is larger in volume compared to the knee market but the prices for feet are lower (Carnegie, 2015).

Bionic products are a generation of products which also adapts to the ground the amputee is walking on. In 1997, Össur's main competitor, Otto Bock was the first one to launch a bionic prosthesis. In 2004, Össur followed with a launch of Rheo Knee (shown on figure 4 under Bionic knee). For the past years, Bionic products have been an important growth driver for Össur contributing around half of the organic sales growth in the division of prosthetic. Last year, bionic sale accounted for 21% of prosthetics component sales (Össur, 2017). Hence, bionic sales are having a large impact on group sales.

### **2.2.3 Compression therapy**

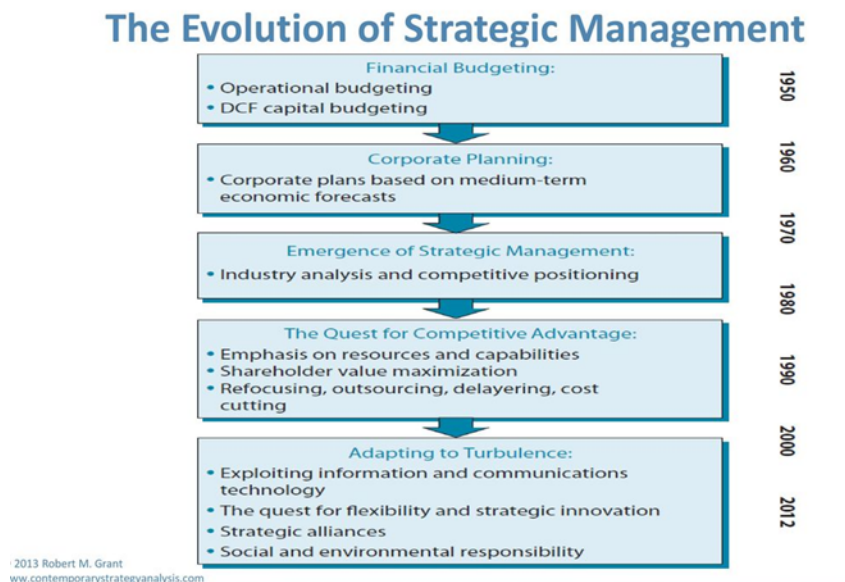
Össur entered the compression therapy market in 2006 when the company acquired the French company Gibaud (Össur, 2010). Compression therapy is a treatment for venous ulcers and edema. Össur's products for compression therapy are such as compression socks, tights, and bandages used to apply pressure to the vascular system.

### 3 Strategic Analysis

A major reason for the decline and failure of some companies comes from their having a strategy that lacks consistency with either the internal or the external environment (Grant, 2008). My approach to peel all the layers in Össur is to utilize the notion of *Strategic Fit* (Grant, 2008). It focuses on how the strategy must fit with the business environment and with the firm's resources and capabilities, for example, most business managers seeking to expand their company's operation through acquisition will look for another company that makes a good strategic fit with their own firm (Grant, 2008).

Environmental conditions change and to secure a strategic fit requires capabilities that allow a firm to assess environmental changes, state an appropriate response, and reconfigure internal resources (Andersen & Denrell, 2007). During the 21<sup>st</sup> century, new challenges have continued to shape the principles and practice of strategy. Digital technologies have had a massive impact on the competitive dynamics of many industries (Grant, 2008). The complexity of these challenges has meant that being self-sufficient is no longer viable for most firms, alliances and other forms of collaboration are an increasingly common feature of firms strategies (Grant, 2008).

Figure 5 Evolution of Strategic Management



Source: (Grant, 2008)

Grant (2008) talks about how business strategy is to determine how the firm will deploy its resources within its environment and so satisfy its long-term goals, and how to organize itself

to implement that strategy. Moreover, identify the current strategy of the firm and assess how well that strategy is doing in terms of the financial performance of the firm (Grant, 2008).

### **3.1 Analytical Framework**

A company structure is a framework in which the organization defines how tasks are divided, resources are deployed, and departments are coordinated. This analysis gives an understanding of the important challenges and success factors through theoretical frameworks. Thus, the market structure. Using the models and some theoretical conceptions to predict the future of the competitive position of Össur.

The profit earned by the firms in an industry is determined by three factors: the value of the product to customers, the intensity of competition and the bargaining power of producers relative to their suppliers and buyers. Bringing all three factors into a single analytic framework for an industry analysis (Grant, 2008). According to the market structure models, the environmental factors control the firm's strategic behavior. Moreover, the purpose of the models is to define the external competition. Therefore, I use these models to position Össur within the competitive market (Porter, 1996)

### **3.2 Industry analysis**

Industry analysis looks at the surrounding environment where Össur operates in. The PEST analysis is found in Appendix A and its conclusions are incorporated in the text below. This part looks at Össur's market drivers and draws conclusions on what could be the important success factors and challenges. The focus on structural analysis is on identifying the stable, underlying characteristics of an industry, it is the economic and technological structure that shape the field in which competitive strategy must be set (Porter, 1996). The key economic and technological characteristics critical to the strength of each competitive force are discussed below (Porter, 1996).

#### **3.2.1 Industry Rivalry**

As a global market leader in non-invasive orthopedics, Össur maintained its market position as the second largest player in both prosthetics and bracing and support in the year 2017 (Össur, 2017). The prosthetic industry consists of many small companies. In recent years, there has been compression in the industry, which Össur has led. This has made the existing firms larger and stronger with broader product portfolios, allowing them to achieve economies of scale.

The market is characterized by rapid technological change, driven by extensive research that is carried out by market participants. The firms on the market try to match end-users demand while developing more efficient products and strike for better innovation followed by cost optimization. The products and service in the industry are perceived as a commodity or near commodity and the choice by the buyer is largely based on quality and price which pressures for an intense price and service competition result (Porter, 1885). For the industry, innovation is crucial and product development is a major key for growth.

### 3.2.1.1 Prosthetics

Prosthetic products include artificial limbs and related products for people who were born without limbs or have lost a limb. The market is highly fragmented and is based on new product launches and clinical results of products (Market Watch, 2018). Hence, the big players have used various strategies such as new product launches, high expense on research and development, agreements, acquisitions and more to increase their footprints in the market (Market Watch, 2018). The growth of the global orthopedic prosthetics market is mainly driven by the increasing incidence of trauma and lifestyle-related diseases. The market drivers for both segments are similar and can be seen in figure 6.

Figure 6 Market drivers



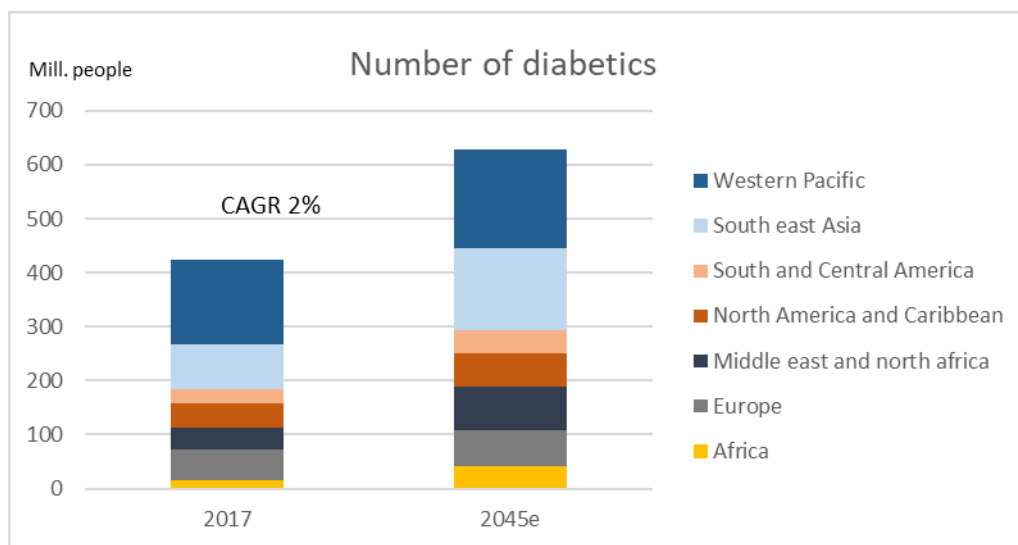
Source: (Authors own creation based on annual reports)

The global prosthetics market is characterized by the presence of key other prominent vendors that have significant market share and offer a broad range of conventional and technologically advanced orthopedics prosthetics. The market is an oligopoly with a selected few firms

dividing the market between each other (Will Kenton, 2018). The factors that enable oligopolies to exist include high entry costs in capital expenditures, legal privilege, and a platform that gains value with more customers (Will Kenton, 2018). Össur's prosthetics are mostly focused on lower extremity products. Upper extremity products make up less than 20% of the market and the reason for their uses are mostly trauma related. For lower extremity products, this is not the case.

According to The Amputee Coalition of America, no less than 34% of all amputations are because of diabetes and another 40% can be ascribed to vascular diseases. Thus the actual share of amputees suffering from diabetes may be well over 50%. According to the World Health Organization (WHO) there is a "global epidemic of obesity" causing rapid growth in the prevalence of type II diabetes (Stefanie, 2015). The consequences of diabetes over a long period may lead to amputations. In Figure 7, the number of people with diabetes is shown:

**Figure 7 Number of people with diabetes (20-79y)**



*Source: (Authors own creation from IDF, 2017)*

The international Diabetes Federations (IDF) expects the number of diabetes to increase from 425m people globally in 2017 to 628m in 2045 which means an annual increase of 2%. In Europe and North America, the number of diabetics is expected to increase by 24% to 129m people by 2045 (IDF, 2017). According to IDF, people with diabetes the risk of amputation is more than 25 times greater than in people without and nearly 1% of people with diabetes end up having an amputation (IDF, 2017).

### 3.2.1.2 *Bracing and support*

Bracing devices are orthopedic appliances used to align, support and hold structural and functional characteristics of the musculoskeletal system (Transparency market 2015). The market includes knee bracing and supports, ankle bracing and supports, spinal orthoses, back soft goods, upper extremity bracing and pain management such as cold therapy (IData Research, 2012).

An aging population is considered as one of the key market drivers for orthopedic braces and supports. With growing age, bones and ligaments naturally become weaker (Grand view research, 2017). Hence, rising geriatric population and the growing prevalence of obesity and increasing use of braces to prevent sporting injuries the market for these devices is expected to have slow but moderate growth. According to Össur, the global market for bracing and support products has a growth rate of 3-5% which is entirely driven by volume (Carnegie, 2015).

The age group 65 and older is forecasted to rise from 15% in 2015 to 25% in 2060 and amputees over 85 years expected to double from 28.000 to 60.000 per year by 2030 (Össur, 2015). Today, the knee bracing and support market is the largest segment. However, there is a strong relation between an aging population and incidence of lower back problems and therefore overall growth is expected to be driven by the spinal orthosis (IData Research, 2012).

The market environment in the B&S segment has similar characteristics as the prosthetic market (Össur, 2016). The main causes for the use of B&S products are split between injuries and illness. Moreover, injuries cover the conventional orthopedic related to trauma such as damage to ligaments, bone fractures and compromised cervical spine. According to the American Academy of Orthopedic Surgeons (AAOS), the number of cases is growing steadily in line with growth in population and more people living an active life.

The most common disease behind the use of bracing and support products is osteoarthritis (OA). It is estimated that more than 10% of the US adult population have symptomatic OA and the prevalence of OA is expected to increase over the next 20 years as the population ages (Lawrence et al, 2008). Aging is one of the growth of OA and so is obesity as it applies compressive forces to joints (Strader and Annunziata, 2016). Furthermore, 78% of those diagnosed with OA in the US are overweight or obese (Strader and Annunziata, 2016).

Össur is one of the key players in the bracing and support market. The companies are concentrating on strategic initiatives such as product development, mergers, and acquisitions.

Össur operates as the second largest in the world servicing a narrow niche within the consolidated US Billion 2.7-3.0 with a 6-8% market share (Össur, 2017).

### 3.2.1.3 Competitor Analysis

As mentioned before, Össur operates on several different markets within the non-invasive orthopedics. This section intends to position Össur against its key competitors. Since Össur is a global player in the field of both prosthetics and Bracing and Support there is a large array of competitors. However, when analyzing competitor's strategy, market potential and market size only a couple can be seen as direct competitors. They are:

- Otto Bock: Össur's main competitor in both markets, most revenue generated
- Ohio Willow Wood: Strong competitor in Prosthetics products and solutions for amputees
- DJO: One of Össur's top competitor in Bracing and Support
- De Royal: Player in Bracing
- Breg: Össur's competitor in bracing and Support
- Thuasane: Competitor in Bracing and Support

Figure 8 illustrates Össur's competitors and their position within Össur's product market.

**Figure 8 Össur's competitors**

	Prosthetics	Bracing&Support	Company Therapy	Revenue (Million USD)
<b>Ossur (IS)</b>	√	√	√	<b>569</b>
Otto Bock (GE)	√	√		<b>771</b>
DJO (US)		√	√	<b>413</b>
DeRoyal (US)		√	√	<b>410</b>
Breg (US)		√	√	<b>37,5</b>
Willow (US)	√			<b>12,8</b>
Thuasne (US)		√		
<b>Ossurs Global Position</b>	<b>2</b>	<b>2</b>	<b>2</b>	

*Source: (Author's own creation based on annual reports)*

There are more than 50 players on the bracing and Support market where Össur only holds a small market-share of 6-8%, but the second largest in the world (Össur, 2013). That implies that there is not one large firm leading the segment. Among the B&S competitors, DJO and

DeRoyal are Össur's main competitors. However, Össur has been the second largest player in B&S for more than 5 years and has held a market share in the range of 7-9% (Össur, 2013).

According to Össur, there are nearly 100 prosthetic makers in the world and has Össur been among the most acquisitive players in the past 15 years, mostly through the acquisition of Flex-Foot Inc. in 2000 (Össur, 2000). Össur is also the second largest player with 22% market share. Otto Bock is of most interest as they are the largest in the field of orthotics and prosthetics. High quality prosthetic and orthotic components were standardized for use in individually crafted prosthetic and orthotic devices to meet a great need at an affordable price. This can be interpreted as a company strategic decision to emphasize on low price rather than premium quality products, resulting in a competitive disadvantage for customers that value quality.

Otto Bock is a tough competitor with a product line of 20.000 prosthetic and orthotic products while Össur offers 200 prosthetic products. Otto Bock's main competitive advantage in most of the countries is that the company has been serving the markets for a much longer period than Össur resulting in great customer loyalty (ottobock.com).

### **3.2.2 Threat of new entrants**

New entrants to an industry bring new capacity and the desire to gain market share (Porter, 1996). When an industry is profitable the threat of new entrants can be quite looming. According to Porter, there are six major sources of barriers to entry. They are:

- Economies of Scale
- Product differentiation
- Capital requirements
- Switching costs
- Access to channels of distribution
- Government policy

The industry requires substantial investments in research and development and new entries have to suffer negative cash-flow at the beginning of a product launch. Hence, the entry barriers are very high, being dominated by a few strong firms. Össur's products are based on advanced technology and innovation rather than cost advantage. In the prosthetics market, Össur is the second largest firm and because of its wide product portfolio and global presence, they are able to achieve economies of scale.



Most of Össur's products and service are reimbursed by third-party, such as government healthcare programs and private health insurance plans (Össur, 2017). Therefore, product differentiation isn't as relevant as in other industries. The products for the end-user are mostly picked or recommended by a third-party, such as a doctor or an orthotics specialist. However, third-party providers have to be educated about the products since they are the one choosing the products for the end-users. In the Prosthetic industry, product differentiation isn't very high and customer loyalty doesn't play a big role here.

Capital requirements create a large entry barrier for the industry. The capital requirements are high for new players to enter the market and development of the products can take years before they can be on the market.

Össur operates in three sub-industries inside the medical device industry, prosthetics, bracing and support and company therapy. The switching cost is higher for the prosthetic because it requires complex technology and is more individualized. It is mostly chosen and paid by a third-party and they are also more expensive which makes it hard for the user to switch after having invested in one. The health insurance and the healthcare institutions may also have invested heavily in learning how to use a particular supplier's equipment. Porter's (1996) major sources of switching costs are as follows:

- Costs of modifying products to match a new suppliers product
- Testing suppliers product to ensure substitutability
- Psychic costs of serving a relationship
- Investment in retraining employees

These costs can be higher for buyers than for others. However, switching costs can also afflict the seller, who might have to bear fixed costs of changing buyers. Moreover, switching costs facing sellers yield the bargaining power of buyers (Porter, 1996).

The bracing and support are not as user-specific and easier to replace, same goes for the compression therapy. But, since the payment is reimbursed from a third party, it makes it difficult switching producers after investing. The third party, such as the insurance company will most likely not reimburse another product if the first one is still working and the user is also not likely to invest in one themselves if they have one. Therefore, the switching cost is assumed to be quite high in both sub-industries.

The compression therapy sub-industry is the smallest of the three is less than 3% of sales (Össur, 2014). The compression therapy market is the least individualized and is also the least to be reimbursed from a third party. Even though the entry barrier for the switching cost is very low for the compression market, I will consider the entry barrier high for new entrants in this category.

The distribution channels are an important factor for Össur. Össur has used the acquisitions they made in the purpose of gaining access to sales channels and markets. As for new entrants, this is a great entry barrier.

The last major source of entry barriers is government policy. In knowledge-intensive industries such as Össur, established firms are protected by government patents on their products. Large established firms tend to be in a better position to act in accordance with environmental legislation, and environmental compliance costs, therefore, raise barriers to entry for newcomers (Össur, 2017).

Össur's products are medical devices that are subject to extensive regulation in the United States by the Food and Drug Administration (FDA), and by respective authorities in other countries where Össur conduct business (Össur, 2017). These regulations can regulate all aspects of device design and testing, manufacture, safety, labeling, storage, reporting, approval, and distribution (Össur, 2013).

### **3.2.3 Pressure from substitute products:**

Identifying substitute products is a matter of searching for other products that can perform the same function as the product of the industry (Porter, 1996). The availability of substitutes in the bracing and support market is higher than in the Prosthetics industry. Any substitute product developed by the competitor that serves the market demand better could have a possible effect on Össur's earnings.

It is important to look outside Össur's main competitors when looking into substitutes. In the prosthetics industry, the biggest consumer growth is from people who have lost a limb due to diabetes or other diseases. With that in mind, Össur's substitute product could be in form of medicine. Hence, the prosthetic sector would decline steeply in the long term. Another factor having an effect on the growth in the prosthetics sector is advances in vascular surgery, resulting in better solutions for patients before there is a need to take the limb off.

### **3.2.4 Bargaining power of buyer**

Össur is not dependent on third-party players, including both government healthcare programs and private health insurance plans. As mentioned earlier, the switching cost for buyers is particularly high. Össur's products are based on advanced technology and buyers, meaning that the third party may have made heavy investments in learning how to use a particular supplier's equipment's (Porter, 1996). Hence, production is a complicated process so Össur is more likely to prefer longer contracts and thereby reducing sensitivity to falling resource prices.

Since the end-users are not the paying for the product the buyers have a massive power because of how big they are. The pressure on governments to keep the taxes low and the pressure on insurance companies to keep the profit high results in both these parties wanting to pay as little as possible for healthcare (Össur, 2017). These cost control methods also potentially limit the amount of payment of which third-party players may be willing to pay for medical products and service. As such, the continuing efforts of both governmental and private players of healthcare to contain or reduce costs could lead to patients being unable to get approval for payment from these third-party players. If that were to happen, sales of Össur's products and service may decline remarkably and its customer may reduce or cancel purchase. However, healthcare providers are constrained by budgets and they demand cost-effective solutions. Thus, the demand for lower healthcare expenses creates opportunities for lower cost bracing as alternatives to high-cost surgery (Össur, 2017).

Össur acquired three O&P clinics with the objective of better understanding the end user needs. Össur is able to assist providers with operational features such as custom manufacturing, patient treatment, and process optimization, the company is also looking into the possibility of forward integrating if opportunities arise (Össur, 2017). Through this strategy, it may create codependence between Össur and its sales subsidiaries. However, Össur uses the acquisitions to provide the most technologically advanced prosthesis in the world (Össur, 2017).

### **3.2.5 Supplier power**

The main suppliers to the Prosthetics and Bracing industry are the producers of raw materials of stainless steel, silicone, plastic, aluminum, latex rubber, and natural fabrics. Moreover, natural gas and electricity typically provide the power for manufacturing (Essays, 2013). Össur is dependent on suppliers that manufacture these products for the company. Failure to deliver the products could affect the financial results of the company (Össur, 2016). Supplier

bargaining power in this market is quite moderate since there is little differentiation in supply materials. Thus, market players are more willing to switch suppliers based on price (Essays, 2013).

### **3.3 Key success factors and challenges**

The main success factors have been established, looking from an external point of view. They are:

- Economies of scale in terms of technological advantages and low-cost production
- Wide product portfolio
- Technically advanced products, since the market for medical devices, are showing strong growth potential due to the elderly population, increase in trauma and demand for higher quality of life

The main challenges are considered to be:

- Efforts to hold back growth in healthcare expenditures
- Improved treatment options such as surgeries
- Changes to reimbursement structure, as reimbursement systems vary between counties and product markets

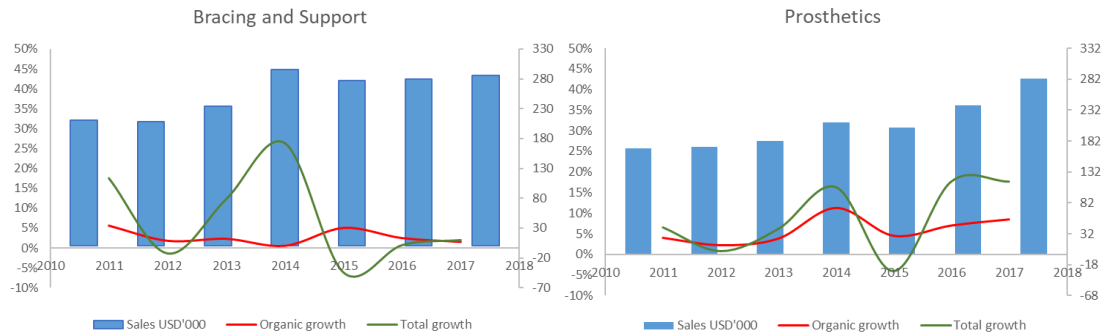
### **3.4 Internal Analysis of Össur**

Internal analysis is the systematic evaluation of the key internal features of an organization such as, organizations resources and capabilities, the structure of the organization, the performance measured by the strength of its products and the way in which the organization configures and coordinates its key value-adding activities (Internal Analysis, D.E.). Porter explains this in what has been called the resource-based view of the firm (RBV) (Grant, 2008). The RBV explains how competitive advantage within firms can be achieved and sustained over time (Grant, 2008). According to Grant (2008), the greater the rate of change in a firms external environment, the more likely is it that internal resources and capabilities rather than external market focus will provide a secure foundation for long-term strategy.

#### **3.4.1 Performance by Segment**

As discussed earlier, Össur's products are divided into two divisions, Prosthetic solutions and injury solutions being under Support and Bracing division. The ratios below on figure 9 are calculated using the principals in the reclassification of Össur's financial statements.

**Figure 9 Segment Analysis**



*Source: (Authors own creation based on financial statements)*

In 2017, the bracing and support division had revenues of 285 equaling 50% of total revenue. The organic growth has been fluctuating from 6% down to 2% in the last few years. The organic growth for B&S increased 1% in 2017 which was driven by growth in EMEA from high-end products including the Unloader One.

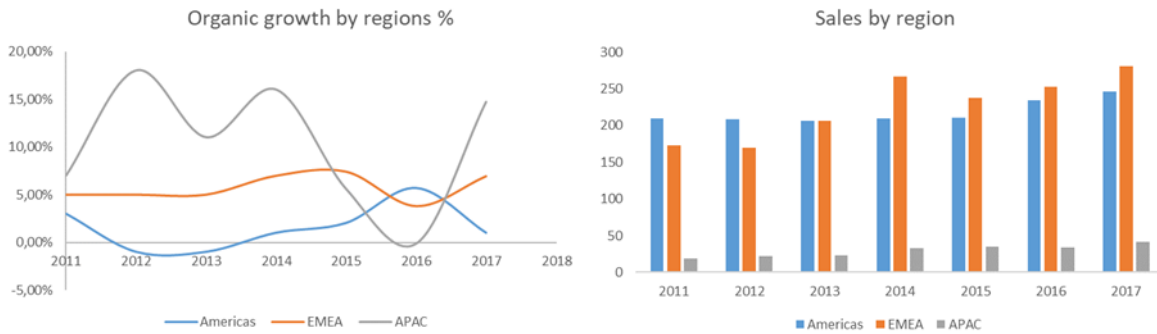
From 2015–2017 the company had a negative impact on organic growth rates of about 1% on average due to internal restructuring efforts in their own distribution companies. But, direct sales have been growing annually in line with the estimated 3-5% market growth during that period (Össur, 2017). According to Össur, the restructuring efforts are mostly complete and are they expecting the distribution companies to have a minor impact on growth in the future (Össur, 2017).

In the prosthetic division, organic growth grew by 9% and 17% in total growth in 2017. The organic growth has been growing steadily and grew 11% organic in 2014 due to a third generation launch of the RHEO KNEE (Össur, 2014). From 2015 to 2017 a lower growth rate was seen than observed in 2014 but still growing.

### **3.4.2 Performance by regions**

Össur Europe (EMEA) provides sales in Europe, the Middle East, and Africa. APAC serves countries from Pakistan to New Zealand. Össur's key markets are Japan, Australia, China, Korea, and India. Össur Americas have sales in the US, Latin America and Canada and Orange County in California being their main office (Össur, 2014).

**Figure 10 Regions**



*Source: (Authors own creation based on annual reports)*

On figure 10 the total organic growth for 2011–2017 can be seen. When looking at the organic growth for Europe it shows a steady growth of 5-7%. According to Össur, sales in America has been challenged by difficult market conditions affected by product rationalization efforts (Össur, 2014).

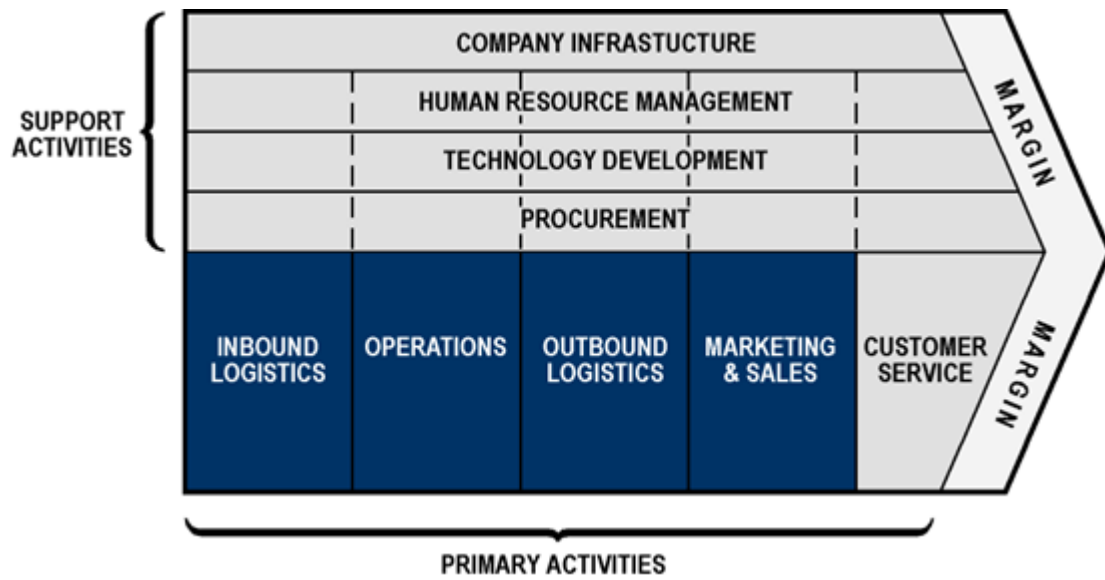
In 2016, sports and recreation injuries amounted to 8.6 million in the US and out of these, 72% were injuries related to lower and upper extremities. According to the US Department of Health and Human Services these injuries are increasing and are a major factor for the growth of the orthopedic market. However, a major restraining factor for the American market is the high cost of the devices, lack of reimbursement policies and regulatory requirements. These factors are considered hindering the growth of the prosthetics market (Orthopedic Prosthetics market, 2018). Apart from that, the orthopedic prosthetics market in North America holds the largest market share in 2017 in North America region and 44% of Össur total sales come from the Americas (Össur, 2017).

Due to the high-quality healthcare system in North America and a large number of trauma cases, the organic growth for the Americas is expected to be growing. In 2017, organic growth in APAC was 15% with contribution from Australia, Japan and China holding 7% of Össur's revenue (Össur, 2017). On figure 10 it can be seen that revenue for Össur has been increasing for APAC due to elderly population and the growing availability of devices in the global orthopedic device market, contributing to the growth of the total APAC market (Market Watch, 2018).

### 3.4.3 Value chain

Mr. Porter's conceptual model, the value chain, will be applied in the following section to analyze Össur's internal environment. The value chain helps recognize strategically important activities and to identify ways to create more customer value. The model below segments the flow of production activities into five categories. The aim of the value chain is to increase profits by creating value at each of the five touchpoints so that total value exceeds the total costs associated with the products (Kenton, 2018). The primary activities shown in the picture below are concerned with the physical creation of the product or service and its sale and transfer to the buyer. Secondary activities support primary activities and each other by providing technology, human resources, and other company-wide functions (Markland, 1998).

**Figure 11 Value Chain**



Source: (Grant, 2008)

#### 3.4.3.1 Company structure and Vertical integration

Össur is a large company with multiple divisions and with many different products. Those companies usually have a decentralized system (Grant, 2008). An advantage of the decentralized system is that each product category gets a concentrated managerial attention, allowing responses to both problems and opportunities to be faster (Joseph, 2018). The product management system is also more flexible which makes it easier to adjust various aspects and adapting to a rapidly changing environment (Joseph, 2018).

Össur has been acquiring and integrating seven companies. Therefore, Össur has been through a considerable organizational change throughout the last years. In 2000, Össur became a global player in the field of prosthetics and now engaging in two separate and different markets; Prosthetics and Bracing and support. Hence, they have a wide competitive scope.

As mentioned, Össur has been through some reconfiguration as they are expanding in the value chain (Össur, 2000). In the period from 2003-2007, Össur acquired several players, allowing the company to become the second largest player in the segment in the world (Össur, 2000). The strategy and the value chain is configured in such a way to achieve technical advantages as in economies of scale.

Össur engaging in two separate markets has led to a degree of vertical integration in the value chain. In 2013, the company made its largest acquisition in seven years taking over a company called Team Olmed, which is a Swedish chain of orthopedic clinics. Össur paid USD 54m corresponding to EV/sales 1.04x and EV/EBITDA of around 9x (Carnegie). Hence, it is a big growth priority for the company to invest more in forward integration (Össur, 2017).

#### *3.4.3.2 Core competence*

Core competencies are the collective knowledge inside the organization that distinguishes it from other corporations and that can be used to produce a competitive advantage (Prahalad and Hamel, 2017). Gary Hamal (2017) talks about competitive advantage being an advantage that an organization has over its competitors, allowing it to achieve greater sales, or to retain more customers than its competition.

Össur has a portfolio of patents allowing them to make and sell orthopedics around the world. Össur's competency in innovation and technology has allowed them to establish a large portfolio of products. Össur's employees are also one of the key assets they have and their technical knowledge they have gained during the long operation period (Össur, 2015).

Össur's goals are to maintain its growth through the introduction of new products and new technologies in the prosthetics and orthotics sector (Össur, 2017). Through their technological innovation, they have been able to make products with a price premium above other substitute products. Koller (2016) demonstrates five sources of advantage that allow companies to charge a price premium and four sources that contribute to cost and capital efficiency (Koller, 2016). They are:



Figure 12 Price premium and cost efficiency

Price premium	Cost and capital efficiency
<b>Innovative products :</b> Difficult to copy patented products	<b>Innovative business model:</b> Difficult to copy business method that contrast with established industry price
<b>Quality:</b> Customers willing to pay a premium for perceived difference in quality over other	<b>Unique resources:</b> Advantage resulting from unique access to raw materials
<b>Brand:</b> Customers willing to pay a premium based on brand, even if there is no clear difference	<b>Economies of scale:</b> Efficient size for the relevant market
<b>Customer lock in:</b> Customer unwilling to replace product with a competing product	<b>Scalable product:</b> Ability to add customers and capacity at negligible marginal cost
<b>Rational price discipline :</b> Lower bound on prices established by large industry leaders through price signaling	

Source: (Koller, 2016)

Össur's price premium results from its innovation and quality. Össur also positions most of its products and service in the high-end market (Össur, 2017). Thus, failing to provide sufficient evidence for higher value products and service, customers might result in a price shift or loss of business (Össur, 2016). It could also be a weakness since end-users are not the one paying for the products the governments and insurance companies might not be willing to pay more for products with the same function. Össur has unique capabilities in R&D mostly focused on the prosthetic market. In an R&D driven industry, the cost and capital efficiency are difficult to obtain compared to the price premium.

### 3.5 SWOT

Following section will use the findings from the above macro industry and internal analysis to see if Össur's strategic fit allow for a sustainable competitive position in the future. For the measure, the SWOT analysis is applied. The SWOT will look at Össur's main strengths and weaknesses and identify the company's opportunities and threats. The strength and weaknesses will be found in the firm's internal environment and the opportunities and threats are the external uncontrollable factors that might appear due to changes in the macro environment. The PESTEL analysis represents Össur's external forces and can be found in Appendix A. There are some limitations to the SWOT analysis and has been identified as a low-grade analysis due to the fact that factors might be described too broadly (Jurevicius, 2013).

Össur holds a strong position being the second largest player in both segments. Figure 13 lists Össur's main strengths, weaknesses, opportunities, and threats. Össur's sales have grown at a 21% annual growth rate since 1999 (Össur, 2017). This growth has been driven by organic

growth and acquired growth, where Össur made the acquisitions of Touch Bionics and Medi prosthetics in 2016. Given the nature of acquisitions, it is a risk and uncertain to what degree the company will be able to participate in further consolidation and to what degree forwards integration will affect the operations and future growth (Össur, 2017).

Since Össur's products are medical devices they are under global regulations by the authorities in countries where the firm conducts its business. Therefore, failure to comply with the regulatory requirements would have major effects on the company's sales and potential future growth. Another important threat is related to changes in the reimbursement plan. When third-party players continue to develop methods of controlling healthcare costs it can limit the coverage and the amount of payment they are willing to pay on Össur's products, resulting in sales declining (Össur, 2017).

Össur main opportunities are through acquisitions and the growth that follows. APAC is showing strong growth opportunities due to the elderly population and the growing availability of devices in the global orthopedic.

**Figure 13 SWOT**

Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>•Second largest player in the world</li> <li>•Strong patents portfolio (+1300)</li> <li>•Competent in mergers and acquisitions</li> <li>•Economies of scale</li> <li>•Innovative R&amp;D</li> <li>•Diversified market segments</li> </ul>	<ul style="list-style-type: none"> <li>•Dependent on certain critical raw materials</li> <li>•Dependent on critical product suppliers</li> </ul>	<ul style="list-style-type: none"> <li>•Increase in diabetes and population</li> <li>•New technology leading to total market growth</li> <li>•Growth through acquisitions</li> </ul>	<ul style="list-style-type: none"> <li>•Changes in reimbursement</li> <li>•Regulatory requirements</li> <li>•currency fluctuation</li> <li>•Innovation related to better surgery</li> <li>•risk relating to acquisitions</li> </ul>

*Source: (Authors own creation)*

#### 4 Financial analysis

This chapter will present an examination of Össur's historical performance to able to conduct future financial results. Since the company's operations are the key driving force behind value creation, it is important to separate operation activities from financial activities (Petersen & Plenborg, 2017). The method introduced will be the DCF Valuation method.

## 4.1 Accounting policy

Össur's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and additional Danish disclosure requirements for Consolidated Financial Statements for listed companies (Össur, 2017). Through the whole valuation period, Össur has used the IFRS standards for their financial statements and the management of Össur believe that changes made on the IFRS standards will have no material effect on the amounts reported in the financial statements

## 4.2 Reformulation of the financial statements

The value of a firm is the present value of the expected cash flow from both assets in place and future growth discounted at the cost of capital (Damodaran, 2018). Damodaran describes how a value of a firm can be increased by increasing cash flows from assets in place, by increasing expected growth and the length of the growth period, and by reducing the cost of capital (Damodaran, 2018). However, in reality, it is not easy to accomplish and it is likely that they will reflect all the qualitative factors that financial analysts are sometimes accused of ignoring in valuation (Damodaran, 2018).

The discounted cash flow model is the most popular of the present value approaches and most valuations are cash flow based (Damodaran, 2018). The free cash flow will be discounted using the weighted average cost of capital. The DCF valuation method that is used in this thesis will also be based on finding the return on invested capital (ROIC) and free cash flow (FCF). However, even though the ROIC and FCF are critical to the valuation process, they cannot be computed directly from the company's reported financial statements. ROIC and FCF only represent the operating part of the company and to be able to calculate ROIC and FCF, it's important to reorganize the accountants financial statements into new statements that separate operating items and financial structure (Koller, 2016). To find ROIC the net operating profit less adjusted tax (NOPAT) is divided by invested capital.<sup>1</sup>

Invested capital represents the investor capital required to fun operations, without distinguishing how the capital is financed. NOPAT represents the total after-tax operating income generated by the company's invested capital that is available to all financial investors (Koller, 2016). The FCF will show the gained cash flow through the operations after the investments in new capital have been subtracted.

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<sup>1</sup> ROIC = NOPAT / Invested Capital

When analyzing Össur's financial statements there are several issues that require extra attention. When reformulating the financial statements the key estimations needs is the treatment of operating leases, operation taxes, and the R&D.

#### **4.2.1 Capitalized R&D**

For firms such as technology companies, failure to recognize intangible assets can lead to significant underestimation of company's invested capital and, thus overstatement of return on invested capital (RIOIC) (Koller, 2016). One of the issues in valuation is if costs should be expensed and what cost should be capitalized and recognized as an asset.

In 2017, Össur had above 5% of R&D cost against sales. Compared to the past, 5% is quite low but in line with the company's strategy (Össur, 2017). Össur spends a small percentage of revenues on R&D, so the drop in ROIC that results from capitalizing R&D would be small (Koller, 2016).

Össur is also making use of the Optionality in IFRS accounting standard 38 regarding capitalization of R&D costs. Össur is expensing R&D costs as they occur which clearly simplifies the modeling of estimates. According to the company, R&D ratio is somewhat higher in prosthetics compared to bracing and support and as the company acquires more distribution activities, the R&D ratio is likely to decline slightly.

Research and development is an important factor for Össur's growth and has the cost always been similar each year but sales increased every year. According to Koller (2016), any expense with benefits lasting more than a year should be treated as an investment, since it has created a durable intangible asset and therefore, capitalizing R&D expenses is recommended (Koller, 2016). There are three reasons why R&D should be capitalized, they are:

1. To represent historical investment more accurately
2. To prevent manipulation of short-term earnings
3. To improve performance valuation of long-term investments

To capitalize R&D, R&D expenses are replaced with the amortization of historical R&D. The impact of capitalizing R&D on any performance assessment will depend on your estimation of asset life, a subjective judgment (Koller, 2016). The lifetime of the asset is considered 10 years and the asset amortized on a straight-line basis (Petersen & Plenborg, 2017). In this essay, I will not capitalize on Össur's R&D cost like the company has done previously in their financial reports because I will not risk overestimating the assets of the company.

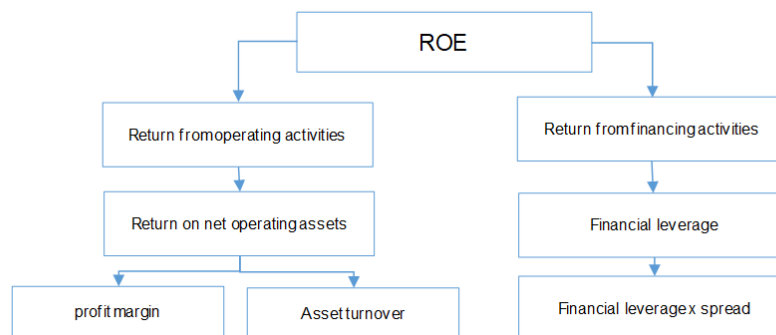
## 4.2.2 Cash

Excess cash is often considered as Cash and cash equivalent, which can be paid out as dividends, used to buy back own shares, or repay debt without affecting the underlying operations. Firms need operating cash that is used to finance upcoming investments. Össur is a strong cash generator and has been recycling cash in share repurchases and making selective acquisitions. A closer look at Össur's cash and cash equivalents reveal that they remain higher at year-end (fourth quarter) than in most other quarters. That indicates that cash and cash equivalents at year-end are invested in operating assets during the financial year (Petersen & Plenborg, 2017).

## 4.3 Profitability analysis

In the following, an analysis of Össur's profitability will be made and it will be used to make an analysis of the growth. The growth analysis will then be used later in this essay to make the forecast for the DFC valuation. In this section, key ratios will be used to get a more intricate understanding of how Össur has been performing and how they generate value. Therefore, it is important to determine what the drivers for a company's profitability are. Following Penman (2013), the breakdown of return on equity (ROE) into drivers can be seen in figure 14:

Figure 14 ROE drivers



Source: (Penman, 2013)

### 4.3.1 Return on invested capital (ROIC)

Return on invested capital<sup>2</sup> (ROIC) is the overall profitability measure for operations (Petersen & Plenborg, 2017). The ratio expresses the return on capital invested in firms net operating

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<sup>2</sup> ROIC = Profit Margin \* Turnover rate of invested capital

assets as a percentage. For a company, a high ROIC is important because with lending it will be more attractive to provide loans to a company with a high ROIC. Hence, the company will be able to obtain cheaper financing (Petersen & Plenborg, 2017).

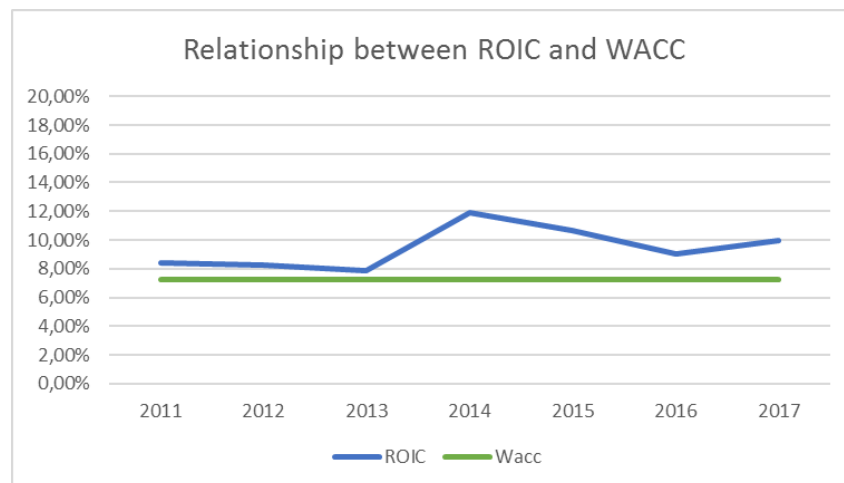
**Table 1 ROIC**

<i>Return on invested capital</i>	2011	2012	2013	2014	2015	2016	2017
Invested capital	478	490	556	535	521	587	622
NOPAT	40	41	44	64	56	53	62
Tax rate	26%	26%	26%	24%	25%	25%	16%
<b>ROIC</b>	<b>8,43%</b>	<b>8,3%</b>	<b>7,88%</b>	<b>11,9%</b>	<b>10,7%</b>	<b>9,1%</b>	<b>9,9%</b>

*Source: (Authors own creation based on the financial statement)*

On table 1 the calculations for ROIC are shown. An important factor after evaluating the return on invested capital is to see whether the ratio is at a satisfactory level. Following Plenborg (2017), there are two ways to determine that. One way is to do an estimation of the required rate of return (WACC) or do a comparison with competitors (benchmarking). I will compare it to WACC. The calculations for WACC can be seen in chapter 5 and it is assumed that WACC will be constant for the forecast period. WACC is calculated at 7.2% in chapter 5.2.1.8

**Figure 15 Relationship between ROIC and WACC**



*Source: (Authors own creation based on the financial statement)*

Figure 15 shows, that since 2011, ROIC has always been higher than the weighted average cost of capital (WACC). Therefore, it is assumed that the value is being created (Koller, 2016).

However, from these calculations, it tells nothing about what segment of the business is generating value.

#### 4.3.1.1 Decomposition of ROIC

As mentioned, ROIC is not able to explain whether profitability is driven by a better revenue and expense relation or improved capital utilization. Therefore it is necessary to decompose the ratio into; the profit margin and the turnover rate of invested capital (Petersen & Plenborg, 2017):

The profit margin (PM)<sup>3</sup> is named the operating profit margin and describes the revenue and expense relation and expresses, operating income as a percentage of net revenue. The turnover rate<sup>4</sup> expresses the company's ability to utilize invested capital

**Table 2 Profit Margin and Turnover rate**

<i>Profit margin &amp; Turnover rate (IC)</i>	2011	2012	2013	2014	2015	2016	2017
Net revenue	398	399	436	509	483	521	569
Invested Capital	478	490	556	535	521	587	622
<b>Turnover rate</b>	0,83	0,82	0,79	0,95	0,93	0,89	0,91
NOPAT	40,3	40,5	43,8	63,8	55,8	53,2	61,8
<b>PM</b>	<b>10,1%</b>	<b>10,1%</b>	<b>10,0%</b>	<b>12,5%</b>	<b>11,5%</b>	<b>10,2%</b>	<b>10,9%</b>

*Source: (Authors own creation based on financial statements)*

#### 4.3.2 Profit Drivers

**Table 3 Profit Margin drivers**

<i>Pm drivers</i>	2011	2012	2013	2014	2015	2016	2017
Gross profit	0,618	0,621	0,619	0,634	0,628	0,631	0,624
R&D expenses	0,049	0,055	0,049	0,038	0,038	0,044	0,051
Distribution and sales expenses	0,300	0,303	0,319	0,330	0,327	0,336	0,329
Administrative expenses	0,125	0,121	0,113	0,097	0,103	0,112	0,112
EBITDA margin	0,182	0,175	0,173	0,205	0,202	0,180	0,171
<b>PM</b>	<b>10,1%</b>	<b>10,1%</b>	<b>10,0%</b>	<b>12,5%</b>	<b>11,5%</b>	<b>10,2%</b>	<b>10,9%</b>

*Source: (Authors own creation based on financial statements)*

As seen in table 3, the profit margin has quite steady throughout the years. In 2011, gross profit was 62% and has risen to 62.4% in 2017. Gross profit improvements from product mix and scalability in 2017 were offset by temporary cost increases in certain smaller manufacturing locations and adverse currency movements (Össur, 2017). Since these drivers are calculated

<sup>3</sup> Profit Margin = NOPAT / net revenues

<sup>4</sup> Turnover rate of invested capital = Net revenue / Invested capital

by using revenues, it makes sense that R&D expenses are a relatively larger cost when seeing a decrease in revenues. In 2013 it can be seen that R&D and administration cost reduced, which can be explained by staff reductions that could have trimmed the cost. Össur had a long-term EBITDA margin target of at least 23%. However, since 2014, EUR and other major currencies have weakened against the USD and currency fluctuations had some negative effect of USD on EBITDA in 2015.

Historically, the EBITDA margin has been affected by the distribution of sales between the two divisions. Compared to Össur's competitor, DJ Global has an adjusted EBITDA margin of 23-24%, but it is twice the size of Össur (Carnegie, 2015). The historical earnings of Össur have been rather volatile which can be explained by many acquisitions in the 2000s and subsequent integration costs, partly by its high sensitivity to currency swings. The goal for Össur is to create a more profitable organization due to a higher profit margin. The profit margin itself does not tell much about the company's performance but comparing it against the company's historical records it can be assumed that Össur is creating value given that the performance level is rising.

### **4.3.3 Asset turnover**

The asset turnover (ATO) measures sales revenues per dollar of net operating assets put in place (Penman, 2013). Moreover, it measures the ability of the net operating asset (NOA) to generate sales. The asset turnover will be looked at to see what part of the company drives the profit. For the calculations, I used  $1/ATO$ , which indicates the amount of net operating assets used to generate 1 DKK of sales (Penman 2013).



**Table 4 Asset Turnover drivers**

<i>ATO drivers (inverse)</i>	2011	2012	2013	2014	2015	2016	2017
Intangible assets	91%	96%	102%	84%	84%	84%	81%
Tangible assets	9%	9%	9%	8%	9%	10%	10%
Financial assets	2%	2%	1%	2%	2%	4%	4%
Inventory	13%	14%	15%	13%	13%	14%	14%
Trade receivables	14%	13%	16%	14%	15%	16%	16%
Deferred tax assets	8%	7%	5%	4%	4%	5%	4%
Other Operating Assets	4%	2%	3%	3%	3%	4%	3%
	1,41	1,43	1,52	1,27	1,30	1,37	1,33
Operating liabilities	-0,21	-0,20	-0,25	-0,22	-0,22	-0,24	-0,24
1/ATO	1,20	1,23	1,27	1,05	1,08	1,13	1,09
ATO	0,83	0,82	0,79	0,95	0,93	0,89	0,91

*Source: (Authors own creation based on financial statements)*

On table 4, the drivers for asset turnover can be seen. In 2011 the overall inverse ATO was 1.20, it increased to 1.27 in 2013 and fell again to 1.05 in 2014. The fall and the rise could be because of fallen revenues in 2014 and also fall in net operating asset (NOA) which lowered the inverse ATO in 2017. From this and from the above table it can be assumed that Össur has been able to use their assets efficiently because fewer NOA is being used to generate revenues.

The DuPont model is the decomposition of operating profitability. According to the model, profitability comes from two sources. First, Return on operating asset (RNOA)<sup>5</sup> is higher the more of each dollar of sales ends up in operating income; second, RNOA is higher the more sales are generated from the net operating asset (Penman, 2013).

Table 5 shows the Asset turnover (ATO), the profit margin (PM) and the return on operating assets (RNOA).

**Table 5 RNOA**

<i>RNOA</i>	2011	2012	2013	2014	2015	2016	2017
ATO	0,83	0,82	0,79	0,95	0,93	0,89	0,91
PM	0,10	0,10	0,10	0,13	0,12	0,10	0,11
<b>RNOA</b>	<b>5,91%</b>	<b>6,59%</b>	<b>6,52%</b>	<b>9,34%</b>	<b>8,34%</b>	<b>7,60%</b>	<b>7,93%</b>

*Source: (Authors own creation based on financial statements)*

In 2011, sales yielded an asset turnover of 0.83 on the 562 million operating assets. Thus, RNOA was 5.91%. In 2017 the higher RNOA came from both a higher PM and a higher ATO,

<sup>5</sup> RNOA = Net profit / (non-current assets + NWC)

which means that the company gets more profit per DKK of sales but also generates higher sales per DKK of net operating assets (Penman, 2013). The net borrowing cost (NBC) is another important driver. It is the weighted average of the costs for the different sources of net financing (Penman, 2013). It explains the relationship between financial expenditures and net financial obligations.

**Table 6 Net Borrowing Cost drivers**

<i>NBC drivers</i>	2011	2012	2013	2014	2015	2016	2017
<b>Net financial expenses</b>	-9,3	-4,7	-2,8	-6,2	-5,9	-1,8	-5,2
<b>Net interest bearing debt</b>	111	82	108	93	58	119	121
<b>NBC</b>	<b>8,36%</b>	<b>5,74%</b>	<b>2,56%</b>	<b>6,64%</b>	<b>10,07%</b>	<b>1,55%</b>	<b>4,31%</b>

*Source: (Authors own creation based on financial statements)*

The net borrowing cost (NBC) <sup>6</sup> ratio had a sharp decline from 10.07% to 1.55% in 2016 followed by an increase from 1.55% to 4.31% in 2017.

#### **4.3.4 Decomposition of financial activities**

In the previous sections, the focus was on the measurement of operating profitability. This section will examine the impact of financing activities on the profitability and the impact of financial leverage (FLEV)<sup>7</sup>. Return on equity (ROE)<sup>8</sup> measures the profitability taking into account both operating and financial leverage.

ROE measures owners accounting return on their investments in a company. Operating profitability, net borrowing interest rate after tax and the financial leverage are all factors that can affect the level in ROE (Petersen & Plenborg, 2017). The net borrowing cost (NBC) is the net financial expenses after tax divided by the net interest-bearing debt and will rarely match the firms borrowing rate.

Table 7 shows the components for ROE. The ROIC AND ROE are including goodwill.

<sup>6</sup> NBC = Net financial expenses after tax / NIBD

<sup>7</sup> Financial leverage = (Net interest-bearing debt/book value of equity)

<sup>8</sup> Return on equity (ROE) = Net earnings after tax/book value of equity

**Table 7 Components for ROE**

<i>ROE</i>	2011	2012	2013	2014	2015	2016	2017
ROIC	8,4%	8,3%	7,9%	11,9%	10,7%	9,1%	9,9%
NBC	8,4%	5,7%	2,6%	6,6%	10,1%	1,5%	4,3%
<b>Spread (ROIC-NBC)</b>	0,07%	2,53%	5,32%	5,27%	0,62%	7,51%	5,62%
FLEV	0,30	0,20	0,24	0,21	0,13	0,26	0,24
<b>ROE</b>	<b>8,45%</b>	<b>8,78%</b>	<b>9,16%</b>	<b>13,02%</b>	<b>10,77%</b>	<b>10,98%</b>	<b>11,29%</b>

*Source: (Authors own creation based on financial statements)*

According to Carnegie (2015), Össur has historically, generated ROE and ROIC below its Nordic peer group. The weaker ROE and ROIC can be explained by the company's many acquisitions. The Financial Leverage (FLEV) has fallen from 1.1 to 0.24 from 2007 to 2017 (Össur, 2007). This is because Össur has repaid debt following the acquisition that took place from 2000 to 2007 (Carnegie, 2015).

#### 4.3.5 Cash flow analysis

**Table 8 Cash Flow Statement**

	2011	2012	2013	2014	2015	2016	2017
Cash flow from operating activities	48,447	57,568	66,154	84,133	65,500	66,312	73,884
Cash flow from investing activities	(18.585)	(26.633)	(80.861)	(40.822)	(24.627)	(86.944)	(19.442)
Cash flow from financing activities	(64.507)	(29.173)	32.783	(56.120)	(42.416)	31.900	(56.386)
<b>Change in cash and cash equivalents</b>	<b>(34.645)</b>	<b>(1.762)</b>	<b>18.076</b>	<b>(11.809)</b>	<b>(1.543)</b>	<b>11.268</b>	<b>(1.944)</b>
<b>Cash and cash equivalents end of period</b>	<b>19.656</b>	<b>21.878</b>	<b>41.769</b>	<b>28.484</b>	<b>25.707</b>	<b>35.091</b>	<b>37.272</b>

*Source: (Authors own creation based on annual reports)*

Looking at table 8, it can be seen that the cash flow from operating activities decreased after 2014. The cash generated by an operation in 2015 amounted 65 million compared to 85 million in 2014. The cash flow was negatively affected by changes in working capital and by currency movements.

In 2017, Össur generated 74 million of cash from its operations. It invested about 19 million of cash into its business and used 56 million in funds to invest. The net impact of this was a negative 2 million which means it has 2 million less cash and cash equivalents than it had at the beginning of the year. In 2016, Össur raised 32 million in funds to invest in the business

and also invested 87 million of cash into it business which was mainly driven by acquisitions (Össur, 2016).

### 4.3.6 Liquidity risk

Liquidity is a crucial factor for any business. Without liquidity, a company cannot pay its bills or carry out profitable investments and in some cases lead to bankruptcy (Petersen & Plenborg, 2017). In this section analysis of both the short-term liquidity risk and long term will be made. The short-term liquidity risk uncovers a company's ability to pay all short term obligations. The long-term liquidity risk refers to the company's long-term financial health and ability to pay all future obligations (Petersen & Plenborg, 2017).

#### 4.3.6.1 Cash flow ratio

The short-term liquidity risk is the cash flow from operations (CFO) to short-term debt (current liabilities) ratio (Petersen & Plenborg, 2017):

$$CFO \text{ to short – term debt ratio} = \frac{CFO}{Current \ liabilities}$$

The cash flow ratio deviates from the current ratio by using the actual cash flow generated from operations rather than current and potential cash flow resources (current assets). The following figure shows the CFO to short-term debt ratio for Össur.

**Table 9 CFO to short term debt ratio**

	2011	2012	2013	2014	2015	2016	2017
Cash flow from operating activities	48	58	66	84	66	66	74
Current liabilities	84	79	109	114	106	125	134
<b>CFO to short-term debt ratio</b>	57,56%	72,57%	60,88%	73,90%	61,60%	53,19%	55,18%

*Source: (Authors own creation based on financial statements)*

It shows how well the cash flow from operations covers the cash needed to settle liabilities in the short term. According to Petersen and Plenborg (2017), cash flow from operations seems to be a better measure of the cash available to serve current liabilities on an ongoing basis than current assets. The CFO to short-term debt ratio is always higher than 50%. A ratio of 55.18% indicates that Össur can pay 55.18% of its current liabilities from its operating cash flows on an annual basis.

#### 4.3.6.2 Financial leverage (FLEV)

Financial ratios measuring the long-term liquidity possess the same strength and weaknesses as the financial ratios measuring the short-term liquidity risk. Moreover, they all rely on historical data and thus are backward looking (Petersen & Plenborg, 2017). Long-term liquidity risk is financial leverage<sup>9</sup> which can be measured by dividing total liabilities by equity:

**Table 10 financial leverage**

	2011	2012	2013	2014	2015	2016	2017
Net debt	111	82	108	93	58	119	121
Total equity	367	408	448	442	463	467	500
<b>Gearing</b>	<b>30,4%</b>	<b>20,2%</b>	<b>24,1%</b>	<b>21,1%</b>	<b>12,6%</b>	<b>25,6%</b>	<b>24,3%</b>
Total liabilities	582	591	706	678	653	746	793
Equity	367	408	448	442	463	467	500
<b>Financial leverage</b>	<b>1,59</b>	<b>1,45</b>	<b>1,58</b>	<b>1,53</b>	<b>1,41</b>	<b>1,60</b>	<b>1,58</b>

*Source: (Authors own creation based on financial statements)*

On table 10 the historical trend in Össur's financial leverage ratio can be seen. The financial gearing of Össur has now declined to a level where its high cash flows open up for returning visible amounts of capital to shareholders (Carnegie, 2015).

#### 4.3.6.3 Interest coverage ratio

The interest coverage ratio is an alternative financial ratio measuring long-term debt liquidity risk. The ratio measures and shows how many times operating profit covers net financial expenses. The higher the ratio, the lower the long-term liquidity risk (Petersen & Plenborg, 2017). The ratio can be calculated as:

$$\text{Interest coverage ratio} = \frac{\text{EBIT}}{\text{Net financial expenses}}$$

However, since EBIT is not a cash flow measure, some prefer to replace EBIT with cash flow from operations. On table 11, both ratios have been calculated.

<sup>9</sup> Financial leverage = Total liabilities / Equity

**Table 11 Interest Coverage Ratio (cash)**

	2011	2012	2013	2014	2015	2016	2017
EBIT	59	57	60	86	77	72	75
CFO	48	58	66	84	66	66	74
Net financial expenses	13	6	4	8	8	2,50	6
<b>Interest coverage ratio</b>	<b>4,6</b>	<b>8,9</b>	<b>13,7</b>	<b>10,7</b>	<b>9,8</b>	<b>28,9</b>	<b>12,1</b>
<b>Interest coverage ratio (cash)</b>	<b>3,7</b>	<b>9,0</b>	<b>15,0</b>	<b>10,5</b>	<b>8,3</b>	<b>26,5</b>	<b>11,9</b>

*Source: (Authors own creation based on the financial statement)*

Both ratios improve gradually from the year 2011 – 2016, which indicates a decrease in the long-term risk. The ratios spiked in 2016 and then decreased again in 2017. As said before, the higher the ratio, the better the company's ability to cover its interest expense (Petersen & Plenborg, 2017).

#### 4.3.7 Revenues

Össur operates in three different segments located around the world. Looking through the annual reports, Össur puts more emphasizes on growth related to each business segments rather than growth related to markets location. Hence, the revenue growth will be predicted by each segment instead of location growth. On table 12 the growth for both main segments can be seen.

**Table 12 Revenues and Growth (2011-2017)**

<i>Sales USD'000</i>	2011	2012	2013	2014	2015	2016	2017	Average
<b>Bracing</b>	<b>211</b>	<b>208</b>	<b>234</b>	<b>296</b>	<b>278</b>	<b>280</b>	<b>285</b>	
<b>% of sales</b>	<b>55%</b>	<b>55%</b>	<b>56%</b>	<b>58%</b>	<b>58%</b>	<b>54%</b>	<b>50%</b>	<b>55,2%</b>
Organic growth	6%	2%	2%	1%	5%	3%	2%	2,8%
Growth	15%	2%	15%	28%	5%	3%	2%	9,9%
Foreign exchange	3%	-3%	1%	-1%	-11%	-2%	1%	
<b>Total growth</b>	<b>17,6%</b>	<b>-1,3%</b>	<b>12,3%</b>	<b>26,4%</b>	<b>-6,1%</b>	<b>0,8%</b>	<b>2,0%</b>	<b>7,4%</b>
<b>Prosthetic</b>	<b>170</b>	<b>172</b>	<b>183</b>	<b>212</b>	<b>204</b>	<b>240</b>	<b>282</b>	
<b>% of sales</b>	<b>45%</b>	<b>45%</b>	<b>44%</b>	<b>42%</b>	<b>42%</b>	<b>46%</b>	<b>50%</b>	<b>44,8%</b>
Organic growth	4%	2%	4%	11%	5%	7%	9%	5,9%
Growth	4%	4%	6%	9%	6%	20%	17%	9,4%
Foreign exchange	3%	-3%	0%	-1%	-10%	-1%	1%	
<b>Total growth</b>	<b>6,6%</b>	<b>0,9%</b>	<b>6,2%</b>	<b>16,3%</b>	<b>-4,0%</b>	<b>17,7%</b>	<b>17,7%</b>	<b>8,8%</b>
<b>Compression therapy</b>	<b>19</b>	<b>18</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Group sales</b>	<b>381</b>	<b>380</b>	<b>416</b>	<b>508</b>	<b>481</b>	<b>520</b>	<b>568</b>	
Organic growth	5%	2%	3%	5%	5%	5%	5%	4,2%
Growth	10%	3%	11%	20%	5%	10%	9%	9,9%
Foreign exchange	3%	-3%	1%	-1%	-11%	-2%	1%	
<b>Total growth</b>	<b>11,9%</b>	<b>-0,4%</b>	<b>9,2%</b>	<b>16,7%</b>	<b>-5,2%</b>	<b>7,9%</b>	<b>9,3%</b>	<b>7,1%</b>

*Source: (Authors own creation based on annual reports)*

For the last seven years, the two segments have been generating around 50% of revenues. The Prosthetics segment has been growing steadily for the last seven years with an average organic

growth rate of 6% and the average growth rate of 9.4%. In 2015, prosthetics increased by 6% and 5% organic, both measured in local currency. There was a decrease in the sale which came from Bionic sales due to a delay in product launch and competitive pressure in the segment (Össur, 2015).

The growth has been growing despite adverse currency fluctuations negatively impacting operating results. Moreover, USD strengthening had a significant negative impact on reported sales when comparing to prior results (Össur, 2015). In 2016, sales started to increase, corresponding to around 20% growth and 7% organic. The prosthetics showed strong growth in 2016 with bionics and newly launched products diving growth (Össur, 2016).

For bracing and support, the segment has had a steady organic growth rate with an average of almost 3% and growth of 10%. From 2011–2014 the total growth for B&S has been fluctuating. In 2015 the segment continues to show strong growth, which had a positive impact on the overall gross profit margin in the segment. However, currency had a negative impact due to restructuring in companies acquired in 2013 and investment in manufacturing capabilities for new products (Össur, 2015).

Össur issued guidance for organic sales growth, excluding and including the effect of acquisitions, and the EBITDA margin. I will focus on the company's organic sales growth excluding acquisitions, where management expects 4-5% growth rate. Össur expects an EBITDA margin of 19% which is the very low end of their goal. For the thesis forecast, I will use a growth rate of 8% for the next year, which will be further elaborated in chapters below (see calculations in Appendix B).

## **5 Discounted Cash Flow valuation of Össur**

This chapter will conduct a discounted cash flow (DCF) valuation of Össur and also use the Economic Value Added model (EVA) to find the fair value of the share price. The DCF valuation model will rely on forecasted free cash flow (FCF) and thus, FCF will be created indirectly by forecasting the income statement, balance sheet, and statement of retained earnings.

Both models are based on the future cash flow stream and the value should give the same result. It is also assumed to be a good measure to get a better look at the valuation. The Weighted average cost of capital will be used as a discount factor for both models to find the present value of future payments.

## **5.1 Forecast**

This section will be based on the strategic and financial analysis conducted in previous chapters, with an aim of forecasting on Össur's financial statements over a ten year period. The forecast period of 10 years is to minimize the risk of undervaluation. However, along forecast might result in estimation errors (Petersen & Plenborg, 2017). To avoid the errors of false precision, the model will be simplified by splitting the explicit forecast into two periods. The explicit period is 2018-2025 and the simplified forecast will be for the remaining years, 2026-2028. The aim of the forecast is to estimate a realistic outlook as possible on the future of Össur. Hence, it will not be possible to mitigate all uncertainties because of the complex character of products, market, and environment.

### **5.1.1 Strategic assumptions**

Össur ranks number two in the global market for non-invasive orthopedic devices and has a proven track record of stable growth, good margins, and strong cash flow. The market growth in the sectors where Össur is active is around 3-5% and the key growth drivers are growing elderly population, western lifestyle known for generation diseases such as diabetes and technology upgrades. A practical assumption is therefore that both divisions will experience improvements in revenue growth.

The compounded annual growth rate of Össur (2011-2017) has been in line with the market at 4.2%. Bionic products have been an important growth driver for Össur in the past ten years and according to Össur, bionic products have contributed around half of the organic sales growth in the prosthetic division. With Össur's most recent acquisitions they are able to provide a full product offering that includes the most technologically advanced prosthesis in the world. Given the product range and launched products this year the forecast makes an assumption that Össur will be able to generate a competitive advantage over the forecast period (2018 – 2025).

As mentioned in the strategic analysis, Össur's products are not used by everyone. The products are used by individuals who are born without a limb or lose a limb at different stages of their life due to diseases, diabetes, or trauma. There are also individuals who have knee pain, have diseases in their joints or injure themselves resulting in movement impairment. Given the increased numbers in diabetes and injuries, the forecast makes an assumption that Össur's revenue will show an increase in revenues and also an increase in organic growth. Products are



dependent on revenue and the increase in revenue will come from better products and individuals demand for higher quality of life.

### 5.1.2 Financial assumptions

Assumptions in the forecast are mainly made around the findings on the Profit Margin, ROIC and Asset Turnover. The EBITDA margin was 17% in H2 (18), and has the company set the full year guidance to 19% which means that Össur has to improve the margin by nearly 300bps which is expected due to higher organic sales growth and a shift in product mix towards high-end products. With the growth rates of both divisions in mind, the major acquisitions and demographic trends in recent years, it is assumed that the compound annual growth (CAGR) rate for 2018 – 2025 will be 8.14%. Moreover, the forecast assumes increased margin over time due to better production efficiency in APAC and product mix in prosthetics is assumed to gradually change in direction of bionic products while Bracing and Support should move towards higher-end products due to the ongoing product rationalization.

### 5.1.3 Income Statement Forecast

The income statement has been done by using a percentage of revenue method (Petersen & Plenborg, 2017). The forecast relies on historic performance and findings from the strategic analysis.

**Table 13 Income Statement**

INCOME STATEMENT	Forecast								
	2017	2018	2019	2020	2021	2022	2023	2024	2025
USD '000									
Revenue	569	614	662	714	771	833	902	978	1061
COGS	-214	-230	-248	-268	-289	-313	-338	-367	-398
<i>Gross margin (%)</i>	1	1	1	1	1	1	1	1	1
Sales & marketing expenses	-187	-197	-212	-229	-247	-267	-289	-313	-340
R&D expenses	-29	-29	-31	-33	-35	-38	-40	-43	-46
Administration expenses	-64	-69	-74	-80	-86	-93	-101	-109	-119
Operating expenses	471	498	538	579	625	676	731	792	859
<b>EBITDA</b>	<b>97</b>	<b>116</b>	<b>124</b>	<b>134</b>	<b>146</b>	<b>158</b>	<b>171</b>	<b>186</b>	<b>202</b>
<i>EBITDA margin (%)</i>	0,17	0,19	0,19	0,19	0,19	0,19	0,19	0,19	0,19
Depreciation & amortis.	-23	-26	-28	-30	-32	-35	-38	-41	-44
<b>EBIT</b>	<b>75</b>	<b>90</b>	<b>97</b>	<b>105</b>	<b>113</b>	<b>123</b>	<b>133</b>	<b>145</b>	<b>158</b>
<i>EBIT margin (%)</i>	0,13	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15
Tax	1,0	0,9	-18,9	-19,9	-20,9	-22,1	-23,2	-24,5	-25,8
<i>Tax % of EBIT</i>	-16%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%
<b>NOPAT</b>	<b>61,8</b>	<b>71,0</b>	<b>76,4</b>	<b>82,8</b>	<b>89,8</b>	<b>97,6</b>	<b>106,1</b>	<b>115,4</b>	<b>125,8</b>
Net financial expensens	-6,2	-4,3	-4,1	-4,0	-3,9	-3,7	-3,6	-3,4	-3,2
Tax Shield	1,0	0,9	0,8	0,8	0,8	0,7	0,7	0,7	0,6
Minority interestes	0,0								
<b>Net profit</b>	<b>56,5</b>	<b>67,6</b>	<b>73,1</b>	<b>79,6</b>	<b>86,7</b>	<b>94,6</b>	<b>103,2</b>	<b>112,7</b>	<b>123,3</b>

Össur operates in businesses that enjoy long-term stable growth. Even so, the historical earnings have been rather volatile relative to other MedTech companies (Carnegie, 2015). This can partly be explained by many acquisitions in the 2000s and subsequent integration costs, partly by its high sensitivity to currency swings.

The company's guidance for organic sales growth including the effect of acquisitions and the EBITDA margin was estimated to be slightly higher compared to last year. The management expects an EBITDA margin of 19%, which is very close to my estimated EBITDA assuming EBITDA will grow based on revenue. In 2017, EBITDA went from 19% of sales to 17% of sales which was affected by currency movements.

The full guidance is around 19%, so Össur has to improve the margin by nearly 300bps in 2018. The improvement should come from higher organic sales growth and continued shift in product mix towards high-end products (Carnegie, 2015). However, Össur recently made two acquisitions with combined full-year sales of about USD 40 million (Össur, 2017). The acquisitions had no impact on operating income in the third quarter of 2018 but will have an impact in the fourth quarter of the year (Össur, 2018). The forecast finds it necessary for administrative expenses when including restructuring cost. Sales and marketing expenses have been 33% of sales for the last five years, so they are assumed to keep that. Income tax amounted to USD 5 million in quarter three 2018, corresponding to 23% effective tax rate, compared to 26% effective tax rate in quarter three 2017. The lower tax rate in 2018 is assumed because of the lower federal tax rate in the US since December 2017 (Össur, 2018).

## 5.1.4 Balance sheet Forecast

Table 14 Balance Sheet Forecast

BALANCE SHEET	Forecast								
	2017	2018	2019	2020	2021	2022	2023	2024	2025
USD									
<b>Operating Assets</b>									
Goodwill	415	415	415	415	415	415	415	415	415
Other fixed intangible asset	45	49	53	57	62	67	72	78	85
PPE	56	61	66	71	77	83	90	98	106
Financial assets	22	23	25	27	29	32	34	37	40
Non-current assets	561	574	586	599	614	630	648	668	689
Inventories	82	89	96	103	112	121	131	141	154
Receivables	93	94	101	109	117	127	137	149	162
Other operating assets	20	21	23	25	27	29	31	34	37
Current assets	195	204	220	237	256	276	299	324	352
<b>Total assets</b>	<b>756</b>	<b>777</b>	<b>805</b>	<b>836</b>	<b>870</b>	<b>907</b>	<b>947</b>	<b>992</b>	<b>1041</b>
<b>Operating Liabilities</b>									
Short term OL	102	104	112	121	131	141	153	166	180
Long term OL	32	40	43	46	50	54	59	63	69
<b>TOTAL</b>	<b>134</b>	<b>144</b>	<b>155</b>	<b>167</b>	<b>181</b>	<b>195</b>	<b>212</b>	<b>229</b>	<b>249</b>
<b>Net Operating Assets (IC)</b>	<b>622</b>	<b>633</b>	<b>650</b>	<b>669</b>	<b>689</b>	<b>711</b>	<b>736</b>	<b>763</b>	<b>792</b>
<b>Net Financial Obligations</b>									
Long term Debt	133	133	133	133	133	133	133	133	133
Short term Debt	25	28	30	33	35	38	41	45	48
Cash and Cash Equivalents	37	41	44	47	51	55	60	65	71
<b>Total (NIBD)</b>	<b>121</b>	<b>121</b>	<b>120</b>	<b>119</b>	<b>117</b>	<b>116</b>	<b>115</b>	<b>113</b>	<b>111</b>
<b>Equity</b>	<b>500</b>	<b>513</b>	<b>531</b>	<b>550</b>	<b>572</b>	<b>595</b>	<b>621</b>	<b>650</b>	<b>681</b>

The balance sheet forecast derives from the revenue forecast. Looking at Össur's RNOA and ATO, it seems that the assets and liabilities will be rather stable. RNOA is also rising when ATO is. Intangible assets consist almost of only goodwill, the other intangible assets consist mostly of trademarks, patents, software and distribution relationships (Össur, 2017).

Any excess of the cost of acquisition over Össur's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of the associate is recognized as goodwill. The reason why goodwill will be held constant is that no further acquisitions are expected and therefore predicted to be the same amount in the forecasting period. Keeping the goodwill constant will result in an increase in RNOA and ATO from 2018 and onwards since goodwill will provide less and less over the forecasted period. Moreover, this will not have an effect on sales growth.

The increase in ATO will go from 0.96 to 1.16, meaning a better usage of the assets. Usually, a company's ATO will not change over the short term period, but under these conditions, ATO is driven by a lower impact of goodwill and is not rising proportionately with other assets (See figure 1 in Appendix C for these assumptions).

The net borrowing rate (Net financial expenses as a percentage of NIBD) is estimated at 3.7% which is slightly lower than last year but higher than in 2016. Additional investments in assets are driven by sales growth and therefore the relationship between assets and sales are held constant since improvements are not expected. Net interest-bearing debt amounted USD 121 million compared to 119 million at year-end 2016.

**Table 15 Forecasted profitability drivers**

	2017	2018	2019	2020	2021	2022	2023	2024	2025
ROIC	0,099	0,112	0,118	0,124	0,130	0,137	0,144	0,151	0,159
PM	0,109	0,116	0,115	0,116	0,117	0,117	0,118	0,118	0,119
FLEV	0,243	0,229	0,214	0,200	0,185	0,170	0,155	0,140	0,125
NBC	0,043	0,029	0,029	0,029	0,029	0,029	0,029	0,029	0,029
ROE	0,113	0,131	0,137	0,143	0,149	0,156	0,162	0,169	0,175
ATO	0,950	1,010	1,062	1,116	1,172	1,231	1,291	1,353	1,417
NIBD/EBITDA	1,247	1,020	0,923	0,828	0,738	0,655	0,576	0,503	0,435

Table 16 shows the forecasted profitability drivers. The profit margin will remain fairly stable and is forecasted based on growth in revenues. The ROIC, which expresses the overall profitability will increase and be rather stable. The difference between ROIC and NBC is positive which means it has a positive spread. Financial leverage is calculated after tax and will decrease over the forecasted period as a result of higher net income which will increase equity. Moreover, financial leverage will have a positive impact on ROE since ROIC is higher than NBC (Petersen & Plenborg, 2017).

## 5.2 Valuation – Discounted Cash Flow

The valuation can be done after establishing the forecast. When doing a DCF valuation, a number of contingent variables have to be estimated that account for the risk and capital structure of Össur.

### 5.2.1 Weighted Average Cost of Capital (WACC)

An important component in the valuation is the weighted average cost of capital (WACC)<sup>10</sup>. The WACC discounts the future payments to the firm to its current value. Moreover, it is the expected cost of capital of financing invested capital and is measured as a percentage. I will estimate WACC by estimated the variables in the formula below:

$$^{10} WACC = \left( \frac{NIBD}{NIBD + Equity} \right) * rd * (1 - t) + \left( \frac{Equity}{NIBD + Equity} \right) * re$$

Where:

*NIBD = Net interest-bearing debt*

*Rd = required rate of return on debt*

*Re = required rate of return on equity*

*t = corporate tax rate*

### 5.2.1.1 Capital structure

The capital structure and dividend policy of Össur is to "*..maintain a healthy balance sheet and a level of net interest-bearing debt of 100m-200m*". This corresponds to a net debt-to-EBITDA of 1-2x using the EBITDA level reported in 2017. Excess capital should be returned to shareholders via annual stable cash dividends or share repurchases (Össur, 2017).

On 15 August 2017, Össur initiated a new share buyback program and has purchased 9m of own shares for approximately USD 37 million in 2017 and 16 million in 2018 (Össur, 2017). The purpose is to reduce the company's share capital and the capital structure by distributing capital to shareholders in line with Össur's capital structure and policy (Össur, 2017).

**Table 16 Capital Structure**

Össur capital structure							
USDm	2011	2012	2013	2014	2015	2016	2017
<b>Operating Cash flow</b>	<b>49,22</b>	<b>48,79</b>	<b>34,36</b>	<b>82,96</b>	<b>70,02</b>	<b>57,35</b>	<b>72,00</b>
Capex	18,29	-12,43	-20,14	-17,93	-24,79	-30,00	-25,70
<i>% of sales</i>	-5%	3%	5%	4%	5%	6%	5%
<b>Free cash flow before acq.</b>	<b>67,51</b>	<b>36,36</b>	<b>14,23</b>	<b>65,03</b>	<b>45,22</b>	<b>27,35</b>	<b>46,31</b>
Acquisitions/divestments	-2,44	-12,31	-63,81	-24,05	0,00	-51,55	-0,67
Dividends	-0,62	-7,86	-8,40	-7,54	-7,81	-7,81	-7,34
Share issues & buy backs	-7,90	0,12	5,01	-31,22	-1,35	-27,35	-35,57
Net debt	111,41	82,22	107,79	93,34	58,35	119,43	121,41
Net debt to EBITDA	1,53	1,18	1,42	0,89	0,60	1,27	1,25

Table 17 shows how the company gradually reduced its gearing and ended 2014 at net debt to EBITDA of 0.9x, even after buying back shares and paying dividends. In 2016 the company made some big acquisitions and is now at the 1.2x EBITDA target.

Össur's capital structure has been rather volatile until 2011, mainly due to loans are taken for acquisition in that period. Össur's net debt has been more towards the low end of the firm's net debt to EBITDA target as they have been paying down debts from the major acquisitions in the past. Today, Össur is back to a debt level of 1x2 to EBITDA. Assuming that Össur won't

make any major acquisitions in the future, the forecast expects the long term debt to remain constant at a current level.

#### 5.2.1.2 Corporate tax rate

The Icelandic current corporate tax is 20% and therefore a tax rate of 20% will be used for the WACC calculations and for other calculations in the valuation.

#### 5.2.1.3 The required rate of return on equity ( $r_e$ )

When estimating the investors required rate of return, I will be using the Capital Asset Pricing Model (CAPM). The idea of CAPM is that by holding a sufficiently broad portfolio of shares, investors will only pay for the risk that cannot be diversified which results in only the systematic risk being priced (Peterson & Plenborg, 2017). According to CAPM, the investors required rate of return is defined as:

$$r_e = r_f + B_e * (r_m - r_f)$$

Where:

$R_e$  = Investors required rate of return

$R_f$  = Risk-free interest rate

$B_e$  = Systematic risk on equity (levered beta)

$R_m$  = return on market portfolio

#### 5.2.1.4 Risk-free interest rate ( $r_f$ )

The risk-free interest rate shows how much an investor can earn without incurring any risk (Petersen & Plenborg, 2017). In real life there is nothing as a risk-free rate, the closest would be using government bonds. For the calculations, the rate of 10-year US Treasury bond will be used as the equivalent of the risk-free rate. The choice is based on Össur's income and expenses as they are in US dollars. On November 11<sup>th</sup> the yield of the 10-year US government bond is 3.05%

#### 5.2.1.5 Systematic risk on equity (levered beta)

Another important task for the calculations of the WACC is to find the associated risk for investing in Össur. This risk will be used in finding the price for the required interest on Össur's equity. The company's risk is set by its beta value, where a beta of 0 implies a risk-free investment and beta value of 1 means an equity investment with the same systematic risk as the market portfolio (Petersen & Plenborg, 2017). The standard procedure for calculating the beta would be to regress stock returns ( $R_j$ ) against market returns ( $r_m$ ) (Damodaran, 2018).

However, the problem of beta is: the standard error is high, it reflects the firm's business mix over the regression period and not the current mix and lastly, it reflects the firm's average financial leverage over the period instead of the current leverage (Damodaran, 2018).

Bloomberg reports both adjusted beta and raw beta for Össur. The adjusted beta is an estimation of a security's future beta and uses historical data of the stock, but assumes that a security's beta moves towards the market average over time. The beta reported by Bloomberg is 1.1. Bloomberg performs a regression of the historical trading prices of the stock against the S&P 500 (SPX) using weekly data over a two-year period (Bloomberg). Following Damodaran's (2018) bottom-up beta calculations, the equity beta can be estimated by using the financial leverage of the firm where the industry beta is the unlevered beta:

$$\text{Levered Beta} = \text{Unlevered Beta} * (1 + (1 - \text{tax rate}) * (\frac{D}{E}))$$

Based on 251 healthcare product firms the average D/E is close to that of Össur's at 24% with a beta of 0.83. An industry beta of 0.83 gives a levered beta of 0.95. Based on this analysis the fair value beta is assumed at 0.83.

#### 5.2.1.6 *Market Risk premium*

The market portfolios risk premium is the difference between market returns and returns from risk-free investments (Petersen & Plenborg, 2017). Moreover, it is the required return an investor expects when investing in the portfolio. Following Petersen and Plenborg (2017) there are two ways to determine the risk premium: Ex post approach and Ex-ante approach. The ex-post approach examines the historical returns on risk-free investments (approximated by the yield on a treasury bond) 50-100 years back in time. The ex-ante method attempts, on the basis of the analysts' consensus earnings forecast. Both methods are quite time consuming and have severe estimation problems. Suggested by Petersen and Plenborg (2017), a risk premium from Damodaran will be applied. The total risk premium calculated by Damodaran for Denmark is 5.08% and is the same for the US, which is obtained by looking at the implied premium for the S&P 500. Therefore, a risk premium of 5.08% will be used in this valuation.

#### 5.2.1.7 *The required rate of return on debt (rd)*

According to Modigliani and Miller (1958), the cost of debt is equal to the risk-free rate in a complete and perfect market. However, taxes and risk is an important factor in real life and that is why the model for the cost of debt will include these factors. The required rate of return after tax is calculated as:

$$rd = (rf + rs) * (1 - t)$$

Where:

*rd* = Cost of debt (Required rate of return on NIBD)

*rf* = Risk-free interest rate

*Rs* = Credit spread (risk premium on NIBD)

*T* = Corporate tax rate

The cost of debt is the rate at which the company can borrow long term and is composed of the risk-free rate and a default spread. By calculating the interest cover ratio (ref. chapter 4.3.6.3) of Össur, the synthetic rating estimation can be constructed. However, the estimation doesn't include operating leases. I will use the Damodaran's (2017) suggestion to find the cost of debt. The interest coverage ratio of Össur is 12.1 which gives Össur an "Aaa/AAA" rating and corresponds to a 0.54% default risk on a risk-free rate of 2.87%. Based on these calculations it is assumed that the cost of debt is 3.59% before tax. The current corporate tax is 20% and therefore we have a cost of debt 2.87%.

#### 5.2.1.8 Calculating WACC

The WACC can now be calculated since all of the components have been calculated. The WACC is based on market value for debt and equity, even though the market value can be questioned, the weighted average cost of capital has to reflect the investors choice in the market portfolio. Hence, the WACC has to reflect that cost of capital. The cost of equity is the largest factor in the calculations since Össur is mainly financed with equity.

From the above calculations, we have a cost of debt of 3.59% and the cost of equity being 8.13% which gives us a WACC of 7.23%.

## 5.2.2 DCF Valuation

Taking the findings above with the forecast, the DCF of Össur can be done. Using both an explicit forecast and a terminal period, a two-stage DCF model has to be applied (Petersen and Plenborg, 2017). The discounted cash flow model, specified as a two-stage model can be seen below:

The first part of the model shows the present value of the explicit period and the second part is the present value of the terminal period. On table 18 the calculations for the value of Össur with the DCF model is shown (Appendix free cash flow calculations).



Table 17 DCF Valuation

<i>Discounted Cash Flow model</i>	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
FCF	58,29	59,22	64,08	69,28	74,98	81,23	88,11	95,68
ROIC	9,9%	11,2%	11,7%	12,4%	13,0%	13,7%	14,4%	15,1%
WACC	7,23%	7,23%	7,23%	7,23%	7,23%	7,23%	7,23%	7,23%
Convention	-1,03	-0,03	0,97	1,97	2,97	3,97	4,97	
Discount Factor	1,07	1,00	0,93	0,87	0,81	0,76	0,71	
Terminal value								2072,1
PV FCF	62,64	59,34	59,88	60,37	60,93	61,56	62,27	1532,07
Dkk/USD	6,62							
<b>Valuation</b>	DKKm							
<b>Enterprise Value</b>	<b>1959,07</b>							
+ Cash								
- Debt	-121,89							
<b>Implied Equity Value</b>	<b>1.837,19</b>							
Nr of shares	430,638							
<b>Share price DKK</b>	<b>28,24</b>							

The calculations show a market value of 1.837 billion USD and a share price of 28DKK. The share price is below the closing price on November 28<sup>th</sup> which was 31.1 DKK. This implies that the fair value of Össur is around 10 percent lower than the share price on the market, from a DCF perspective.

### 5.2.3 Economic value added model (EVA)

According to the EVA model, the value of a firm is determined by the initial invested capital and the present value of all future EVAs (Petersen and Plenborg, 2017). Like the DCF model, EVA is also a two-stage model where the first part gives the value in the explicit period and the second part of the terminal period. EVA can be specified as:

$$EV_0 = IC_0 + \sum_{t=1}^n \frac{EVA_t}{(1+WACC)^t} + \frac{EVA_{n+1}}{(WACC-g)} \times \frac{1}{(1+WACC)^n}$$

Where:

*EV* = Enterprise value at the time of valuation

*IC* = Invested capital from the time of valuation

*EVA* = NOPAT – WACC \* *IC*

*WACC* = Weighted average cost of capital

*g* = Growth in the terminal period

*n* = length of the explicit forecast

In table 19, Össur's value has been calculated using the EVA model.

**Table 18 EVA Valuation**

EVA	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
<b>NOPAT</b>	<b>70,98</b>	<b>76,40</b>	<b>82,76</b>	<b>89,76</b>	<b>97,46</b>	<b>105,94</b>	<b>115,30</b>	<b>125,64</b>
Invested capital	621,87	633,21	650,24	668,75	689,05	711,32	735,80	762,74
Wacc	7,2%	7,2%	7,2%	7,2%	7,2%	7,2%	7,2%	7,2%
Cost of capital	44,98	45,80	47,03	48,37	49,84	51,45	53,22	55,17
<b>EVA</b>	<b>26,01</b>	<b>30,60</b>	<b>35,73</b>	<b>41,39</b>	<b>47,62</b>	<b>54,49</b>	<b>62,08</b>	<b>70,47</b>
Invested capital	621,87							
<b>Terminal value</b>								<b>1526,23</b>
Convention	-1,03	-0,03	0,97	1,97	2,97	3,97	4,97	
Discount Factor	1,07	1,00	0,93	0,87	0,81	0,76	0,71	
<b>PV EVA</b>	<b>27,94</b>	<b>30,66</b>	<b>33,39</b>	<b>36,07</b>	<b>38,70</b>	<b>41,30</b>	<b>43,88</b>	<b>1128,47</b>
<b>Valuation</b>	<b>DKKm</b>							
<b>Enterprise Value</b>	<b>2002,29</b>							
+ Cash								
- Debt	-121,9							
<b>Implied Equity Value</b>	<b>1.880</b>							
Nr of shares	430,638							
<b>Share price DKK</b>	<b>28,9</b>							

In theory, the model should return the same equity value calculated using the DCF but due to many assumptions made in the forecast as for many uncertainties, a difference around 5 percent is therefore assumed to be acceptable. Hence, Össur's share price is assumed to be overvalued.

## 5.2.4 Sensitivity Analysis

This section aims to analyze the sensitivity related to the found fair DCF value for the share price of Össur, given changes in key variables. As mentioned above, assumptions have been made in the forecast for the valuation and therefore a sensitivity analysis is considered important.

**Table 19 Sensitivity Analysis**

		WACC				
		7,03%	7,13%	<b>7,23%</b>	7,33%	7,43%
<b>Growth in Terminal Value</b>	1,50%	25,01	24,56	24,13	23,72	23,32
	2,00%	27,03	26,50	25,99	25,50	25,03
	<b>2,50%</b>	29,49	28,85	<b>28,24</b>	27,66	27,10
	3,00%	32,56	31,77	31,02	30,31	29,63
	3,50%	36,50	35,50	34,55	33,65	32,80

On table 20 the sensitivity on the variables for WACC and the growth in the terminal period can be seen. The reason for terminal growth being one of the sensitivity variables is because it

is considered the variable I have the least information on. Thus, it can be argued that the choice is largely based on theory than practical information. A terminal growth rate of 2.5% was chosen based on the inflation rate. The forecast assumes that Össur being in the mature state where the company's market share will remain stable and therefore a positive growth rate was chosen mirroring the historical inflation rate between 2% and 3% (Damodaran, 2018). As shown in table 5-6, an increase of 0.5% in growth, while WACC is held constant increases the price per share by 10%. A 0.5% increase in WACC while growth is held at 2.5%, the share price decreases by 2.8%. Given these results, Össur's share price is considered more sensitive towards changes in WACC than it is to grow.

### **5.2.5 Multiples**

A valuation based on multiples relies on the relative pricing of peer's earnings (Petersen and Plenborg, 2017). The main competitors of Össur are all held private and therefore a multiples analysis is impossible. However, it would be possible to conduct a multiples analysis based on other companies in the healthcare industry but it can be argued that the result would be quite irrelevant. Hence, a multiple analysis will not be conducted in this thesis.

## **6 Conclusion**

The aim of this thesis was to find the fair value per share for Össur as for today and to evaluate if the share price is considered undervalued or overvalued. Össur is a strong cash generator and has been recycling cash in share repurchases and making selective acquisitions. Össur went from an average player in the orthopedics industry to the second largest player. The company has a proven track record of growing at least in line with market growth of 3-5% per year, generating healthy margins and strong cash flows.

The company is challenged by currency fluctuations and weakening export currencies. But margin has been climbing further due to product mix changes in the direction of bionic products, while the product mix in Bracing and Support should move towards higher-end products due to ongoing product rationalization. Few weaknesses were found during the analysis. The future possible changes in reimbursement plans are considered one of Össur's main threat. The purchasing decisions of prosthetic products are depending on the health system available in each market. The characteristics and the existence of a reimbursement system effect who pays for prosthetic products. For Össur, the worst-case-scenario is when the purchasing power of the customer is low and the patients have to fully pay the product.

The market growth in the sector where Össur is active is 3-5% and the key growth drivers are growing elderly population, western lifestyle is known for generating diseases such as diabetes and lastly technology upgrades. According to Össur, there are nearly 100 prosthetic markers in the world and has Össur been among the most acquisitive players in the past 15 years. Össur and other main competitors like Otto bock have differentiated their portfolio by offering more sophisticated products and they appear to be growing faster than the market. Since 2007, Össur's prosthetic division has generated average organic sales growth of 6% which implies that its new product generation has lifted sales above the market.

Although Össur operates in businesses that have long-term stable growth, the historical earnings have been rather volatile. It can be explained by a number of acquisitions and integration cost. The profitability analysis conducted showed that ROIC has grown from 8.4% in 2007 to 10% in 2017. In the financial analysis the ROIC and WACC were compared and showed that since 2007, ROIC has always been above WACC. Therefore, it is assumed that value is being created when only looking at ROIC.

Össur has historically, generated ROE and ROIC below its Nordic peer group. The weaker ROE and ROIC can be explained by the company's many acquisitions. The Financial Leverage has fallen from 1.1 to 0.24 from 2007 to 2017. This is because Össur has repaid debt following the acquisition that took place from 2000 to 2007. The liquidity risk analysis in the financial analysis also showed that Össur is capable of meeting their short and long term debt obligations.

The information from the financial and the strategic analysis were used for estimating the future growth potential for Össur. Össur's growth in revenue was forecasted based on historical growth and assumptions made from the strategic analysis. Össur organic growth in Q3 (18) was 7%, which is higher than its full-year guidance of 4-5%. The growth rates for both main segments were kept constant in the forecast. Prosthetics is forecasted to be growing at 8.4% organically and the B&S segments at 5.0% which is towards the high end of the company's full-year guidance. The company and I believe growth will improve in the coming years helped by the B&S division. In the Prosthetics division, growth is believed to increase thanks to new products being launched. With the growth rates of both divisions in mind, the major acquisitions and demographic trends in recent years, it is assumed that the compound annual growth (CAGR) rate for 2018 – 2025 will be 8.14%.

The valuation of the company was done by using the DCF and EVA valuation models. Both models showed similar results, a share price of 28.3 DKK and 28.8 DKK on the 9<sup>th</sup> of February 2019. Compared to the value of 31.1 DKK on November 28<sup>th</sup>, 2018. Based on my calculations I conclude the share price is undervalued.

## 7 Reference

Carnegie Research (2015). *Report 2015*. Denmark

Kaupþing. (2015) *Report*. Reykjavík

Össur. (1999). *Annual report 1991*. Reykjavík

Össur. (2000). *Annual report 2000*. Reykjavík

Össur. (2003). *Annual report 2003*. Reykjavík

Össur. (2005). *Annual report 2005*. Reykjavík

Össur. (2006). *Annual report 2006*. Reykjavík

Össur. (2010). *Annual report 2010*. Reykjavík

Össur. (2013). *Annual report 2013*. Reykjavík

Össur. (2015). *Annual report 2015*. Reykjavík

Össur. (2017). *Annual report 2017*. Reykjavík

### Articles and Books:

Andersen, J.T., Denrell, J., Bettis. A. R. (2007). Strategic Responsiveness and Bowman's

Risk Return Paradox. *Strategic Management Journal*, 28, 407-429. DOI:

10.1002/smj.596 Damodaran, A. (1. December 2018). *Damodaran Online*. Retrieved 18. October 2018 from <http://pages.stern.nyu.edu/~adamodar/>

Essays, UK. (November 2013). US Medical Supplies and Devices Manufacturing Industry.

Retrieved from: <https://www.ukessays.com/essays/economics/the-us-medicalsupplies-and-devices-manufacturing-industry-economics-essay.php?vref=1>

Grant, R. M. (2008) "Contemporary Strategy Analysis". Cambridge, Blackwell Publishers

Joseph, C. (2018). The advantages of a Decentralized Organizational Structure. Retrieved

from: [Small:https://smallbusiness.chron.com/advantages-decentralized-organizational-structure-603.html](https://smallbusiness.chron.com/advantages-decentralized-organizational-structure-603.html)

Kenton, W. (2018). Value Chain. Retrieved from:

<https://www.investopedia.com/terms/v/valuechain.asp>

- Koller, T., Goedhart, M., & Wessels, D. (2016). *Valuation: Measuring and Managing the Value of Companies* (6th Ed.). New Jersey: John Wiley & Sons, Inc.
- Markland, R.E., Vickery, S.K. & Davis R.A. (1998). *Operations Management*. Ohio: South Western College Publishing. Pp. 18-19
- Penman, S. H. (2013). *Financial Statement Analysis and Security Valuation* (5th Ed.). New York: McGraw-Hill.
- Petersen, C. V., & Plenborg, T. (2012). *Financial Statement Analysis-Valuation, credit analysis, and executive compensation*. Essex: Pearson Education Limited.
- Porter, M. (1885). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: The Free press.
- Porter, M. (1996). *What is Strategy?* Harvard Business Review. November-December: 61-78.
- Prahalad, C.K., and Hamel, G. (2017). *The Core Competence of the corporation*. London: Macat International.
- Riley, J. (2016, April 4). Boston matrix [Video file]. Retrieved from: <https://www.tutor2u.net/business/reference/boston-matrix-and-product-portfolios>

### **Industry reports:**

- Grand View Research. (2017). *Robotic Prosthetics market Analysis by Technology, By Extremity, By Region, And Segment Forecasts, 2018 – 2025*. The report on Robotic Prosthetics market Size and Share. Retrieved from: <https://www.grandviewresearch.com/industry-analysis/robotic-prosthetics-market>
- Kenton, W. (2018). Oligopoly. Retrieved from: <https://www.investopedia.com/terms/o/oligopoly.asp>
- IData Research. (2012). U.S Market for Orthopedic Braces & Support Devices 2012 MedSuite. <https://idataresearch.com/product/u-s-market-for-orthopedic-braces-support-devices-2012-medsuite/>
- IDF Diabetes Atlas. (2017). Eighth edition 2017. International Diabetes Federation.

- Maida, J. (2017, May 18). Global Orthopedic bracing and Support Systems Market.  
Retrieved from:  
[https://www.businesswire.com/news/home/20170518005916/en/Global Orthopedic Bracing-Support-Systems-Market--](https://www.businesswire.com/news/home/20170518005916/en/Global-Orthopedic-Bracing-Support-Systems-Market--)
- Market Watch. (2018). Orthopedic Devices market revenue in APAC  
[https://www.marketwatch.com/press-release/orthopedic-devices-marketrevenue in apac-is-expected-to-reach-1172-billion-by-2023-2018-08-08](https://www.marketwatch.com/press-release/orthopedic-devices-marketrevenue-in-apac-is-expected-to-reach-1172-billion-by-2023-2018-08-08)
- Market Watch. (2018). Global Microfluidics Market Report:
- Orthopedic Prosthetics market. (April 2018). Growth, trends, and forecast (2018 2023).[https://www.mordorintelligence.com/industry-reports/orthopedic prostheticsmarket](https://www.mordorintelligence.com/industry-reports/orthopedic-prostheticsmarket)
- Stefanie V, Carson C, Kevin D, Elaine U, and Boyd A., (2015). Increased food energy supply as a major driver of the obesity epidemic: a global analysis. Retrieved:  
<https://www.who.int/bulletin/releases/NFM0715/en/>
- Strader, C. and Annunziata, K. Kantar Health. Growth of the osteoarthritis market, 2017
- Transparency Market Research. (2015). *Global Industry Analysis, Size, Share, Growth, Trends, and Forecast 2015 – 2023. The report on Orthopedic Prosthetics Market*. Retrieved from:[https://www.transparencymarketresearch.com/orthopedic prostheticsmarket.html](https://www.transparencymarketresearch.com/orthopedic-prostheticsmarket.html)
- HRWard <https://hbr.org/1995/09/the-new-logic-of-high-tech-rd>



## 8 Appendix

### Appendix A: Chapter 3 – Strategic Analysis

Environmental analysis (PEST analysis)

#### **Political**

The political and legal dimension of the external environment includes government regulations as well as political activities designed to influence company behavior (Draft, 2000). The purchasing decisions of prosthetic products are depending on the health system available in each market. The characteristics and the existence of a reimbursement system effect who pays for prosthetic products. For Össur, the worst-case-scenario is when the purchasing power of the customer is low and the patients have to fully pay the product. Those customers are price sensitive and value low prices over quality and therefore, are likely to accept poor living conditions. The chance that the end-user can't afford the product, is higher in middle- or low-income countries such as Mexico. When the end-users are lacking financial support, it becomes difficult for Össur to apply a pull strategy, where the amputee request Össur products from their prosthesis (Kaupthing, 2016). The end-user usually does not pay for the product themselves. Instead, a third party, an insurance company or the social security system bears the cost of the device. (Kaupthing, 2016).

Össur's headquarters are in Iceland where the tax rate is currently at 20%. There have not been any announcements about changing the corporate tax rate in Iceland for the upcoming years but since the tax rate has been fluctuating over the past years it is hard to predict the future. The Icelandic tax rate is quite low compared to other countries and therefore Össur plans to keep their headquarters in Iceland.

#### **Economic factors**

The economic dimension of the external environment represents the general economic health of the country in which the organization operates. The income and wealth of the people are relevant because they determine purchasing power.

#### *Currency fluctuation:*

Össur is a global business with revenues and expenses in many different currencies. Therefore, Össur is affected by currency fluctuations. The exchange rate difference between the USD and EUR is what affects Össur the most since Össur has most of their revenue and debt in those

currencies (Össur, 2017). Össur's headquarters are located in Iceland. Even though their main revenues are not coming from the Icelandic currency, they have expenses in ISK including administrative expenses, taxes, and salaries. Hence, the ISK is also a factor (Össur, 2017).

The instability in the economy has had some changes to the resource prices. The company does not utilize derivatives or other financial instruments for hedging risk to currency fluctuations, which pressures the earnings capacity (Össur, 2017). Össur is headquartered in Iceland and the Company owns and operates subsidiaries in multiple countries around the world. As mentioned before, the company operates on a global market, hence exposure to exchange rate fluctuations arises. The risk is managed with forwarding contracts and swaps (Össur, 2017). The company is mainly exposed to the fluctuation of the Icelandic and the EUR currency.

Most of Össur's products are reimbursed by a third party, including government and healthcare programs. These third-party players have developed methods of controlling healthcare cost, including a review of claims, contracting and competitive bidding. The cost-control methods eliminate the coverage and the number of payments for which third-party players may be willing to pay for medical products and service.

### **Industry economic overview:**

#### **Social Factors**

There has been a global rise in the number of amputation cases related to accidents, injuries, and tumors in the bone, limb infection and frostbite (Grand View Research, 2014). Cases such as obesity, diabetes, stroke, and vascular diseases also contribute to the increasing number of amputation cases (Grand View Research, 2014). According to the World Health Organization (WHO) report, nearly 50 million people around the globe are severely injured from the above-mentioned cases. The number is said to increase by 65% in the next 20 years which means a significant rise in demand for orthopedic prosthetic products across the globe. Although, the products are highly advanced and high cost, resulting in limited demand across developing and less developed economies (Transparency Market Research, 2015). This could be a key limitation of adoption across regional markets such as Africa and the Asia Pacific. The leading contributor to revenue would be North America, with the highest level of affordability while Europe being one of the established regional markets (Transparency Market Research, 2015).

#### **Technological factors:**

The technological environment contains forces that create new technologies, creating new product and market opportunities (Kotler). It is important for Össur to stay ahead in new innovations since the Prosthetic and the B&S market are very technologically advanced. Össur uses raw materials, such as silicone, metals, and carbon. Thus, Össur is affected by the availability and the prices of those materials. Össur constant strives to find new technologies with significant reinvestment into R&D is a key driver for a strong position to compete with potential new entries (Össur, 017). Therefore, it is an important factor in their future growth (Össur, 2017). Össur has 6 technical platforms representing core competencies: Injection Molding, Composites, Mechatronics, Mechanics, Silicon and Textile (Jon Sigurdsson). The research and development approach is indication based, that is, only products that have medical indication and are clinically validated are brought to market. The goal is to deliver cost-effective medical solutions that provide value to patients and the healthcare system (Össur, 2017).

### **Legal**

Össur's proprietary technologies and products are protected with different types of intellectual property (IP), such as design registrations, patents, and trade secrets. Össur's technological advances and growth drives from their R&D and therefore it is very important for Össur to be able to protect those rights. At year-end 2017, Össur had more than 1.300 granted patents and about 400 pending patent applications (Össur, 2017).

It can be costly and hard for firms to work in such restraint legal environment like Össur's and that is why it is important to make sure that products follow the regulations set upon them. If Össur would fail to comply with the current requirements it could affect the company's profitability (Össur, 2017)

## Appendix B: Chapter 4 – Financial Analysis

<i>Income Statement</i>	2011	2012	2013	2014	2015	2016	2017
<i>Revenue</i>	398,33	399,44	436,45	509,37	483,03	520,75	568,62
<i>Operating expenses</i>	325,72	329,48	360,76	405,01	385,54	426,88	471,25
<i>EBITDA before special items</i>						98,48	102,96
<b>EBITDA</b>	72,61	69,96	75,69	104,37	97,49	93,86	97,38
EBITDA margin (%)	0,18	0,18	0,17	0,20	0,20	0,18	0,17
Depreciation & amortis.	-13,21	-13,18	-15,27	-18,40	-20,15	-21,70	-22,56
<b>EBIT (profit from operation)</b>	<b>59,40</b>	<b>56,78</b>	<b>60,42</b>	<b>85,97</b>	<b>77,34</b>	<b>72,17</b>	<b>74,82</b>
<i>EBIT margin (%)</i>	0,15	0,14	0,14	0,17	0,16	0,14	0,13
Tax	-15,73	-14,64	-15,67	-20,29	-19,59	-18,37	-12,06
Tax shield net financial expenses	-3,36	-1,64	-0,96	-1,91	-1,99	-0,63	-1,01
<i>Tax in % of EBIT</i>	-0,26	-0,26	-0,26	-0,24	-0,25	-0,25	-0,16
<b>NOPAT</b>	<b>40,31</b>	<b>40,50</b>	<b>43,79</b>	<b>63,76</b>	<b>55,75</b>	<b>53,16</b>	<b>61,76</b>
Financial income	0,22	0,15	0,22	0,21	0,34	1,00	0,85
Financial Costs	-10,85	-6,79	-4,62	-3,97	-3,33	-3,80	-4,00
Net interest	-10,62	-6,64	-4,40	-3,76	-2,99	-2,80	-3,15
Other financial items	-2,05	0,28	0,68	-4,35	-4,88	0,32	-3,09
Net financial expensens	-12,67	-6,35	-3,72	-8,11	-7,87	-2,48	-6,24
+ Tax Shield	3,36	1,64	0,96	1,91	1,99	0,63	1,01
Minority interestes	-1,37	0,69	-0,47	-0,01	0,00	0,03	-0,02
<b>Net profit</b>	<b>30,99</b>	<b>35,79</b>	<b>41,03</b>	<b>57,56</b>	<b>49,88</b>	<b>51,31</b>	<b>56,53</b>

(DKK) Balance sheet	2011	2012	2013	2014	2015	2016	2017
<b>Non-current assets</b>							
Goodwill	333,484	348,935	396,601	388,100	369,238	394,123	414,663
Other intang	29,921	33,136	47,871	41,039	35,119	45,592	45,013
PPE	36,239	35,489	40,360	39,895	44,536	52,837	55,981
Deferred tax assets	30,974	26,565	22,159	21,038	17,326	23,739	23,322
other financial	6,809	6,824	5,486	10,007	9,779	19,376	21,859
<b>Total non current assets</b>	<b>437,427</b>	<b>450,949</b>	<b>512,477</b>	<b>500,079</b>	<b>475,998</b>	<b>535,667</b>	<b>560,838</b>
<b>Current assets</b>							
Inventories	52,171	56,757	66,825	64,224	64,882	75,296	82,291
trade receivables	55,549	52,666	71,239	69,474	73,269	82,109	93,058
other current assets	17,188	8,913	13,938	15,522	13,563	18,233	19,577
<b>Total current assets</b>	<b>124,908</b>	<b>118,336</b>	<b>152,002</b>	<b>149,220</b>	<b>151,714</b>	<b>175,638</b>	<b>194,926</b>
<b>Total Assets</b>	<b>562,335</b>	<b>569,285</b>	<b>664,479</b>	<b>649,299</b>	<b>627,712</b>	<b>711,305</b>	<b>755,764</b>
<b>Operating liabilities</b>							
Deferred tax	16,010	17,687	21,117	21,335	20,952	28,626	22,308
Other non IB provisions	4,493	4,838	4,751	6,912	5,018	6,519	6,716
LT non-IB liabilities (other financial liabilities)	2,216	2,151	1,264	0,471	0,045	0,000	3,222
Taxes payable	3,915	0,767	6,342	12,651	11,095	8,152	10,116
trade payables	20,305	17,120	21,070	17,504	16,067	17,810	23,448
provisions	3,634	4,762	4,491	3,770	2,939	5,741	4,314
Accrued salaries and related exp	18,192	16,894	25,951	28,101	27,910	30,844	35,185
Other liabilities	15,401	15,114	23,671	23,096	22,309	26,988	28,581
<b>Total current liabilities</b>	<b>84,166</b>	<b>79,333</b>	<b>108,657</b>	<b>113,840</b>	<b>106,335</b>	<b>124,680</b>	<b>133,890</b>
<b>Invested capital</b>	<b>478,169</b>	<b>489,952</b>	<b>555,822</b>	<b>535,459</b>	<b>521,377</b>	<b>586,625</b>	<b>621,874</b>
Net working capital	87,415	92,303	116,994	116,194	122,084	139,595	151,901
<b>Change in NWC</b>	<b>-4,294</b>	<b>-4,888</b>	<b>-24,691</b>	<b>0,800</b>	<b>-5,890</b>	<b>-17,511</b>	<b>-12,306</b>
<b>Total liabilities</b>	<b>579,968</b>	<b>591,163</b>	<b>706,676</b>	<b>677,783</b>	<b>654,329</b>	<b>746,397</b>	<b>793,037</b>
<b>Total equity</b>	<b>364,733</b>	<b>407,734</b>	<b>448,465</b>	<b>442,124</b>	<b>463,937</b>	<b>467,192</b>	<b>500,462</b>
<b>Financial liabilities</b>							
Borrowings	110,113	83,742	129,556	121,718	83,999	130,095	133,487
Borrowings ST	20,956	20,354	19,998	0,101	0,058	24,430	25,198
<b>IBD (Gross IB debt)</b>	<b>131,069</b>	<b>104,096</b>	<b>149,554</b>	<b>121,819</b>	<b>84,057</b>	<b>154,525</b>	<b>158,685</b>
<b>Financial assets</b>							
bank balance and cash	19,656	21,878	41,769	28,484	25,707	35,091	37,272
Interest bearing assets	19,656	21,878	41,769	28,484	25,707	35,091	37,272
<b>Net Interest Bearing debt</b>	<b>111,413</b>	<b>82,218</b>	<b>107,785</b>	<b>93,335</b>	<b>58,350</b>	<b>119,434</b>	<b>121,413</b>
<b>Invested capital</b>	<b>476,146</b>	<b>489,952</b>	<b>556,250</b>	<b>535,459</b>	<b>522,287</b>	<b>586,626</b>	<b>621,875</b>

## Cash Flow Statement

<i>Cash Flow Statement</i>	2011	2012	2013	2014	2015	2016	2017
<b>NOPAT</b>	40,3	40,5	43,8	63,8	55,8	53,2	61,8
Depreciation and Amortisation	13,2	13,2	15,3	18,4	20,2	21,7	22,6
Change in NWC	-4,3	-4,9	-24,7	0,8	-5,9	-17,5	-12,3
<b>Cash flow from operations</b>	<b>49,2</b>	<b>48,8</b>	<b>34,4</b>	<b>83,0</b>	<b>70,0</b>	<b>57,3</b>	<b>72,0</b>
Investments, non-current assets	18,3	-12,4	-20,1	-17,9	-24,8	-30,0	-25,7
<b>Free cash flow to the firm</b>	<b>67,5</b>	<b>36,4</b>	<b>14,2</b>	<b>65,0</b>	<b>45,2</b>	<b>27,4</b>	<b>46,3</b>
Other investments/divestments	-2,4	-12,3	-63,8	-24,1	0,0	-51,6	-0,7
Dividend paid	-0,6	-7,9	-8,4	-7,5	-7,8	-7,8	-7,3
Share issues and buybacks	-7,9	0,1	5,0	-31,2	-1,3	-27,4	-35,6
Decrease in Net IB debt	56,6	16,3	-53,0	2,2	36,1	-59,4	2,7
Change in NIBD	31,2	29,2	-25,6	14,5	35,0	-61,1	-2,0
Net financial expenses after tax	-9,3	-4,7	-2,8	-6,2	-5,9	-1,8	-5,2
<b>Cash flow to equity holders</b>	<b>98,7</b>	<b>65,6</b>	<b>-11,3</b>	<b>79,5</b>	<b>80,2</b>	<b>-33,7</b>	<b>44,3</b>
Net Interest Bearing debt	111	82	108	93	58	119	121
NIBD/EBITDA	1,5	1,2	1,4	0,9	0,6	1,3	1,2
Capex % sales	-5%	3%	5%	4%	5%	6%	5%
Dividend pay-out ratio	-2%	-22%	-20%	-13%	-16%	-15%	-13%
Cash conversion ratio %	68%	70%	45%	79%	72%	61%	74%
# of shares (avg.)	453,7	451,2	450,1	450,9	447,0	440,4	432,6

## CAPEX

<b>CAPEX</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Total intangible assets	333,484	348,935	396,601	388,100	369,238	394,123	414,663
Total tangible assets	36,239	35,489	40,360	39,895	44,536	52,837	55,981
<b>Total intangible and tangible assets</b>	<b>369,723</b>	<b>384,424</b>	<b>436,961</b>	<b>427,995</b>	<b>413,774</b>	<b>446,960</b>	<b>470,644</b>
Diff in PPE	31,494	0,750	-4,871	0,465	-4,641	-8,301	-3,144
depreciation	13,206	13,180	15,266	18,398	20,153	21,697	22,555
<b>Total capex</b>	<b>18,288</b>	<b>-12,430</b>	<b>-20,137</b>	<b>-17,933</b>	<b>-24,794</b>	<b>-29,998</b>	<b>-25,699</b>
Total Capex	-18,585	-15,190	-16,623	-22,055	-24,627	-35,392	-18,775

## Working Capital

Working Capital %	2011	2012	2013	2014	2015	2016	2017
Inventories (% sales)	13,1%	14,2%	15,3%	12,6%	13,4%	14,5%	14,5%
Receivables (% sales)	13,9%	13,2%	16,3%	13,6%	15,2%	15,8%	16,4%
Trade payables (% sales)	5,1%	4,3%	4,8%	3,4%	3,3%	3,4%	4,1%
<b>NWC to sales %</b>	<b>21,9%</b>	<b>23,1%</b>	<b>26,8%</b>	<b>22,8%</b>	<b>25,3%</b>	<b>26,8%</b>	<b>26,7%</b>

## Historical growth rates in income statements

USD´000	2011	2012	2013	2014	2015	2016	2017
Group sales	12%	0%	9%	17%	-5%	8%	9%
COGS	62%	62%	62%	63%	63%	63%	62%
General & administration expenses	13%	12%	11%	10%	10%	11%	11%
Research & development expenses	5%	6%	5%	4%	4%	4%	5%
Sales & marketing expenses	30%	30%	32%	33%	33%	34%	33%
Depreciation (% intang.&tang assets)	-4%	-3%	-3%	-4%	-5%	-5%	-5%
EBIT (profit from operation)	15%	14%	14%	17%	16%	14%	13%
Tax in % of EBIT	-26%	-26%	-26%	-24%	-25%	-25%	-16%
Net financial expensens	11%	8%	3%	9%	13%	2%	5%

## Sales by regions

Sales	2011	2012	2013	2014	2015	2016	2017
Americas	209,7	208,0	206,8	209,2	210,9	234,3	246,3
EMEA	173,3	169,9	206,0	267,1	237,3	252,4	281,1
APAC	18,3	21,5	23,5	33,1	34,8	34,1	41,2
Total sales	401,3	399,4	436,3	509,4	483,0	520,7	568,6
Organig growth	2011	2012	2013	2014	2015	2016	2017
Americas	3,0%	-1,0%	-1,0%	1,0%	2,0%	5,7%	1,0%
EMEA	5,0%	5,0%	5,0%	7,0%	7,4%	3,8%	7,0%
APAC	7,0%	18,0%	11,0%	16,0%	5,6%	-0,2%	14,7%
Total organic	4,9%	2,0%	3,0%	5,0%	4,8%	4,6%	5,0%
Total growth	2011	2012	2013	2014	2015	2016	2017
Americas	12,97%	-0,82%	-0,59%	1,17%	0,83%	11,08%	5,15%
EMEA	10,85%	-1,97%	21,23%	29,65%	-11,15%	6,34%	11,38%
APAC	10,51%	17,81%	9,24%	40,73%	5,25%	-0,02%	20,83%
Total growth	11,93%	-0,47%	9,22%	16,75%	-5,17%	7,81%	9,19%

## Historical and forecasted growth rates for 2018

				Forecast	
<b>Bracing</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total</b>
revenue	70	79	68	85	302
organic	-1%	4%	2%	5%	2,67%
growth	-1%	4%	2%	5%	2,67%
					5,81%
<b>Prosthetics</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total</b>
revenue	71	79	77	85	312
organic	4%	7%	11%	11%	8,39%
growth	4%	7%	11%	11%	8,39%
					10,49%
<b>Group sales</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total</b>
	141	158	145	170	614
organic	1,52%	5,50%	6,78%	8,00%	5,58%
growth	1,52%	5,50%	6,78%	8,00%	5,58%
Total growth					8,14%

Growth rates for Bracing in quarter four is expected to be 5% and 11% for the prosthetics.

That gives me an increase in revenues for both sectors resulting in organic growth of 5% and 11% compared to previous quarters. Growth for both divisions are calculated:

$$\text{Organic growth Bracing} = \left(\frac{\text{revenueQ1}}{\text{Total revenue}}\right) * OGQ1 + \left(\frac{\text{revenueQ2}}{\text{Total revenue}}\right) * OGQ2 + \left(\frac{\text{revenueQ3}}{\text{Total revenue}}\right) * OGQ3 + \left(\frac{\text{revenueQ4}}{\text{Total revenue}}\right) * OGQ4$$



## Appendix C: Chapter 5 – Forecast

### Income statement in the explicit

INCOME STATEMENT	Forecast								
	2017	2018	2019	2020	2021	2022	2023	2024	2025
USD '000									
Revenue	569	614	662	714	771	833	902	978	1061
COGS	-214	-230	-248	-268	-289	-313	-338	-367	-398
<i>Gross margin (%)</i>	1	1	1	1	1	1	1	1	1
Sales & marketing expenses	-187	-197	-212	-229	-247	-267	-289	-313	-340
R&D expenses	-29	-29	-31	-33	-35	-38	-40	-43	-46
Administration expenses	-64	-69	-74	-80	-86	-93	-101	-109	-119
Operating expenses	471	498	538	579	625	676	731	792	859
<b>EBITDA</b>	<b>97</b>	<b>116</b>	<b>124</b>	<b>134</b>	<b>146</b>	<b>158</b>	<b>171</b>	<b>186</b>	<b>202</b>
<i>EBITDA margin (%)</i>	0,17	0,19	0,19	0,19	0,19	0,19	0,19	0,19	0,19
Depreciation & amortis.	-23	-26	-28	-30	-32	-35	-38	-41	-44
<b>EBIT</b>	<b>75</b>	<b>90</b>	<b>97</b>	<b>105</b>	<b>113</b>	<b>123</b>	<b>133</b>	<b>145</b>	<b>158</b>
<i>EBIT margin (%)</i>	0,13	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15
Tax	1,0	0,9	-18,9	-19,9	-20,9	-22,1	-23,2	-24,5	-25,8
<i>Tax % of EBIT</i>	-16%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%
<b>NOPAT</b>	<b>61,8</b>	<b>71,0</b>	<b>76,4</b>	<b>82,8</b>	<b>89,8</b>	<b>97,5</b>	<b>105,9</b>	<b>115,3</b>	<b>125,6</b>
Net financial expensens	-6,2	-4,4	-4,3	-4,3	-4,2	-4,2	-4,1	-4,1	-4,0
Tax Shield	1,0	0,9	0,9	0,9	0,8	0,8	0,8	0,8	0,8
Minority interesstes	0,0								
<b>Net profit</b>	<b>56,5</b>	<b>67,5</b>	<b>72,9</b>	<b>79,3</b>	<b>86,4</b>	<b>94,1</b>	<b>102,6</b>	<b>112,0</b>	<b>122,4</b>

### Historical and Forecasted growth rates in balance sheet

Assets	Historic							Forecast	
	2011	2012	2013	2014	2015	2016	2017	AVERAGE	2018e - 2025e
<i>Goodwill</i>	constant								
<i>Other Ingangible assets (% sales)</i>	7,5%	8,3%	11,0%	8,1%	7,3%	8,8%	7,9%	8,4%	8,0%
<i>PPE (% sales)</i>	9,1%	8,9%	9,2%	7,8%	9,2%	10,1%	9,8%	9,2%	10,0%
<i>Deferred tax assets (% sales)</i>	7,8%	6,7%	5,1%	4,1%	3,6%	4,6%	4,1%	5,1%	4,1%
<i>Other financial assets (% sales)</i>	1,7%	1,7%	1,3%	2,0%	2,0%	3,7%	3,8%	2,3%	3,8%
<i>Inventories (% sales)</i>	13,1%	14,2%	15,3%	12,6%	13,4%	14,5%	14,5%	13,9%	14,5%
<i>Receivables (% sales)</i>	13,9%	13,2%	16,3%	13,6%	15,2%	15,8%	16,4%	14,9%	16,1%
<i>Other operating assets (% sales)</i>	4,3%	2,2%	3,2%	3,0%	2,8%	3,5%	3,4%	3,2%	3,5%
<b>Operating liabilities</b>									
<i>Deferred tax liabilities (% sales)</i>	4,0%	4,4%	4,8%	4,2%	4,3%	5,5%	3,9%	4,5%	4,7%
<i>Other non IB provisions (% sales)</i>	1,1%	1,2%	1,1%	1,4%	1,0%	1,3%	1,2%	1,2%	1,2%
<i>LT non-IB liabilities (% sales)</i>	0,6%	0,5%	0,3%	0,1%	0,0%	0,0%	0,6%	0,3%	0,6%
<i>Taxes payable (% sales)</i>	1,0%	0,2%	1,5%	2,5%	2,3%	1,6%	1,8%	1,5%	1,7%
<i>Trade payables (% sales)</i>	5,1%	4,3%	4,8%	3,4%	3,3%	3,4%	4,1%	4,1%	3,8%
<i>Provisions (% sales)</i>	1,2%	1,0%	0,7%	0,6%	1,1%	0,8%	0,8%	0,9%	0,8%
<i>Accrued salaries (% sales)</i>	4,2%	5,9%	5,5%	5,8%	5,9%	6,2%	5,9%	5,6%	5,9%
<i>Other liabilities (% sales)</i>	3,9%	3,8%	5,4%	4,5%	4,6%	5,2%	5,0%	4,6%	4,8%
<b>Financial Liabilities</b>									
<i>Borrowings (% sales)</i>	27,6%	21,0%	29,7%	23,9%	17,4%	25,0%	23,5%	24,0%	24,2%
<i>Borrowings ST (% sales)</i>	5,3%	5,1%	4,6%	0,0%	0,0%	4,7%	4,4%	3,4%	4,6%
<i>Cash (% sales)</i>	4,9%	5,5%	9,6%	5,6%	5,3%	6,7%	6,6%	6,3%	6,6%
<i>Other current assets</i>	4,3%	2,2%	3,2%	3,0%	2,8%	3,5%	3,4%	3,2%	3,5%

## Balance sheet in the explicit

(DKK) Balance sheet	2018e	Forecast						
		2019e	2020e	2021e	2022e	2023e	2024e	2025e
<b>Non-current assets</b>								
Goodwill	414,7	414,7	414,7	414,7	414,7	414,7	414,7	414,7
Other intang	49,1	52,9	57,1	61,7	66,7	72,2	78,2	84,9
PPE	61,4	66,2	71,4	77,1	83,3	90,2	97,7	106,1
Deferred tax assets	25,1	27,1	29,2	31,6	34,1	36,9	40,0	43,5
other financial	23,2	25,0	27,0	29,2	31,5	34,1	37,0	40,1
<b>Total non current assets</b>	<b>573,5</b>	<b>585,9</b>	<b>599,3</b>	<b>614,1</b>	<b>630,3</b>	<b>648,1</b>	<b>667,7</b>	<b>689,2</b>
<b>Current assets</b>								
Inventories	88,8	95,7	103,3	111,5	120,6	130,5	141,5	153,5
trade receivables	93,5	100,8	108,8	117,4	127,0	137,5	149,0	161,7
other current assets	21,3	23,0	24,8	26,8	28,9	31,3	34,0	36,8
<b>Total current assets</b>	<b>203,7</b>	<b>219,5</b>	<b>236,8</b>	<b>255,7</b>	<b>276,5</b>	<b>299,3</b>	<b>324,4</b>	<b>352,1</b>
<b>Total Assets</b>	<b>777,2</b>	<b>805,4</b>	<b>836,2</b>	<b>869,8</b>	<b>906,8</b>	<b>947,4</b>	<b>992,1</b>	<b>1041,3</b>
<b>Operating liabilities</b>								
Deferred tax	28,9	31,2	33,6	36,3	39,3	42,5	46,1	50,0
Other non IB provisions	7,5	8,1	8,7	9,4	10,1	11,0	11,9	12,9
LT non-IB liabilities (other financial liabili	3,5	3,8	4,0	4,4	4,7	5,1	5,5	6,0
Taxes payable	10,3	11,1	11,9	12,9	13,9	15,1	16,4	17,7
trade payables	23,2	25,0	26,9	29,1	31,4	34,0	36,9	40,0
provisions	4,9	5,3	5,7	6,2	6,7	7,2	7,8	8,5
Accrued salaries and related exp	36,0	38,9	41,9	45,3	48,9	53,0	57,4	62,3
Other liabilities	29,7	32,0	34,6	37,3	40,3	43,7	47,3	51,4
<b>Total current liabilities</b>	<b>144,0</b>	<b>155,2</b>	<b>167,4</b>	<b>180,8</b>	<b>195,4</b>	<b>211,6</b>	<b>229,3</b>	<b>248,9</b>
<b>Invested capital</b>	<b>633,2</b>	<b>650,2</b>	<b>668,8</b>	<b>689,0</b>	<b>711,3</b>	<b>735,8</b>	<b>762,7</b>	<b>792,4</b>
Net working capital	159,2	171,6	185,1	199,9	216,1	233,9	253,6	275,2
<i>Change in NWC</i>	-7,3	-12,4	-13,5	-14,8	-16,2	-17,8	-19,6	-21,6
<b>Total liabilities</b>	<b>818,0</b>	<b>849,4</b>	<b>883,6</b>	<b>921,1</b>	<b>962,2</b>	<b>1007,3</b>	<b>1057,1</b>	<b>1111,9</b>
<b>Total equity</b>	<b>512,5</b>	<b>530,6</b>	<b>550,2</b>	<b>571,6</b>	<b>595,2</b>	<b>621,1</b>	<b>649,6</b>	<b>681,1</b>
<b>Financial liabilities</b>								
Borrowings	133,5	133,5	133,5	133,5	133,5	133,5	133,5	133,5
Borrowings ST	28,0	30,2	32,6	35,2	38,0	41,2	44,6	48,4
<b>IBD (Gross IB debt)</b>	<b>161,5</b>	<b>163,7</b>	<b>166,0</b>	<b>168,6</b>	<b>171,5</b>	<b>174,6</b>	<b>178,1</b>	<b>181,9</b>
<b>Financial assets</b>								
bank balance and cash	40,8	44,0	47,4	51,2	55,4	60,0	65,0	70,5
Interest bearing assets	40,8	44,0	47,4	51,2	55,4	60,0	65,0	70,5
<b>Net Interest Bearing debt</b>	<b>120,7</b>	<b>119,7</b>	<b>118,6</b>	<b>117,4</b>	<b>116,1</b>	<b>114,7</b>	<b>113,1</b>	<b>111,4</b>
<b>Invested capital</b>	<b>633,2</b>	<b>650,2</b>	<b>668,8</b>	<b>689,0</b>	<b>711,3</b>	<b>735,8</b>	<b>762,7</b>	<b>792,4</b>

Figure 1 - Inverse Asset turnover assumptions

ATO drivers (inverse)	2017	2018	2019	2020	2021	2022	2023	2024	2025
Intangible assets	81%	76%	71%	66%	62%	58%	54%	50%	47%
Tangible assets	10%	10%	10%	10%	10%	10%	10%	10%	10%
Financial assets	4%	4%	4%	4%	4%	4%	4%	4%	4%
Inventory	14%	14%	14%	14%	14%	14%	14%	14%	14%
Trade receivables	16%	15%	15%	15%	15%	15%	15%	15%	15%
Deferred tax assets	4%								
Other Operating Assets	3%	3%	3%	3%	3%	3%	3%	3%	3%
	133%	122%	118%	113%	109%	105%	101%	97%	94%
Operating liabilities	-24%	23%	23%	23%	23%	23%	23%	23%	23%
1/ATO	109%	99%	94%	90%	85%	81%	77%	74%	71%
ATO	91%	101%	106%	112%	117%	123%	129%	135%	142%

## Balance sheet in the explicit forecast

(DKK) Balance sheet	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
<b>Non-current assets</b>								
Goodwill	415	415	415	415	415	415	415	415
Other intang	49	53	57	62	67	72	78	85
PPE	61	66	71	77	83	90	98	106
Deferred tax assets	25	27	29	32	34	37	40	43
other financial	23	25	27	29	32	34	37	40
<b>Total non current assets</b>	<b>574</b>	<b>586</b>	<b>599</b>	<b>614</b>	<b>630</b>	<b>648</b>	<b>668</b>	<b>689</b>
<b>Current assets</b>								
Inventories	89	96	103	112	121	131	141	154
trade receivables	94	101	109	117	127	137	149	162
other current assets	21	23	25	27	29	31	34	37
Total current assets	204	220	237	256	276	299	324	352
<b>Total Assets</b>	<b>777</b>	<b>805</b>	<b>836</b>	<b>870</b>	<b>907</b>	<b>947</b>	<b>992</b>	<b>1041</b>
<b>Operating liabilities</b>								
Deferred tax	29	31	34	36	39	42	46	50
Other non IB provisions	7	8	9	9	10	11	12	13
LT non-IB liabilities (other financial)	3	4	4	4	5	5	6	6
Taxes payable	10	11	12	13	14	15	16	18
trade payables	23	25	27	29	31	34	37	40
provisions	5	5	6	6	7	7	8	9
Accrued salaries and related exp	36	39	42	45	49	53	57	62
Other liabilities	30	32	35	37	40	44	47	51
<b>Total current liabilities</b>	<b>144</b>	<b>155</b>	<b>167</b>	<b>181</b>	<b>195</b>	<b>212</b>	<b>229</b>	<b>249</b>
<b>Invested capital</b>	<b>633</b>	<b>650</b>	<b>669</b>	<b>689</b>	<b>711</b>	<b>736</b>	<b>763</b>	<b>792</b>
Net working capital	159	172	185	200	216	234	254	275
Change in NWC	-7	-12	-13	-15	-16	-18	-20	-22
<b>Total liabilities</b>	<b>818</b>	<b>849</b>	<b>884</b>	<b>921</b>	<b>962</b>	<b>1007</b>	<b>1057</b>	<b>1112</b>
<b>Total equity</b>	<b>513</b>	<b>531</b>	<b>550</b>	<b>572</b>	<b>595</b>	<b>621</b>	<b>650</b>	<b>681</b>
<b>Financial liabilities</b>								
Borrowings	133	133	133	133	133	133	133	133
Borrowings ST	28	30	33	35	38	41	45	48
<b>IBD (Gross IB debt)</b>	<b>161</b>	<b>164</b>	<b>166</b>	<b>169</b>	<b>172</b>	<b>175</b>	<b>178</b>	<b>182</b>
<b>Financial assets</b>								
bank balance and cash	41	44	47	51	55	60	65	71
<b>IBD (Gross IB asset)</b>	<b>41</b>	<b>44</b>	<b>47</b>	<b>51</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>71</b>
<b>Net Interest Bearing debt</b>	<b>121</b>	<b>120</b>	<b>119</b>	<b>117</b>	<b>116</b>	<b>115</b>	<b>113</b>	<b>111</b>
<b>Invested capital</b>	<b>633</b>	<b>650</b>	<b>669</b>	<b>689</b>	<b>711</b>	<b>736</b>	<b>763</b>	<b>792</b>

## CAPEX in explicit forecast

CAPEX	2018	2019	2020	2021	2022	2023	2024	2025
Total intangible assets	414,66	414,66	414,66	414,66	414,66	414,66	414,66	414,66
Total tangible assets	61,37	66,15	71,35	77,05	83,31	90,18	97,75	106,08
<b>Total intangible and tangible assets</b>	<b>476,04</b>	<b>480,82</b>	<b>486,02</b>	<b>491,72</b>	<b>497,97</b>	<b>504,85</b>	<b>512,41</b>	<b>520,75</b>
Diff in PPE	-5,39	-4,78	-5,20	-5,70	-6,26	-6,87	-7,57	-8,34
depreciation	25,71	27,71	29,89	32,28	34,90	37,78	40,95	44,44
<b>Total capex</b>	<b>-31,10</b>	<b>-32,49</b>	<b>-35,09</b>	<b>-37,98</b>	<b>-41,15</b>	<b>-44,65</b>	<b>-48,51</b>	<b>-52,77</b>

## Profit drivers

	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>EBIT Margin</b>	13,2%	14,6%	14,6%	14,6%	14,7%	14,7%	14,8%	14,8%	14,9%
<b>PM</b>	10,9%	11,6%	11,5%	11,6%	11,6%	11,7%	11,7%	11,8%	11,8%
<b>RNOA</b>	7,9%	9,2%	9,6%	10,1%	10,6%	11,1%	11,6%	12,2%	12,7%
<b>ROIC</b>	9,9%	11,2%	11,7%	12,4%	13,0%	13,7%	14,4%	15,1%	15,9%
<b>ROE</b>	11,29%	13,17%	13,75%	14,42%	15,11%	15,81%	16,52%	17,25%	17,98%
<b>ATO</b>	0,91	1,01	1,06	1,12	1,17	1,23	1,29	1,35	1,42
<b>FLEV</b>	24,3%	23,5%	22,6%	21,6%	20,5%	19,5%	18,5%	17,4%	16,4%
<b>NIBD/EBITDA</b>	1,25	1,04	0,96	0,88	0,81	0,74	0,67	0,61	0,55

	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>ROIC</b>	0,099	0,112	0,117	0,124	0,130	0,137	0,144	0,151	0,159
<b>PM</b>	0,109	0,116	0,115	0,116	0,116	0,117	0,117	0,118	0,118
<b>FLEV</b>	0,243	0,235	0,226	0,216	0,205	0,195	0,185	0,174	0,164
<b>NBC</b>	0,043	0,029	0,029	0,029	0,029	0,029	0,029	0,029	0,029
<b>ROE</b>	0,113	0,132	0,137	0,144	0,151	0,158	0,165	0,172	0,180
<b>ATO</b>	0,914	1,010	1,062	1,116	1,172	1,231	1,291	1,353	1,417
<b>NIBD/EBITDA</b>	1,247	1,045	0,963	0,882	0,807	0,736	0,670	0,608	0,550