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PANDORA

A valuation of Pandora

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Abstract

Pandora operates in the global jewelry industry, selling their items in more than 100 countries. Since 2010, the company has been listed on NASDAQ OMX Copenhagen Stock Exchange. The objective of this thesis is to perform a valuation of Pandora as of December 31st, 2021, in order to see if the estimated share price is aligned with the market price.

In order to perform a valuation, a strategic and financial analysis will first be conducted. The strategic analysis revealed an expected growth of the global jewelry industry in the coming years, indicating continued revenue growth for the company. The analysis further presented threats in both the macro- and micro-environment of the company, such as the threats stemming from commodity price risks and the intensive rivalry within the jewelry industry. Apart from this, internal strengths were identified, such as the strong brand of Pandora.

The financial statements of Pandora were reorganized for analytical purposes, based on which a profitability analysis and liquidity risk analysis was conducted. Increasing trends in Pandora's ROIC and ROE are identified, and the liquidity of the company is assessed to be strong.

The strategic and financial analysis provided the basis for the pro forma statements, based on which the free cash flows were calculated. Discounting the cash flows with the estimated WACC enabled a valuation to be performed using the discounted cash flow model. The estimated share price based on the assumptions made indicates a share price of DKK 909 as of December 31st, 2021.

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1 Introduction

Pandora was founded in Denmark during the year 1982 and has since grown to become the biggest jewelry brand in the world (Pandora, 2022a), operating in the affordable jewelry segment (Pandora, 2021a). Today, Pandora sells their jewelry, which are designed and manufactured by the company itself, in more than 100 countries. The company's headquarter is in Copenhagen, and their products are manufactured in Thailand (Pandora, 2022b).

Pandora began their international expansion in the early 2000s, after having introduced their charm products to the Danish market. In 2010, the company had its entrance at the NASDAQ OMX Copenhagen Stock Exchange (Pandora, 2022a).

During the years, Pandora's stock price has had high fluctuations. Looking back at the past five years, the stock price on January 2nd, 2017 was closed at DKK 930, January 2nd 2019 at DKK 267.3 and finally, January 5th 2021 at DKK 630.8 (nasdaqomxnordic, 2022).

Due to this, Pandora seems as an interesting company to perform a valuation of. Further, the company has been operating for many years and thus, there is enough historical data existing in order to conduct the financial valuation. This is another reason for why Pandora is considered a good choice of company for this thesis.

1.1 Problem formulation & Thesis objective

Based on the introduction above, this thesis will conduct a strategic and financial analysis of Pandora in order to perform a valuation of the company as of December 31st, 2021. This will be done for the purpose of seeing whether or not the valuation is in accordance with the market value of Pandora.

Thus, to fulfill the objective of the thesis, the following question has been constructed:

- ***What is the fair market value of Pandora as of December 31st, 2021?***

1.2 Introduction to Pandora

In the following subsections, a deeper presentation of Pandora is provided.

1.2.1 Company history

As stated in section 1, Pandora was founded in 1982. The two founders of the company, Per Enevoldsen, who was a Danish goldsmith, and his wife Winnie, had a small jewelry shop in Copenhagen. Their jewelry shop offered customers different jewelries which the couple themselves would import from Thailand. Due to growing demand for their products, Pandora hired their first designer in 1987, after five years in business. Shortly after, in 1989, Pandora took the decision of beginning to manufacture their own jewelry items in Thailand (Pandora, 2022a).

It was not until the launch of their charm bracelet that Pandora began its international expansion. The charm concept was launched in 2000, and only three years after the demand had increased enough to drive the company to expand globally. Pandora entered the US market in 2003, and the German and Australian markets in 2004. In the years after, the company continued its international expansion which was supported and driven by third party distributors and their crafting capabilities in Thailand (Pandora, 2022a).

Pandora was listed on the NASDAQ OMX Copenhagen Stock Exchange in 2010, and the company is today operating a vertically integrated business model with a total of 27,000+ employees worldwide, and 100+ countries exposed to Pandora's products through 6,800+ points of sale (Pandora, 2022a).

1.2.2 Growth strategy

Pandora's new growth strategy, the Phoenix strategy, was introduced in the first half of 2021. The strategy is built around Pandora's untapped opportunities in their core business and aims to enable the company to deliver a revenue growth that is both sustainable and profitable (Pandora, 2021a).

To do so, the Phoenix strategy prioritizes four specific pillars recognized as the most significant untapped opportunities: brand, design, personalization, and core markets (Pandora, 2021a).

The first growth pillar, brand, targets the brand desirability. Currently, the Pandora brand has a loyal base of customers who perceive the brand as an enabler for expressing one's personality. This perception is essential for brand desirability, and the brand growth pillar aims to increase the desirability for the Pandora brand (Pandora, 2021a).

The second growth pillar, design, targets Pandora's initiatives to continue the growth of their core charm bracelet concept, as well as expanding their product platforms to capture the demand of specific consumer segments. Pandora will further establish support models for both their core business and their new product platforms (Pandora, 2021a).

The third growth pillar, personalization, aims to further personalize the customer journey of Pandora's consumers, for example through a new store concept which is currently being tested (Pandora, 2021a).

The final growth pillar, core markets, targets the growth opportunities in Pandora's core markets. The US and China have been recognized as the markets with the biggest growth opportunities, as the brand awareness in these two markets is lower than in other markets such as Italy and the UK (Pandora, 2021a). Pandora expects to open 100-150 stores mainly in the US and China as a part of this strategy (Pandora, 2021d).

The previous strategy of Pandora, called Programme NOW, was a two-year turnaround program which aimed to turn the negative growth rate of Pandora around to become positive. The reason for the negative growth rate was assessed to be due to an unclear positioning of the company, as well as unsatisfactory relevance and uniqueness for customers and their shopping experience. As a result, Programme NOW was launched in late 2018 to fulfill the lacking aspects of the company strategy in order to accomplish long-term revenue growth. This would mainly be accomplished through a reduction of store openings and costs, as well as reestablishing a passion for the Pandora brand (Pandora, 2018).

In 2021, Pandora's two-year turnaround program was completed and the total revenue generated during the year amounted to DKK 23.4 billion which is record-breaking for the company. This meant a revenue growth of 23% compared to 2020 (Pandora, 2021a).

1.2.3 Main markets

During 2021, Pandora generated a record-breaking revenue of DKK 23,394 million, which corresponds to an organic growth of 23% and 9% compared to 2020 and 2019 respectively (Pandora, 2021a).

Pandora's biggest market based on revenue is the US, which contributed a total revenue of DKK 7,026 million during 2021. The US market's performance during 2021 was unusually strong, compared to 2020 where the market generated revenue of DKK 4,505 million (Pandora, 2021a).

The second biggest market based on revenue is the UK, which generated a total revenue of DKK 3,314 million during 2021 compared to DKK 2,960 million in 2020, and this is followed by Italy, delivering revenue of DKK 2,443 million in 2021 compared to DKK 2,021 million in 2020 (Pandora, 2021a).

1.2.4 Share price

In the figure below, Pandora's share price movements from October 2010 until the end of December 2021 are presented (nasdaqomxnordic, 2022).

As can be seen in the figure, Pandora's share price has on average increased since 2010. However, there are many fluctuations to the share price and the Pandora stock can thus be considered rather volatile. The lowest share price was observed in October 2011, with a closing price of DKK 34.95. The highest share price was observed in both May and June 2016, with a closing price of DKK 999.5.

Figure 1: Pandora's share price movements 2010-2021

(Graph derived from nasdaqomxnordic, 2022).

1.3 Delimitation

This thesis is subject to the following delimitations:

- The valuation of Pandora in this thesis will be estimated as of December 31st, 2021.
- The company data used is data available up until, and including, December 31st, 2021. The time period used is 5 years for the analyses in the thesis.
- Only information available to the public will be used for this thesis.
- The current invasion of Ukraine and its possible impacts will not be included in the analyses in order to keep a focused and un-disrupted development of the thesis.

2 Methodology & Theories

This thesis has adapted the method of a case study, as the research aims to analyze and perform a valuation of Pandora (Veal and Darcy, 2014).

The specific topic was chosen as it enables the combination of both strategy and finance. These two topics are in my area of interest and it was thus natural for me to choose something within them. Further, the two topics reflect my master's studies as well as my bachelor's, hence conducting a strategic and financial analysis allows me to apply theories and models I have studied during my years at university.
Below, the theories and data used in this thesis will be discussed. Further, an overview of the thesis structure will be presented in order for the reader to get acquainted with the topics.

2.1 Theories

In the following sections, the theories and models chosen for this thesis will shortly be introduced and discussed. The theories are chosen due to their relevance for this thesis, as well as them being well-known and acknowledged in strategy and financial literature. Due to this, a thorough and in-depth presentation of them is not deemed necessary. Theories not described in below sections, that are still used in this thesis, will be introduced when relevant.

The first two subsections below present theories that relate to the strategic analysis. This is followed by the sub-section regarding the choice of valuation model.

2.1.1 External analysis

The external analysis aims to explain and give an understanding of the macro and micro environment of Pandora. The macro analysis is performed using the PESTEL model, in which specific strategically relevant factors are used as a basis for analysis to evaluate the macro environment in which a company operates and the impact that the specific factors has (Thompson et al., 2016).

The six different factors presented in the PESTEL model and applied during the analysis are the following (Thompson et al., 2016):

- Political factors (e.g tax policies, fiscal policies, strength of different institutions and the political climate)
- Economic conditions (e.g interest rates, exchange rates, unemployment rate and the economic growth rate)
- Sociocultural forces (e.g cultural influences, values and attitudes in the society, and people's lifestyles)
- Technological factors (e.g pace of technological change and copyright laws)
- Environmental forces (e.g climate change and the weather)
- Legal and regulatory factors (e.g antitrust laws, consumer laws, labor laws and safety regulations)

The micro analysis also aims to evaluate the external environment, however the focus is placed on the direct industry in which the firm operates. For this purpose, Porter's five forces is chosen and this theory presents five forces that directly impact and shape a specific industry and its profitability (Thompson et al., 2016).

The five forces that impact the industry environment are the following (Thompson et al., 2016):

- Threat of entrants
- Threat of substitutes
- Bargaining power of buyers
- Bargaining power of suppliers
- Competitive rivalry

The macro and micro analysis are both necessary to make and complement one another. It is important to understand what factors and forces impact the environment the most, as this can have big strategic implications for a company (Thompson et al., 2016).

One of the differences between the macro and micro environment is the extent to which a company can influence the environment by themselves. As the macro environment is the broader environment of the two, a company cannot significantly influence the factors that impact the macro environment (Gimbert, 2011). Thus, the different variables in the PESTEL model cannot be controlled or influenced by a company and consequently, companies should instead aim to adapt to the different macro environmental factors.

On the other hand, the micro environment which is the direct industry of the company, is much closer and can as a result be impacted by the company itself (Gimbert, 2011). Hence, the forces in Porter's five forces can be influenced by the company.

2.1.2 Internal analysis

The internal analysis aims to evaluate the internal environment of a company: which resources/capabilities a company possesses that could potentially enable a competitive advantage (Grant, 2016). These can generally be classified as either financial, physical, human or organizational resources/capabilities (Barney, 1995). This way of analyzing a company's resources and capabilities rests on two critical assumptions, the first one being resource heterogeneity, i.e companies have different resource bundles, and the second one being resource immobility, i.e the bundles might exist overtime due to it possibly being expensive creating them (Barney & Hesterly, 2015).

The VRIO framework will be applied to conduct the internal analysis of Pandora. This framework describes four different characteristics that must be applicable to a resource, in order for this to potentially generate a competitive advantage which is sustainable for the company (Barney & Hesterly, 2015). The four characteristics are the following:

- Valuable
- Rare
- Inimitable
- Organized

The strategic analysis (both external and internal) will provide an overview of the strategic value drivers of Pandora which gives the financial analysis a stronger base, for example in terms of evaluating future cash flows (Petersen & Plenborg, 2012). Thus, the strategic analysis will evaluate and provide growth assumptions which the financial valuation will be based upon.

2.1.3 Valuation model

There are different valuation models one can choose between when performing a valuation of a company. According to Petersen & Plenborg, 2012, these models fall under four different groups of valuation approaches: the present value approach, the relative valuation approach, the liquidation approach and finally, the real option approach. The most commonly used approaches by practitioners are the present value and relative valuation approaches, whereas the liquidation approach is seldom used and the real option approach is almost never used due to its complexity (Petersen & Plenborg, 2012).

Since the present value and relative valuation approaches are by far the most used approaches (Petersen & Plenborg, 2012) and due to their relevance for a company like Pandora, the below sub-sections will introduce these further, discuss the DCF model more in-depth, and finally conclude why this model will be used for the valuation of Pandora. The liquidation approach will not be discussed as Pandora does not intend to be liquidated, and this approach is hence not considered relevant in this case.

As described by Petersen & Plenborg, 2012, the present value approaches focus on the expected future income streams of companies, and discount these to their present value in order to derive the value of the company. All the present value approaches should, if based on the same inputs, provide the same estimation of a company's value due to them being theoretically equivalent (Petersen & Plenborg, 2012).

The relative valuation approach (multiple valuation) estimates a company's value by comparing the company to comparable peers through the application of different multiples such as EBITDA, revenue or cash flows (Petersen & Plenborg, 2012). Thus, the valuation is based on market expectations rather than the forecasts of a single analyst as in the case of the present value approach.

Discounted cash flow model

The valuation approach most commonly used among the different present value approaches is the discounted cash flow model (DCF), which determines a company's value by discounting future free cash flows of the company to their present value. There are two different approaches one can take when using the DCF model, either the enterprise value approach, or the equity value approach (Petersen & Plenborg, 2012).

As described earlier, if the same inputs and assumptions are used when making the valuation, these two approaches ought to yield the same results. For the valuation of Pandora, I have chosen the enterprise value approach.

The two-staged enterprise valuation model can be seen in the equation below, as described by Petersen & Plenborg (2012):

Equation 1: DCF model

$$\text{Enterprise value} = \sum_{t=1}^{n} \frac{FCFF_t}{(1 + WACC)^t} + \frac{FCFF_{n+1}}{WACC - g} \times \frac{1}{(1 + WACC)^n}$$

Where:

FCFF = free cash flow to the firm

WACC = weighted average cost of capital

g = growth rate

As can be seen in the equation, the free cash flow, growth rate and the WACC are the three factors impacting the market value of the company. The implication of this is that the company's market value would be positively impacted if the free cash flows are higher, growth rate is higher and the WACC is lower. In order to arrive at the estimated market value of equity, the net interest-bearing debt must be deducted from the enterprise value (Petersen & Plenborg, 2012).

Thus, it is important to note that the estimated market value using this model is highly dependent on the analyst performing the valuation. Since the free cash flow is based on the strategic and financial analysis, the market value of the company will be a result of the analyst's own assumptions and expectations of the future free cash flows.

The DCF model is further suitable for companies where a large amount of their assets are intangible assets. This is the case for Pandora as the intangible assets of the company during 2021 accounted for approximately 38% of the company's total assets (Pandora, 2021a).

Conclusion

Due to the wide acceptance of the DCF model in finance literature, and its relevance and suitability for a company like Pandora, the DCF model has been chosen for the valuation in this thesis. The DCF model is very comprehensive and can thus stand alone, compared to the relative valuation approach which is not as comprehensive. Further, the peer companies of Pandora are either few in number, or operating in other industries and can thus be considered quite different from Pandora. In that sense, it makes more sense to use the DCF. However, in section 7 of this thesis, a valuation using the relative valuation approach will still be conducted for comparison purposes.

2.2 Data collection

The data used in this thesis will be based on Pandora's annual reports, their website and articles regarding the company and the industry they operate in, which are all publicly available. As stated in the literature review, the analyses will be based on well-known theory.

In order to ensure the validity of the data collected and analyses made, the theories chosen are well-acknowledged theories used worldwide. Further, the data received from the annual reports of Pandora are deemed reliable due to Pandora being a listed company and as their annual reports have been externally audited.

In addition to this, a sensitivity analysis will be performed to further increase the reliability of this thesis and its results. This is due to the fact that the valuation and its outcome is subject to the impact of different factors such as the beta. However, it is important to note that the assumptions of this thesis are made by me only, and thus the risk of wrong interpretations is present. I will decrease this risk by using public information that is accessible to all, and read and analyze the information in an objective way.

2.3 Structure of the thesis

The structure of the thesis is straightforward in order for readers to follow the logic of the thesis the best way possible. The following main sections are discussed in this thesis:

Section 1 - Introduction: the first section of the thesis aims to introduce the reader to the thesis topic, the problem formulation, research question and Pandora as a company. Further, the delimitations are described.

Section 2 - Methodology: the methodology section describes the reasoning behind and gives a short description of the choice of topic, theories and models used in the thesis. Further, it presents the data collected and the overview of the thesis.

Section 3 - Strategic analysis: in this section, the strategic analysis is conducted. This analysis is based on different theories, and covers both the external and internal environment of Pandora. The strategic analysis is concluded using a SWOT analysis.

Section 4 - Financial analysis: in the fourth section, the financial statements of Pandora are reorganized in order to understand the financial position of Pandora throughout history, as well as acknowledging trends in their financials. Further, a profitability analysis and liquidity risk analysis are performed.

Section 5 - Cost of capital: the fifth section aims to calculate the cost of capital of Pandora, as this is used when later calculating the discounted free cash flow of the company.

Section 6 - Forecasting: in section six, a forecast of the future free cash flow of Pandora is performed by developing pro forma statements. The future free cash flow is used when performing the valuation of the company.

Section 7 - Valuation of Pandora: in this section, the valuation of Pandora is conducted based on the previous sections. The valuation method used is the discounted cash flow model. For comparison purposes, a multiple valuation is also performed.

Section 8 - Sensitivity analysis: in section eight, a sensitivity analysis is performed and the outcomes of the analysis are elaborated upon.

Sections 9 to 10: these two sections will discuss and conclude on the thesis and its results, and provide an answer to the research question.

3 Strategic analysis

In this section, the strategic analysis of Pandora's external and internal environment is conducted. The theories and models used for the strategic analysis have already been presented in section 2.1. Hence, the following subsections will mainly focus on applying the theories on Pandora, as well as discussing their outcomes.

3.1 PESTEL

As can be seen in the figure below, there are different external factors that can impact Pandora and their operations. In the following sections, each factor will be further analyzed and discussed in order to receive an understanding of Pandora's macro environment.

Figure 2: PESTEL model

Factors	**Impact on Pandora**
Political	- Tax policies - Political climate in Thailand - COVID-19 restrictions
Economic	- Commodity prices - Currency risk - Economic climate
Sociocultural	- Customer preferences
Technological	- Technological developments
Environmental	- Carbon footprint
Legal & Regulatory	- Intellectual property

(Own creation, 2022, adapted from Thompson et al., 2016).

3.1.1 Political factors

Tax policies

One of the political factors impacting Pandora, as can be seen in Figure 1, is tax policies. Pandora's effective tax rate impacts their cash flow, and as the company operates in various countries around the world, Pandora is subject to the impact of different national taxes (Pandora, 2021a).

Consequently, there are many different tax laws and regulations that affect Pandora and their total income tax expense. Due to this, different kinds of disputes can occur with the tax authorities in the countries of operation that need to be resolved.

In 2021, the total income tax expense for Pandora amounted to DKK 1,218 million which corresponds to an effective tax rate of 22.6% (Pandora, 2021a). This is slightly higher than the effective tax rate in 2020, which was 22.3% (Pandora, 2021a). Different factors negatively impacted the effective tax rate of 22.6%, for example the impact of non-capitalized tax assets and the impact of expenses which were not tax deductible such as marketing expenses incurred in China (Pandora, 2021a).

On the other hand, the non-taxable income in Thailand, which is a result of the investment agreement with the government in Thailand, positively impacted the effective tax rate (Pandora, 2021a). Tax adjustments for prior years also impacted the effective tax rate in a positive way (Pandora, 2021a).

Political climate in Thailand

Another factor that can have great implications on Pandora's operations is the political climate in Thailand. As stated before (section 1), Pandora keeps their production facilities exclusively in Thailand. Hence, the supply of the company's jewelry is fully dependent on the ability to import raw materials to Thailand, produce their products, and export them to the markets Pandora operates in (Pandora, 2012).

As a result, Thailand's political situation is of importance to the company since factors such as lockdowns and political unrest can have significant implications for the production and exportation of Pandora's jewelry, and consequently the company's performance (Pandora,

2021a). Based on this, it can be argued that having production facilities in Thailand only can increase the risk of such supply disruption.

From a historical point of view, Thailand has experienced a lot of political unrest (Ferrara, 2015). One of these situations which had an impact on Pandora was the political unrest in 2008 which resulted in Bangkok's airports shutting down (Pandora, 2009). Due to this, Pandora could not export their produced jewelry for a couple of days and consequently, the company experienced some supply disruptions during a limited period of time (Pandora, 2009). However, the impact of this was immaterial (Pandora, 2009) and thus, none of the historical political unrest has had any major impact on Pandora's operations.

Pandora is increasing its crafting capacity at their facilities in Thailand with the expectation of having the capacity to manufacture an addition of 20 million pieces by the end of 2023 (Pandora, 2021a). Hence, it can be understood that Pandora considers the benefits of continuing to operate their production facilities in Thailand to be strong.

Regardless of this, Pandora cannot exclude the possibility of future impacts of political unrest on their operations and thus there is still a risk at place. To mitigate this risk, Pandora is planning to invest in an additional crafting facility that is going to be located in Vietnam at the end of 2024 (Pandora, 2021a).

COVID-19 restrictions

The COVID-19 pandemic has impacted businesses all around the world, and Pandora is no exception. The virus had its outbreak in late 2019 in the city of Wuhan, China, and in March 2020, the outbreak was declared a pandemic (euro.who, 2022).

In order to prevent COVID-19 from continuing spreading, countries around the world imposed different restrictions and lockdowns which impacted many businesses in a negative way. For Pandora specifically, the outbreak of the virus and the restrictions imposed had severe impacts on the 2020 financial results of the company due to, amongst others, the temporary closures of most of their stores (Pandora, 2020).

Pandora's investments in different digital initiatives both during 2020 as well as during the years prior to the outbreak allowed the company to recoup a lot of revenue, and the revenue

generated through online sales doubled during 2020. Nevertheless, revenue was heavily impacted and the growth rate in DKK compared to 2019 was -13% (Pandora, 2020).

During 2021, Pandora's stores gradually reopened and in the last quarter of 2021, only 3% of the stores were closed on average (Pandora, 2021a). As a result of the store reopenings, Pandora's European key markets delivered positive growth in the second half of 2021. Further, the US, which is Pandora's largest market based on revenue, delivered significant growth in 2021 and Pandora as a whole experienced a DKK revenue growth of 23% compared to 2020 (Pandora, 2021a).

These factors together indicate that the risk of COVID-19 and restrictions due to the virus has decreased during 2021. Although some uncertainty still remains as the virus still exists, this risk is not assessed to be high as the world as a whole and companies have experienced the virus for some time now, and can be assumed to have learnt from this experience.

Further, more and more people are being vaccinated against the virus and as of April 11th, 2022, 64.8% of the world's population has received one or more doses of the vaccine (Ritchie et al., 2022). This further emphasizes the decreasing threat of COVID-19 on companies.

3.1.2 Economic conditions

Commodity price risk

PANDORA is subject to commodity price risk as a result of their operations (Pandora, 2021a). Commodity price risk relates to the risk of price fluctuations of the raw materials used by Pandora. This can ultimately have a great impact on the cost of sales as a result of increasing production costs. Silver and gold are the raw materials primarily purchased by Pandora and these are priced in USD (Pandora, 2021a).

During recent years, the prices of both silver and gold have on an average increased, which can be seen in the two figures below, although silver has been more volatile (Silver Price, 2022). The price fluctuations of these raw materials are due to the demand and supply of the commodities.. It can further be seen that the price increase of the raw materials is especially steep during 2020, which is the same year as the COVID-19 outbreak as described in section 3.1.1.

Figure 3: Silver price development

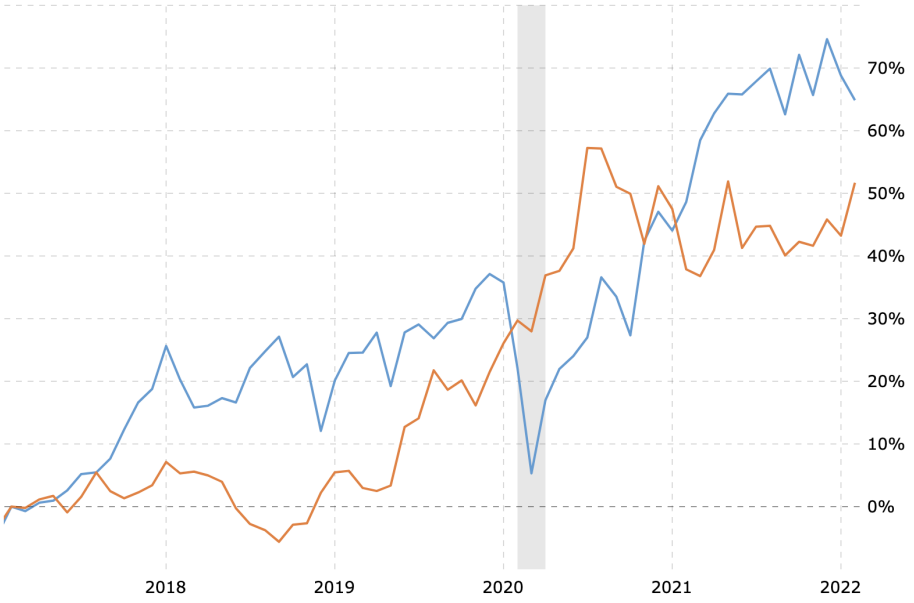
(Graph derived from Silver Price, 2022).

Figure 4: Gold price development

(Graph derived from Silver Price, 2022).

The trends in the prices of silver and gold can also be compared to the general stock market, and thus be further explained by comparing the trend to the general market trends. This is illustrated in the figure below, where the return for gold, in orange, is compared to the return for the Dow Jones Industrial Average, in blue (Macrotrends, 2022).

Figure 5: Gold price vs stock market



(Graph derived from Macrotrends, 2022)

As can be seen in the chart above, the two graphs are generally trending in the opposite way, where gold increases as the stock market decreases and vice versa. Thus it can be argued that the demand for gold is increased during times the stock markets are declining such as during the COVID-19 outbreak, and as a consequence, the price of the commodity is increased.

Hence, a stable economic climate in the world, with a growth of the real GDP would imply stable costs of commodity prices which is beneficial for companies such as Pandora that are heavily impacted by their prices. However, uncertain economic periods would result in increased commodity prices.

In order to ensure stable prices for their raw materials, Pandora has a general policy to hedge at least 70% of their exposure to fluctuations in the raw material prices, from one to twelve months ahead (Pandora, 2021a).

Considering that the world is still battling against COVID-19 and its consequences, the commodity prices do impose a risk on the company. Thus, Pandora's hedging policy is of high importance to ensure a stability in their production costs.

Currency risk

Another financial risk that could impact Pandora is foreign currency risk (Pandora, 2021a). Due to the company's global activities, Pandora is exposed to various currencies. Thus, fluctuations in the exchange rates can have great impacts on the cash flows of Pandora (Pandora, 2021a).

The presentation currency of Pandora is Danish Kroner, but most of the company's revenue is in USD, CAD, AUD, GBP, CNY and EUR (Pandora, 2021a). Further, as mentioned in the section above under commodity price risk, the commodities gold and silver are purchased in USD. Moreover, Pandora is exposed to costs in THB due to their crafting facilities located in Thailand (Pandora, 2021a).

Since the presentation currency is in DKK, changes in the above-mentioned currency exchange rates against the Danish Kroner will impact the translated value of Pandora's cash flows (Pandora, 2021a).

Similarly to the commodity price risk, Pandora mitigates the exchange rate risk through hedging (Pandora, 2021a).

Economic climate

The overall economic climate is also an important macroeconomic factor that may impact Pandora and their profits. As a company selling jewelry, Pandora is heavily dependent on consumers who want to buy their products. Thus, a weak macroeconomic environment, where consumers are changing their behaviors and saving their money rather than spending them, would have negative consequences for companies like Pandora.

Based on the above, the economic climate in the countries where Pandora primarily operates is of great importance for the company, as lower demand in those markets could heavily impact the company's revenue. Pandora's largest markets based on revenue are the UK, Italy, France, Germany, US, Australia and China. The seven markets together generated a revenue of 17,353 million, which is equal to 74% of Pandora's total revenue (Pandora, 2021a). Thus, the economic climate in these seven markets is deemed highly important, as they comprise the majority of Pandora's revenue.

To evaluate the economic climate in Pandora's largest markets, the development in real gross domestic product (GDP) can be used as a basis for analysis (International Monetary Fund, 2022). The GDP for the top seven markets is presented in the table below.

Figure 6: Real GDP growth per market, 2018-2025

Market	2018	2019	2020	2021	E2022	E2023	E2024	E2025
World	3.6%	2.8%	-3.1%	5.9%	4.9%	3.6%	3.4%	3.3%
UK	1.3%	1.4%	-9.8%	6.8%	5%	1.9%	1.6%	1.5%
Italy	0.9%	0.3%	-8.9%	5.8%	4.2%	1.6%	1%	1%
France	1.8%	1.8%	-8%	6.3%	3.9%	1.8%	1.5%	1.4%
Germany	1.1%	1.1%	-4.6%	3.1%	4.6%	1.6%	1.4%	1.1%
US	2.9%	2.3%	-3.4%	6%	5.2%	2.2%	1.7%	1.7%
Australia	2.8%	1.9%	-2.4%	3.5%	4.1%	2.6%	2.6%	2.6%
China	6.8%	6%	2.3%	8%	5.6%	5.3%	5.2%	5.1%

(Own creation, 2022, adapted from International Monetary Fund, 2022)

By analyzing the table above, it can be seen that Pandora's top seven markets, as well as the world as a whole, have seen a growth in their real GDP since 2018. The exception to this is during 2020, when the world was affected by the COVID-19 outbreak. It is estimated that the positive growth trend will continue, which can also be seen in the table above.

Based on this, it can be assumed that Pandora's largest markets measured by revenue are, and will continue to be, in a positive economic climate. Lifted COVID-19 restrictions discussed in section 3.1.1 strengthens this assumption. Thus, there is no reason to believe that the economic climate will impose a material negative impact on the company's revenue.

3.1.3 Sociocultural forces

Customer preferences

It is essential for Pandora to keep their brand relevant and interesting for their consumers since their business heavily relies on consumer spending (Pandora, 2021a). Otherwise these consumers will turn to competitor's instead which would negatively impact Pandora's

revenue. Thus, Pandora must be on top of their customer's preferences and behavior, in order to satisfy their needs and demands.

Pandora deals with the risk of changing customer preferences through different ways, and have identified four trends in the industry that are particularly relevant to be aware of in order to ensure a sustainable revenue growth (Pandora, 2021a). These four trends are personalization, e-commerce, sustainability and store space (Pandora, 2021a).

- Personalization

Consumers have started considering personalized products and services to be of high importance and the demand for this has thus increased. Pandora responds to this shift in demand through the personalization of their customers' shopping experience (Pandora, 2021a). This has been done through personalized emails with product recommendations, which has shown a strong increase in customer engagement compared to the non-personalized newsletters used before (Pandora, 2021a).

- E-commerce

The COVID-19 outbreak impacted customer behavior as more and more customers are choosing to shop products from home instead of going to the stores (Pandora, 2021a). As described in section 3.1.1, online sales significantly increased as a consequence of the outbreak. To meet the increased demand on the online channel, Pandora has expanded their investments into digital capabilities in order to improve the online customer experience, which has proven to be successful (Pandora, 2021a).

- Sustainability

Sustainable behavior has become more important among consumers, which has impacted their purchasing habits (Pandora, 2021a). Thus, jewelry brands ought to adjust to this development of customer preference in order to satisfy their needs. Pandora has responded to the increased preference in sustainability by setting ambitious targets related to becoming a low-carbon, diverse and fair business (Pandora, 2021a). Their efforts are proven successful as the company in 2021 "*received the highest ranking in MSCI's annual sustainability rating for the sixth consecutive year*" (Pandora, 2021a).

- Stores

The final trend in customer preferences relates to the efficiency in stores, as customers are becoming less patient with queues and more purposeful with their store visits (Pandora, 2021a). To meet this demand, Pandora has introduced digital queuing systems in their stores and further enabled the possibility to engrave jewelry in the majority of their stores in North America, which creates a more personalized and purposeful experience (Pandora, 2021a).

3.1.4 Technological factors

Technological development

Today's society is impacted by technology in different ways and these developments in technology have affected consumer behavior such as the increasing demand for more personalized shopping experiences (Pandora, 2021a). For companies to stay competitive, they must adapt to the new technological trends.

In order to meet the new demands created as a result of technological developments in society, Pandora established their Digital Hub (Pandora, 2021a). The Digital Hub was established in the beginning of 2020, in Copenhagen, and the purpose of the Digital Hub is to drive the digital and technological journey of Pandora (Pandora, 2022c).

By the use of technology and data at scale, Pandora aims to innovate the shopping experience of their customers both online and in Pandora's stores (Pandora, 2022c). As discussed in section 3.1.3, Pandora has innovated their store setup with the new queuing systems and the engraving possibilities, which are both initiatives based on technological developments.

Further, jewelry consumers around the world are increasingly using the online platforms to purchase their jewelry, which can be seen by the 9% global increase in online retail sales for jewelry during 2021 (Pandora, 2021a). The increasing popularity of e-commerce has put pressure on companies to innovate their digital platforms in order to meet the increasing demand.

As a result of this, Pandora is changing the architecture and code base of their online stores to make the upgrading of these easier (Pandora, 2021a). Further, Pandora has implemented a new feature to their online store which enables customers to virtually try on different

jewelries and this allowed for a "more likely to buy" rate of 47% among visitors to pandora.net in 2021 (Pandora, 2021a).

Pandora is planning to continue their digital innovations with additional features on their online stores, for example the possibility for online engraving and an upgrade to their gift finder feature (Pandora, 2021a). Thus, it can be concluded that Pandora has taken initiatives to stay on top of the technological trends and developments in society in order to stay competitive and meet their customers' demands.

3.1.5 Environmental forces

Carbon footprint

To Pandora, sustainability is an essential aspect of business which is why Pandora, in 2021, announced new climate targets that are recognized as the most ambitious targets in the jewelry industry (Pandora, 2021b).

Pandora's total emissions are a result of the emissions from refrigerants, fossil fuels, electricity and heating that Pandora uses at their facilities, and these account for 8% of the company's total emissions, as well as the emissions that result from activities outside of the company's own operations and these accounts for the remaining 92% of the emissions (Pandora, 2021b).

To reduce their emissions both within the company's own operations as well as the sources outside of their operations, Pandora will significantly increase their use of renewable energy and recycled silver and gold (Pandora, 2021b).

Further, Pandora has reduced their dependency on plastic by changing their packaging to low-carbon packaging, which decreases the company's greenhouse gas emissions by more than 60% (Pandora, 2021a). Additionally, the recyclability of these has become easier due to fewer materials used for the new bags and boxes (Pandora, 2021a). The new Pandora bags will be made without the use of plastic, and a more than 75% reduction in plastic for the boxes will be implemented which together reduces the carbon footprint of the company by an estimated 3,600 tCO2e per year (Pandora, 2021a).

3.1.6 Legal and regulatory factors

Intellectual property

Pandora's brand is of great importance for the company due to its strength and integrity (Pandora, 2021a). Thus, protecting their brand is a necessity for the company to be competitive. Trademarks, copyrights, design rights and patents are used to protect Pandora's intellectual property rights (Pandora, 2019).

Pandora's logo and monogram is protected through an almost global trademark portfolio, and a trademark portfolio is also held for the brands of their collections and metals, for example the Pandora Reflexions collection or the Pandora Rose metal (Pandora, 2019).

In addition to their trademark portfolio, Pandora protects their jewelry designs in China and the EU through their portfolio of copyright and design registrations. Finally, patents are used to protect Pandora's innovations in their main markets, such as for their silicone clips and charms solutions (Pandora, 2019).

Pandora also needs to be aware of fakes and frauds in the market. For this, Pandora has a Brand Protection Tip-line which aims to recognize infringements of the company's intellectual property rights. These infringements are investigated upon recognition, and suitable actions are taken thereafter (Pandora, 2019).

3.1.7 PESTEL conclusion

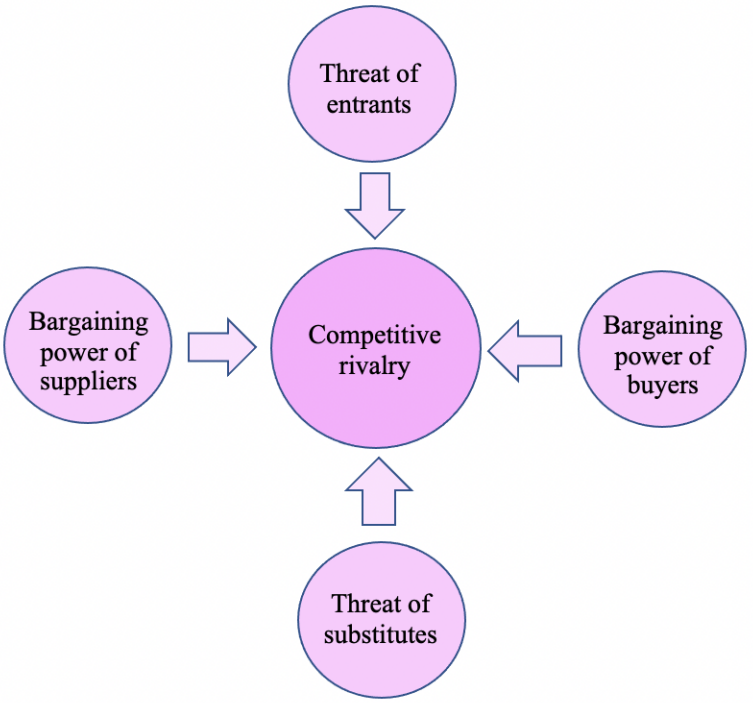
The PESTEL analysis presented various factors from the macro-environment that can impact Pandora and their operation such as the impacts of commodity price risk and the political climate in Thailand. These factors are assessed to be of a higher risk due to their direct impact on the profitability of the company, however Pandora has mitigated their risk through different initiatives. The economic climate indicates a continued growth in consumer spend of jewelry items which is of great importance for the company. Pandora needs to understand and adapt to changing preferences and customer behaviors in order to capture this increase and grow their revenues.

3.2 Porter's five forces

The figure below presents the Porter's five forces framework. As seen, there are five forces that together influence an industry and the companies operating within it. In the below

sections, each force will be applied to the global jewelry industry in order to evaluate and analyze their impacts.

Figure 7: Porter's five forces framework



(Own creation, 2022, adapted from Thompson et al., 2016).

If these five forces in an industry are strong, they would comprise a larger threat which would negatively impact the performance of the companies and the profitability in the industry (Thompson et al., 2016).

3.2.1 Threat of entrants

This force regards the competitive pressure that is placed on the industry because of potential new competing companies entering the particular industry and thus competing for market share (Thompson et al., 2016). If the barriers to enter the industry are high, the threat of new entrants would be deemed low (Thompson et al., 2016).

Entering the jewelry industry can be considered rather simple as no specific requirements are needed to sell jewelry. In this sense, the entry barriers to the jewelry industry can be considered low, which indicates a high threat of new entrants.

In addition, different types of channels can be used to sell the jewelry and the channels chosen can be completely free of charge. For example, new entrants can choose to sell and market their jewelry through different social media platforms such as Instagram. Approximately one billion users are active on Instagram on a monthly basis (Statista, 2022a) and thus new companies have the possibility to reach a large audience and create their brand recognition on these social media platforms. This further increases the threat of new entrants.

On the other hand, it could be argued that new entrants would need large capital investments in order to operate crafting facilities. This would then increase the barriers to entry. However, having their own crafting facilities is not a requirement for new jewelry companies as they can instead purchase their products from other suppliers. Due to this, the entry barriers are still deemed low. It can thus be understood that the threat of new entrants in the jewelry industry is high.

3.2.2 Threat of substitutes

This force is related to the threats that substitute products comprise in an industry. If there is a large number of substitute products that consumers can choose to purchase, from other industries instead of the products offered in the particular industry, the threat of this force is deemed high (Thompson et al., 2016).

Unlike some other industries, there are not any obvious substitutes for jewelry in the sense that if customers want to wear earrings and necklaces for instance, the demand can only be fulfilled by the actual jewelry items. This is very different to, for example, the airline industry where substitute products such as trains and cars can fulfill the desire of going from one place to another. Based on this, the number of substitute products in the industry is low. This indicates a low threat of substitute products.

On the other hand, people can buy jewelry as presents for someone else. For example, more than 50% of Pandora's customers were in fact men who purchased jewelry items as gifts (Pandora, 2021a). In this case, the number of substitute products is deemed high as there are a high variety of different products that can be purchased as a gift for someone else, such as clothes and make up. More expensive jewelry can be substituted with, for example, a holiday. The switching costs are low as buyers simply choose another store or website to purchase

their gifts from. From this perspective, the number of substitute products in the industry is high. This indicates a high threat of substitute products.

Based on the analysis above, the threat of substitute products in the jewelry industry is considered medium. The threat is lowered as a result of the specific jewelry demand not being easily substituted. However, the threat is increased as jewelry gifts can easily be substituted with other products in many different price ranges with low switching costs for the buyer.

3.2.3 Bargaining power of buyers

If the buyers in an industry are price sensitive and have a strong bargaining power, the force of buyer power is high and the threat is thus increased. Buyers have a stronger bargaining power when, for example, the products in the industry are not differentiated and switching between these is low in cost for the buyer. The bargaining power is further strong if the number of buyers is low compared to the number of sellers (Thompson et al., 2016).

The buyers in the jewelry industry are many smaller buyers. This can be seen in the consumers of Pandora, where millions of people in more than 100 countries are customers of the company (Pandora, 2021a). This indicates a smaller bargaining power among the buyers in the jewelry industry.

On the other hand, the switching costs in the jewelry industry are, as stated earlier, low as switching between sellers is simple and cost free since no extra costs are imposed on the buyer if they switch from one seller to another. Further, the differentiation between jewelry items cannot be deemed as high as one can easily find similar jewelry items from various sellers. These factors increase the bargaining power of buyers.

Moreover, during times of economic recession, the bargaining power of buyers is further increased as jewelry items are considered non-essential compared to products such as food. Consequently, consumers would become more price-sensitive when purchasing jewelry. Based on the above, the bargaining power of buyers in the jewelry industry is overall deemed as moderate to high.

3.2.4 Bargaining power of suppliers

The factors which determine the bargaining power of suppliers can be considered the mirror image of the factors determining the bargaining power of buyers (Thompson et al., 2016).

In the case of Pandora, they are not dependent on any suppliers for the actual production of their jewelry as Pandora manufactures their jewelry in their own crafting facilities (Pandora, 2021a). This decreases the threat of supplier bargaining power.

However, Pandora is still dependent on suppliers for their raw materials such as silver and gold. There are a large number of suppliers for these commodities and as stated in section 3.1.2, the demand and supply of the commodities in the market determines the prices of the raw materials. Since the switching costs of choosing different suppliers is low, Pandora can always choose to purchase their commodities from other suppliers in the market which offer the market-price of the raw materials. Consequently, the bargaining power of suppliers is further weakened.

Pandora expects all their suppliers to operate their businesses in a lawful and honest manner, and to ensure this, Pandora has a Supplier Code of Conduct which specifies the company's requirements on their suppliers (Pandora, 2021c). This implies a stronger position for Pandora against their suppliers as the suppliers must adjust to the requirements of the company, otherwise they will be exchanged which hence also weakens the bargaining power of suppliers. Based on the above mentioned factors, the supplier's bargaining power is overall deemed low.

3.2.5 Competitive rivalry

The final force which impacts the industry in which a firm operates, is the competition stemming from the rival firms already operating in the industry. This force is stronger and thus imposes a larger threat if, for example, the demand for the products in the industry is growing slowly, the switching costs between sellers are low, there are many competing sellers in the industry and when exit barriers are high (Thompson et al., 2016).

As already mentioned before, the jewelry industry comprises many different sellers providing their jewelry to the end customers through different channels, such as through physical stores, online websites or through social media accounts. Further, the differentiation between their

products cannot be considered strong as jewelry products as such are non-complex products and can hence be considered rather simple. This increases the competitive rivalry in the industry.

On the other hand, Pandora is a highly established and well-known brand with a strong customer base as discussed further in section 3.3.3. Thus, the company is less exposed to the threat of smaller, competing brands compared to other companies in the industry.

Further, Pandora has allocated their focus on personalization, both the customer experience as well as their products such as their charm bracelet. This kind of initiative decreases the competitive rivalry in the industry as Pandora can distinguish themselves from other competitors which would increase the customer incentive to specifically purchase Pandora's jewelry.

The jewelry industry is expected to grow in the future at a rate of 3.86% annually, between 2022-2026 (Statista, 2022b), which indicates a continued and growing interest in jewelry spending. This fact alone does not intensify the competition in the industry, however it may attract more companies to enter the market which, in combination with low entry barriers, increases the competition in the industry. Based on the above, the competitive rivalry in the industry is assessed high, however Pandora is not as sensitive to this risk as smaller companies which is why the risk is assessed to be moderate for the company.

3.2.6 Porter's five forces conclusion

In conclusion, the jewelry industry can be regarded as a quite competitive industry. The threat of entrants is deemed high, whereas the threat of substitutes is considered moderate. Further, the bargaining power of buyers is also considered moderate to high, whereas the bargaining power of suppliers is deemed low. The overall rivalry in the industry is generally deemed to impose a large threat on the competitors. Pandora is not as sensitive to the threat of rivals due to their strong position in the industry.

3.3 VRIO

The relevant resources of Pandora that will be analyzed using the VRIO framework are the crafting facilities, geographical reach, brand, liquidity and customer experience, as described in section 2.1.2. The purpose of the analysis is to evaluate whether Pandora is capable of

creating a sustained competitive advantage in their operations based on the resources they possess. Thus, the resources will be evaluated based on whether they are valuable, rare, inimitable and organized (VRIO), and only if all four attributes are present in the resources can it enable a possible sustainable competitive advantage for the company.

3.3.1 Crafting facilities

The crafting facilities of Pandora are physical resources of great importance to the company. The manufacturing facilities are crucial for Pandora's operations and revenue generation, as their jewelries are crafted in these facilities. Pandora's currently has two crafting facilities located in Thailand which enable the company to craft more jewelry than any other brand in the jewelry industry. Pandora is planning to invest DKK 1 billion to build a third crafting facility located in Vietnam which will enable an additional 60 million jewelry pieces to be crafted on an annual basis. Further, Pandora will expand the capacity of their facilities in Thailand as well, which will enable the crafting of an additional 20 million jewelry pieces on an annual basis. These two initiatives will together increase the crafting capabilities of Pandora by 60%, expectedly by the end of 2024 (Pandora, 2021a).

Based on this, Pandora's crafting facilities can be considered valuable for the company as they are a crucial part of their operations. Further, the size and capacity of their crafting facilities can be deemed rare. As stated above, an investment of DKK 1 billion is needed for their crafting expansion. This is a large amount of money and many companies would be restricted to create such facilities due to the cost restriction, which also makes their crafting facility resource difficult to imitate by other companies. Lastly, Pandora is able to fully exploit their crafting facilities by also being in control of other business activities, such as the design of their jewelry. Thus, Pandora can fully utilize their crafting facilities to satisfy the demand of their customer's preferences and ensure the right products are crafted. Consequently, their crafting facilities are deemed as resources which can potentially enable a sustained competitive advantage.

3.3.2 Geographical reach

The geographical reach of Pandora is the second physical resource the company possesses that is of great importance. As a result of their strong geographical reach, Pandora has increased their global market share and sells their jewelry in more than 100 countries, making the company the world's largest jewelry brand (Pandora, 2021a).

Thus, it can be concluded that the geographical reach is valuable as it will help the company maintain its position as the world's largest jewelry brand. However, this resource cannot be deemed rare as it's common among jewelry companies to be present in different geographical locations. Further, the geographical reach can be imitated by other companies, although it might be time-consuming and resource-demanding. As such, the geographical reach is not deemed to provide the company with a sustained competitive advantage.

3.3.3 Brand

As stated in section 3.3.2, Pandora is the world's largest jewelry brand which by itself emphasizes the importance of the Pandora brand for the company. Pandora is known by more consumers than any other jewelry brand and the company was ranked on the first place in 5 out of 7 key markets in terms of global unaided brand awareness (Pandora, 2021a), which makes this organizational resource both valuable and rare for the company. Further, the accomplishment of such a well-known and strong brand is deemed difficult to imitate, as this is nothing that can be accomplished over-night. Thus, it would take many years for another company without such brand awareness to create an equally strong brand as Pandora. Further, the Pandora brand can be assessed to be organized as Pandora has expanded their business across the globe, and aims to continue their expansion in the different markets they operate within (Pandora, 2021a). This indicates that the company is capable of exploiting their brand to increase market share and profits, and continue to increase their brand awareness. As a result, the Pandora brand is deemed to enable sustainable competitive advantage.

3.3.4 Liquidity

Pandora has strong liquidity, which is analyzed in detail in section 4.5. This financial resource is deemed valuable as it enables the company to more easily navigate through difficult times and unforeseen events, such as the Covid-19 pandemic. Based on the analysis which takes place in section 4.5, both the current ratio and solvency ratio of Pandora are deemed strong which indicates that the company has enough liquidity to survive in times of short-term and long-term crisis. This is thus valuable for the company, however it cannot be considered as a source for sustainable competitive advantage due to the fact that the financial composition of a company is often easily replicated (Petersen & Plenborg, 2012).

3.3.5 Customer experience

Customer experience is the final resource of Pandora that will be analyzed. This human resource of Pandora regards the customer's experience and perception of the Pandora brand. Pandora utilizes different methods to constantly increase the desirability of their brand. For example, data analytics and social listening are two methods used by the company to further increase their understanding of their customers and to make the brand experience engaging, personalized and authentic. These initiatives have created a strong customer base for Pandora, as millions of people around the world today engage with the brand and its products (Pandora, 2021a).

This resource is considered valuable, as the relation with their customers is of high importance. Further, the resource can be regarded as difficult to imitate as their customer experience is unique and tailored for Pandora. However, it cannot be deemed rare to create such customer experiences as many companies understand the value of personalization and customer insights. The customer experience can also be deemed as organized, as this resource can be exploited with the use of their other resources, such as the crafting facilities. This ensures that Pandora can actually provide their customers with the experience they demand, and satisfy the needs of their customers through the design and crafting of jewelry that is desired. Further, Pandora can more easily adapt to alterations in trends and wishes due to the control they have of their other business activities. Based on this, the customer experience cannot fully create a sustained competitive advantage.

3.3.6 VRIO conclusion

The VRIO analysis provided a deeper understanding of the essential resources and capabilities that Pandora possesses, and an overview of their possibility to create a sustained competitive advantage. Based on the analysis, the crafting facilities and brand of Pandora are the resources that can potentially create a sustained competitive advantage.

3.4 Market analysis

In this section, Pandora's largest markets will be analyzed in more detail to understand the revenue and growth potential that exists for the company. As stated earlier, Pandora operates world-wide and the largest markets of operation, based on revenue, are the UK, Italy, France, Germany, US, Australia and China (Pandora 2021). In the annual reports of 2017, 2018 and 2019, Pandora divides their revenue per three segments: EMEA, Americas and Asia Pacific,

whereas the revenue is divided between the largest seven markets in the annual reports of 2020 and 2021 (Pandora, 2017-2021a). As the seven largest markets mentioned above are located in Europe, North America and Asia Pacific, these three geographical areas together with the world-wide area will be subject to the analysis.

3.4.1 World-wide

Pandora operates world-wide and thus the expected growth rate of the global jewelry industry is of relevance to the company. The global jewelry market expects a revenue growth of 3.86% on an annual basis, between 2022-2026 (Statista, 2022b). This is in line with the global expected real GDP growth, which was elaborated upon in section 3.1.2. This confirms the assumption of continued increased global demand for jewelry items, which is hence positive for Pandora.

3.4.2 Europe

Statista (2022b) presents an analysis of the jewelry industry in Europe and presents the expected annual growth rate in terms of revenue in the European jewelry market to be 2.23% from 2022-2026 (Statista, 2022b). Thus, the overall jewelry industry in Europe can be expected to continue growing in terms of revenue.

As the UK and Italy are the largest European markets based on 2021 revenue, a closer look on the growth rate of these two markets can be relevant. The UK market is expected to grow by 2.87% on an annual basis between 2022-2026, whereas the Italian market is expected to grow by only 0.50% annually during the same time period (Statista, 2022b). Thus, Pandora can expect a larger revenue growth potential in the UK market than the Italian market. The European market as a whole has a positive expected growth rate, however this is lower than the world-wide growth rate of 3.86%.

3.4.3 North America

In the North American market, the jewelry industry is expected to grow by 1.13% on an annual basis, between 2022-2026 (Statista, 2022b). This is rather low compared to the world-wide growth expectation, and the European growth expectation and indicates that Pandora might not be able to grow their revenue as strongly in North America as in the other regions. Pandora's largest market is the US, and this market has an expected annual growth

rate of 0.95% between 2022-2026 (Statista, 2022b) which is even less than North America as a whole.

3.4.4 Asia Pacific

The Asian region expects a revenue growth in the jewelry industry of 4.74% annually between 2022-2026 (Statista, 2021b), which is the largest growth rate so far. This indicates that jewelry companies have stronger potential of revenue growth in Asia. Looking at China specifically, the revenue growth rate is expected to be 4.35% annually between 2022-2026 (Statista, 2021b), which is thus also considered strong. Pandora's Phoenix strategy, which amongst others aims to increase brand awareness in China can consequently yield quite strong results, as the Chinese market is already expected to be strong compared to the other regions. The Australian market is also expected to have a growth rate above 4%, more specifically 4.79% annually between 2022-2026 (Statista, 2021b). Hence, the Australian market likewise provides revenue growth potential which is higher than other regions.

3.5 SWOT analysis

The SWOT analysis presents the strengths, weaknesses, opportunities and threats of a company based on their internal and external environments (Thompson et al., 2016). The SWOT analysis of Pandora is shown in the below figure:

Figure 8: SWOT analysis

Strengths	Weaknesses
- Strong brand - Crafting facilities - Strong geographical reach with access to many markets - Methods to increase brand desirability and customer understanding	- Crafting facilities only in Thailand
Opportunities	**Threats**
- Growing global demand for jewelry items - Growth in real GDP - Additional crafting facility in Vietnam - Digital Hub	- Increasing raw material prices - Political unrest in Thailand - Changing customer preferences - COVID-19 - Threats of new entrants, buyers and competition in the industry

(Own source, 2022)

4 Financial analysis

As stated before, this thesis aims to perform a valuation of Pandora. Except for the strategic analysis already conducted for this purpose, a financial analysis is also needed to fulfill the objective of the thesis.

The financial analysis will begin with reorganizing the income statement and balance sheet of Pandora in order to develop an understanding of the financial position of the company through a historical perspective (Petersen & Plenborg, 2012). By doing this, the different financial ratios used in the proceeding sub-sections can be calculated. Then, a profitability and liquidity risk analysis will follow, and a short conclusion will be provided at the end of the section.

The analyses in the below sub-sections will follow the nature of a time-series analysis, as the financial ratios of Pandora will be analyzed across the last five years, meaning from 2017 to 2021. This type of analysis is valuable as it provides an insight into the trends in the financials of Pandora, which will later be used as input when forecasting (Petersen & Plenborg, 2012).

When performing a time-series analysis of financial ratios, it is important to be aware of the impact that different accounting standards over time can have on how the development of the ratios are perceived. The impact of changes in accounting standards should be separated from changes in the actual development in order to perform an accurate analysis (Petersen & Plenborg, 2012).

4.1 Reorganizing the financial statements

As described by Petersen & Plenborg (2012), the activities of a company can be distinguished between two different categories; operating and financing activities. This distinction is helpful when conducting the financial analysis due to the fact that it enables an easier understanding of what value the different activities create for the company. Operating activities are the primary value drivers, whereas the financing activities finance the operating activities (Petersen & Plenborg, 2012).

This is the reason behind reorganizing the income statement and the balance sheet, as the distinction between the operating and financing activities can be difficult to see in a company's financial statements (Petersen & Plenborg, 2012). Hence, reorganizing these is done for analytical purposes and will create a stronger basis to evaluate and analyze the economic performance of Pandora in this thesis.

4.2 Reorganizing the income statement

The analytical income statement provides insight to a key performance measure which is the operating earnings, as this measure indicates how profitable a company's core business is. The operating earnings can be shown before tax, EBIT, or after tax, NOPAT (Petersen & Plenborg, 2012). The analytical income statement of Pandora is presented in appendix 1.

In order to calculate the earnings before interest, taxes, depreciation and amortization (EBITDA) for the analytical income statement, the depreciation and amortization has been specified and excluded from the operating expenses. The reason for this is that Pandora recognizes depreciation and amortization in the income statement within their operating expenses, specifically in 'cost of sales', 'sales, distribution and marketing expenses' and 'administrative expenses', as well as in the leasing standard which took effect in 2019 (Pandora, 2018-2021a). In the analytical income statement, the depreciation related to the leases is incorporated in the 'sales, distribution and marketing expenses' item. The EBITDA is a useful measure for both the calculation of the cash flow statement as well as for valuation purposes (Petersen & Plenborg, 2012). The figure below specifies Pandora's depreciation and amortization during the past five years.

Figure 9: Depreciation & amortization

DKK million	2017	2018	2019	2020	2021
Cost of sales	122	180	217	346	222
Sales, distribution & marketing expenses	383	565	630	520	510
Administrative expenses	216	244	347	241	186
Leases	n/a	n/a	1 125	1 208	1 081
Total	**721**	**989**	**2 319**	**2 315**	**1 999**

(Own creation, 2022, adapted from Pandora, 2018-2021a)

The income tax expenses in the income statement of Pandora does not make a distinction between the operating and financing taxes (Pandora, 2018-2021a) and because of this, the

income tax expenses need to be divided and specified as either tax on operations or tax on financing in the analytical income statement (Petersen & Plenborg, 2012).

By estimating the tax shield, i.e the tax benefits that can be derived from the net financial expenses, the tax division between operations and financing can be accomplished. The tax shield can be calculated by multiplying the tax rate with the net financial expenses (Petersen & Plenborg, 2012).

The tax rate chosen for this purpose can typically be either the marginal tax rate or the effective tax rate (Petersen & Plenborg, 2012). In the case of Pandora, it makes sense to choose the effective tax rate since Pandora is a global company subject to different local tax rates (as discussed in section 3.1.1). The effective tax rate takes the different tax rates in the group into account (Petersen & Plenborg, 2012).

4.3 Reorganizing the balance sheet

As in the case for the analytical income statement, the items in the analytical balance sheet are also distinguished between operating and financing activities (Petersen & Plenborg, 2012).

Reorganizing the balance sheet enables the calculation of Pandora's invested capital, which is equal to the total amount that Pandora has invested into their operating activities and this is calculated by subtracting the operating liabilities from the operating assets. Operating liabilities reduce a company's need to borrow money in order to finance their activities (Petersen & Plenborg, 2012). The operating and financing analytical balance sheet is presented in appendix 2 & 3.

The separation between operating and financing items in the balance sheet is in accordance with traditional practices as described by Petersen & Plenborg (2012). In the analytical balance sheet of Pandora, almost all assets and liabilities are classified as operating items as seen above. This is due to the fact that these are needed for Pandora's ongoing operations. Financial assets and liabilities, on the other hand, finance the operations of the company, as already elaborated upon in section 4.1.

For example, Pandora's inventories are crucial for the company's ongoing operations and is thus classified as an operating asset. Another example is the intangible assets, such as the Pandora brand, which is of great importance for the company in terms of value creation as the brand is unique for Pandora and thus recognizable among customers.

An example regarding the operating liabilities of Pandora are their payables and deferred tax liabilities which are classified as such due to them being common in the ongoing operations and, since not specified otherwise in the annual reports of Pandora, non-interest bearing. Due to the nature of the provisions being non-interest bearing, these have been included in the operating balance sheet.

Cash and other financial assets are classified as financing items as these items finance the operations of Pandora. The cash is considered to be excess cash since the annual reports do not state otherwise, and other financial assets are considered financing items due to the implication of the name. To hedge their exposure to financial risks such as commodity price fluctuations, Pandora uses derivative financial instruments (Pandora, 2021a). This can be considered as financial decisions which is why derivative financial instruments are classified as financing items. Loans and borrowings are interest-bearing and thus also classified as financial items.

4.4 Profitability analysis

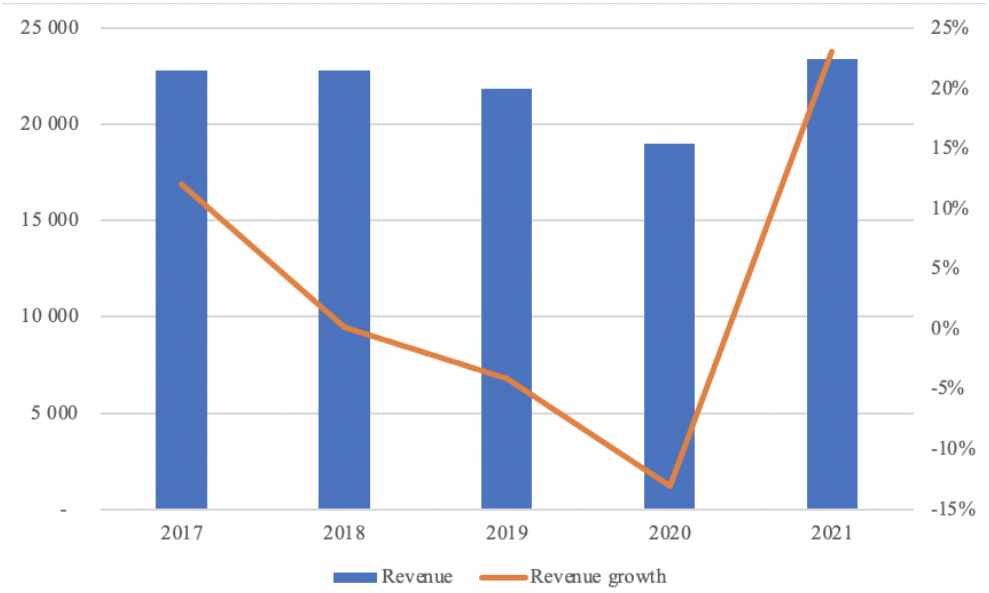
The profitability analysis is an important part of financial analysis as measuring the profitability of a company provides an indication of the company's future survival as well as the return to shareholders (Petersen & Plenborg, 2012).

The analytical income statement and balance sheet in section 4.2 and 4.3 provide the basis for the profitability analysis, as they will be used for the calculation of the different profitability ratios used in the analysis. One of these is the return on invested capital (ROIC), which is considered the overall profitability measure and is an important ratio due to the fact that a higher return leads to a higher estimated value (Petersen & Plenborg, 2012). Before calculating the ROIC, a short section regarding the revenue development of the company will be provided, after which the ROIC and the ROE will be presented, and calculated, in the following subsections.

4.4.1 Revenue development

In the below figure, Pandora's revenue and revenue growth during the past five years is presented:

Figure 10: Revenue & revenue growth in DKK, 2017-2021



(Own source, 2022, adapted from Pandora, 2017-2021a).

As can be seen, the revenue growth in 2018 was close to 0%, whereas 2019 and 2020 had negative revenue growth. This kind of revenue trend is not satisfactory for a company as it gives an indication of low profitability. However, the trend took a turn in 2021 which provided a record-breaking revenue for the company, and the revenue growth landed at 23%.

As discussed in section 1.2.2, Pandora initiated a new strategy in 2018 called Programme NOW. The reason behind the strategy was for Pandora to accomplish long-term revenue growth, and initiatives taken in the program were aiming to improve how the company is operated. After two years, the program was completed with satisfactory results, which is supported by the revenue in 2021. It can thus be assumed that Pandora has learnt from their mistakes and now has an improved view of their company and its position.

Based on this assumption, I do not expect Pandora to operate with negative revenue growth in the coming years. Programme NOW has made its mark on the company, and the new growth strategy is expected to continue the positive trend in revenue growth.

4.4.2 ROIC

The return on invested capital, ROIC, reflects a company's return on the capital they have invested into their net operating assets. Thus, the emphasis here is measuring the operating profitability of a company. One approach to calculate the ROIC after tax is to divide NOPAT by the invested capital, and then multiply by 100 to get the percentage. However, this approach does not give an indication of what it is that drives the profitability. In order to receive an understanding of this, the ROIC needs to be decomposed into the profit margin and the turnover rate of invested capital (Petersen & Plenborg, 2012).

Below, the formulas for ROIC, the profit margin and the turnover rate of invested capital are presented as described by Petersen & Plenborg (2012). NOPAT and invested capital have already been calculated in the analytical income statement and the operating analytical balance sheet, and the calculated ratios are shown in figure 11 further below.

Equation 2: ROIC

$$\text{ROIC} = \text{Profit margin} \times \text{Turnover rate of invested capital}$$

As can be seen, the profit margin and the turnover rate of invested capital need to be calculated in order to derive the ROIC. The profit margin is calculated as follows:

Equation 3: Profit margin

$$\text{Profit margin} = \frac{\text{NOPAT}}{\text{Net revenues}} \times 100$$

As seen in equation 3, the profit margin is derived by dividing the net operating profit after tax with the net revenues. The profit margin provides an understanding of the relation between revenues and expenses and a high profit margin is considered attractive, all else equal (Petersen & Plenborg, 2012).

Finally, the turnover rate of invested capital is presented below:

Equation 4: Turnover rate of invested capital

$$\text{Turnover rate of invested capital} = \frac{\text{Net revenues}}{\text{Invested capital}}$$

The turnover rate of invested capital provides an understanding of the ability a company has to utilize invested capital and a high turnover rate is considered attractive, all else equal (Petersen & Plenborg, 2012).

Based on the above formulas, that are derived from Petersen & Plenborg (2012), the ratios have been calculated as shown in the below figure:

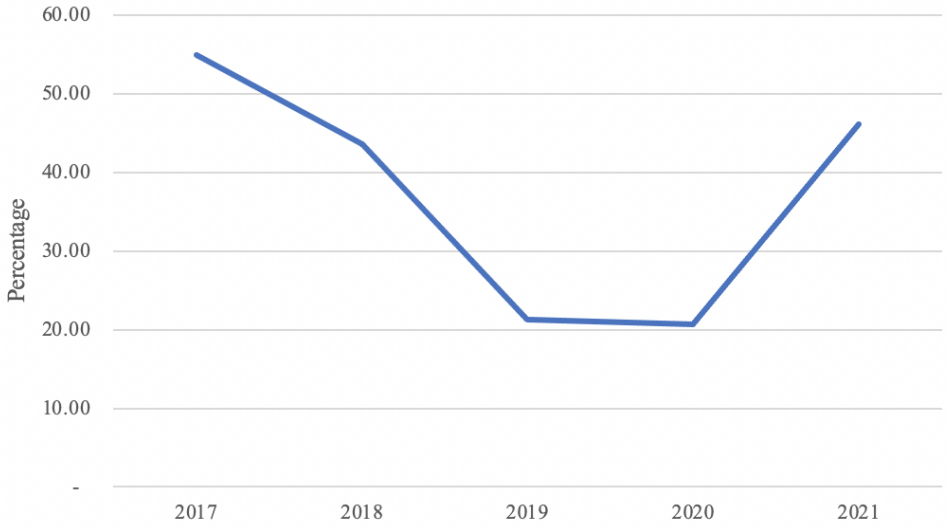
Figure 11: Financial ratios, Pandora 2017-2021

	2017	2018	2019	2020	2021
ROIC	54.87	43.60	21.23	20.72	46.10
Profit margin	25.69	21.60	13.46	10.97	19.32
Turnover rate of invested capital	2.14	2.02	1.58	1.89	2.39

(Own creation, 2022, adapted from Pandora, 2018-2021a)

In the figure below, the development of Pandora's ROIC during the past five years is presented, based on the calculation in equation 2:

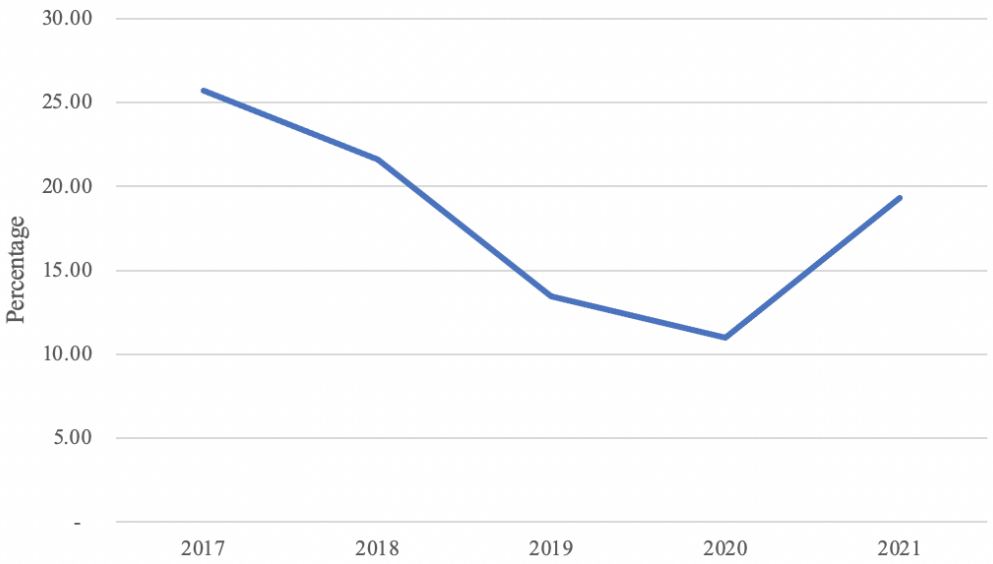
Figure 12: ROIC development, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

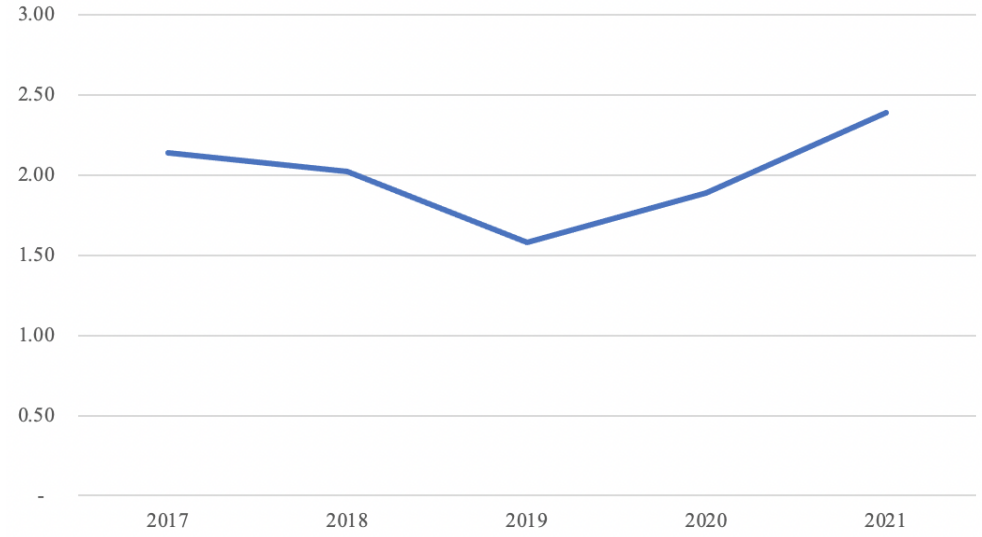
As can be seen, the ROIC for Pandora steadily decreased between 2017 and 2019, although it remained on a positive level. The development was small between 2019 and 2020, where only a small decrease can be seen in the ROIC. From 2020 until 2021, there has been an increase in ROIC, which reached 46.10% in 2021. In order to understand what the drivers have been for the development in ROIC, the two figures below will be analyzed that have been calculated based on equation 3 and 4 respectively:

Figure 13: Profit margin development, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

Figure 14: Turnover rate of invested capital development, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

From 2017 to 2019, the profit margin and turnover rate both decreased, and thus the rapid decrease in ROIC during this time can be explained by the revenue and expense relation as well as the invested capital utilization of Pandora being reduced. However, ROIC only had a small decrease between 2019 and 2020. This can be explained by the decrease in the profit margin during this period of time. On the other hand, Pandora improved their invested capital utilization during the same period of time which partially offsets the negative impact of the profit margin on the ROIC. From 2020 to 2021, the ROIC increased rapidly, which is driven by an improvement in both the revenue and expense relation as well as the invested capital utilization of Pandora. Overall, the development in the ROIC shows strong resemblance to the development of the profit margin.

The development of the profit margin is explained by the trends in NOPAT and revenue. As can be seen in the analytical income statement, the NOPAT of Pandora decreased between 2017 to 2020, whereas the revenue first increased between 2017 to 2018, and then decreased from 2019 to 2020. The profit margin was negatively impacted as the NOPAT constituted a smaller portion of the revenue over the years. Even though the revenue decreased in 2019 and 2020, the NOPAT decreased by a higher rate which explains the continued negative impact on the profit margin. In 2021, both NOPAT and the revenue increased, however the increase rate in the NOPAT was higher than the revenue which resulted in an increase in the profit margin. The development in the turnover rate of invested capital is explained by the trends in revenue and invested capital. As discussed above, the revenue first increased from 2017 to 2018, then decreased in 2019 and 2020, and then again increased in 2021. The invested capital, on the other hand, increased from 2017 to 2019, and then decreased in 2020 and 2021. The decrease in the turnover rate from 2017 to 2019 is due to the increase of the invested capital during the same years. The increase in the turnover rate is driven by the decrease in the invested capital.

Based on the above, it can be concluded that the profit margin is the main driver of Pandora's ROIC. Because of this, it is interesting to see in further detail why the profit margin has developed the way it has. This would enable a better understanding of the revenue and expense relation over the past five years.

To do this, the profit margin needs to be further decomposed through a common-size analysis (Petersen & Plenborg, 2012). For this purpose, the items in the analytical income statement has been calculated as a percentage of revenue, as seen below:

Figure 15: Analytical income statement, % of revenue

DKK million	2017	2018	2019	2020	2021
Effective corporate tax rate	24.8%	23.4%	23.1%	22.3%	22.6%
Revenue	22 781	22 806	21 868	19 009	23 394
Cost of sales	-25%	-25%	-26%	-23%	-23%
Gross profit	**75%**	**75%**	**74%**	**77%**	**77%**
Sales, distribution & marketing expenses	-29%	-34%	-35%	-39%	-36%
Administrative expenses	-8%	-9%	-11%	-12%	-8%
EBITDA	**37%**	**33%**	**28%**	**26%**	**34%**
Depreciation & amortization	-3%	-4%	-11%	-12%	-9%
EBIT	**34%**	**28%**	**18%**	**14%**	**25%**
Tax on EBIT	-8%	-7%	-4%	-3%	-6%
NOPAT	**26%**	**22%**	**13%**	**11%**	**19%**
Financial income	1%	2%	2%	2%	1%
Financial expenses	-1%	-2%	-2%	-3%	-3%
Net financial expenses	**-1%**	**1%**	**0%**	**-1%**	**-2%**
Tax shield, net financial expenses	0%	0%	0%	0%	0%
Net earnings	**25%**	**22%**	**13%**	**10%**	**18%**

(Own creation, 2022, adapted from Pandora, 2018-2021a).

In this analysis, it can be seen that Pandora improved their performance in 2021 compared to both 2019 and 2020, with increases in their EBITDA, EBIT, NOPAT and net earnings with several percentage points. This has mainly been achieved through an increased efficiency at controlling their cost of sales and administrative expenses. Thus, Pandora has been able to grow their revenue at a faster rate than their operating expenses compared to the two prior years. On the other hand, it can be seen that Pandora's sales, distribution & marketing expenses as a percentage of revenue has increased significantly since 2017. This indicates that there is potential for more efficient cost control in their sales, distribution & marketing expenses.

4.4.3 ROE

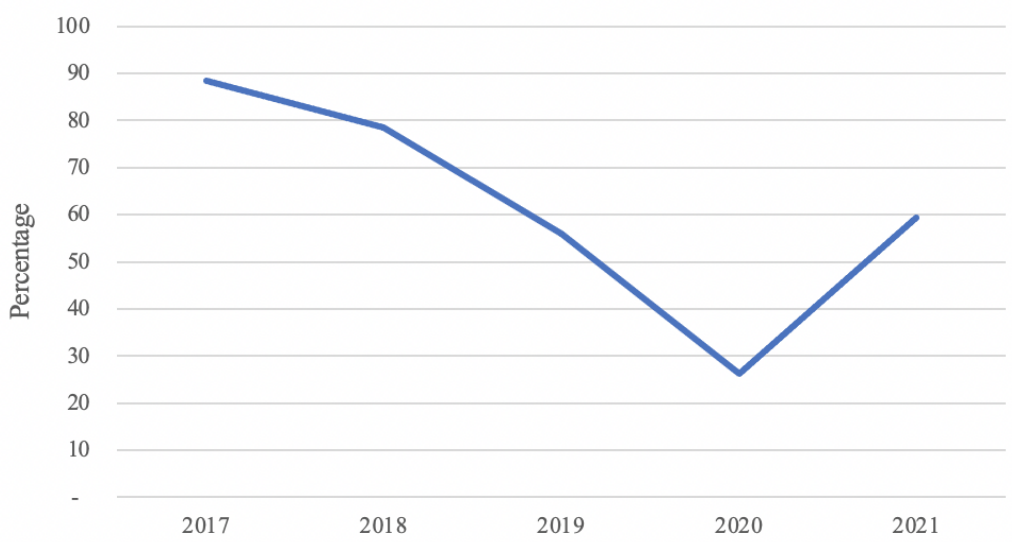
Return on equity (ROE) is another measure that can be used when analyzing profitability as it measures shareholder's accounting return on their investments. This ratio provides an understanding of the effect that financial leverage has on profitability, and the ratio takes into account both the operating and the financial leverage. The formula for ROE is the following (Petersen & Plenborg, 2012):

Equation 5: ROE

$$\text{Return on equity} = \frac{\text{Net earnings after tax}}{\text{Book value of equity}} \times 100$$

The net earnings after tax and the book value of equity are derived from the analytical income statement and balance sheet. The calculation of ROE is based on equation 5 and can be found in appendix 4. Below, the development of Pandora's ROE is shown over the last five years:

Figure 16: ROE development, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

As can be seen, the ROE decreased from 2017 to 2020. This indicates that Pandora became less efficient at creating shareholder value. In 2021, Pandora's ROE increased, indicating an increase in the company's efficiency at creating shareholder value. The reason for the growth in ROE in 2021 is mainly due to the strong increase in net earnings in 2021, as seen in the analytical income statement.

4.5 Liquidity risk analysis

An analysis of a company's liquidity risk is important due to the fact that liquidity is crucial for businesses in order to pay their bills or to carry out investments that are profitable. The risk in liquidity is that in some cases, the lack of it can result in bankruptcy, which emphasizes the importance of this analysis. Both short-term and long-term liquidity risk should be taken into consideration in the analysis (Petersen & Plenborg, 2012).

4.5.1 Short-term liquidity risk

Short-term liquidity regards the ability to pay short-term obligations in time. The short-term liquidity risk can be assessed using the current ratio measure, which gives an indication of the likelihood that a company's current assets can cover their current liabilities in case the company is liquidated. The higher the ratio, the bigger the likelihood (Petersen & Plenborg, 2012).

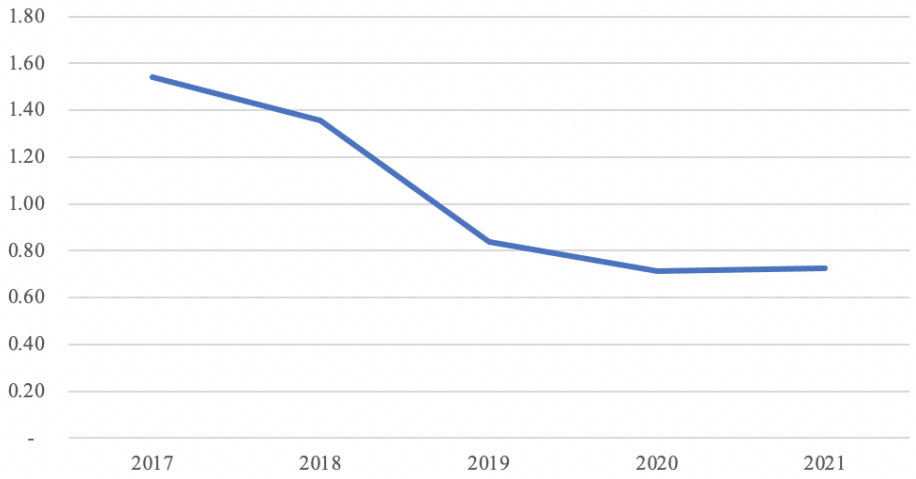
The equation for the current ratio is presented below, as described by Petersen & Plenborg, (2012):

Equation 6: Current ratio

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

The current ratio calculation for Pandora is based on equation 6, and the result is presented in appendix 4 where the calculation has been performed using the analytical balance sheet. In the below figure, the development of Pandora's current ratio over the last five years is depicted:

Figure 17: Current ratio development, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

As seen on the ratio development, the current ratio has decreased in general from a ratio of 1.54 in 2017 to 0.73 in 2021, which is a slight increase from the previous year of 0.71 in

2020. This trend in Pandora's current ratio can generally be considered negative, as the company's current assets would not be able to cover their current liabilities in case of liquidation since the current ratio has decreased below 1. This could indicate a high risk in Pandora's short-term liquidity.

However, some considerations must be made before drawing such conclusions. As discussed in the beginning of section 4, changes in accounting standards must be taken into account when analyzing financial ratios. In 2019, IFRS 16 was implemented in Pandora's reporting. IFRS 16 is an accounting standard related to lease transactions and has thus impacted the financial statements of Pandora as of 2019 and onwards (IFRS 16 Leases, 2022). The current ratio of the company is subject to this impact, as the lease liabilities are posted and reported in the balance sheet as both current and non-current liabilities. However, the other end of this posting is under right-of-use assets and the impact is hence in the non-current assets only. Consequently, the current ratio takes a hit due to the reporting standard, as the current liabilities are increased, while the current assets remain the same. To exclude the impact of IFRS 16, the current ratio in 2019 to 2021 has been recalculated by carving out the lease liabilities from the current liabilities. The amounts of the lease liabilities can be found in note 3.3 Leases in the annual reports of Pandora (Pandora, 2019-2021a). The recalculated current ratios are presented in the figure below as well as in appendix x.

Figure 18: Current ratio excl. leases, Pandora 2017-2021

	2019	2020	2021
Current liabilities incl lease liabilities	7,844	9,790	8,247
Current lease liabilities	1,012	993	886
Current assets	6,565	6,972	5,988
Current liabilities excl lease liabilities	6,832	8,797	7,361
Current ratio	0.84	0.71	0.73
Current ratio, excl lease liabilities	**0.96**	**0.79**	**0.81**

(Own creation, 2022, adapted from Pandora, 2018-2021a)

As can be seen, the current ratio increased slightly as a result of the exclusion of IFRS 16 impact, however the ratio is still on an overall low level.

Another factor that should be considered in the liquidity risk analysis is the inventory of Pandora. Pandora operates with a high gross margin. In 2021, this margin was approximately

76.1% (Pandora, 2021a). However, the value of the inventory in the balance sheet is recorded at its cost price. This indicates that the value of Pandora's inventory is in fact much higher, since the inventory value in the balance sheet in 2021 only accounts for approximately 23.9% of its total sales value. The value of Pandora's current assets is hence much higher than what the balance sheet portrays. The gross margin for the last five years is shown in the figure below:

Figure 19: Gross margin, Pandora 2017-2021

	2017	2018	2019	2020	2021
Revenue	22,781	22,806	21,868	19,009	23,394
Cost of sales	- 5,815	- 5,864	- 4,950	- 4,475	- 5,590
Gross profit	16,966	16,942	16,918	14,534	17,804
Gross margin	**74.5%**	**74.3%**	**77.4%**	**76.5%**	**76.1%**

(Own creation, 2022, adapted from Pandora, 2018-2021a)

The recalculated current ratio (excluding the impact from IFRS 16), taking into account the gross margin impact, is shown below:

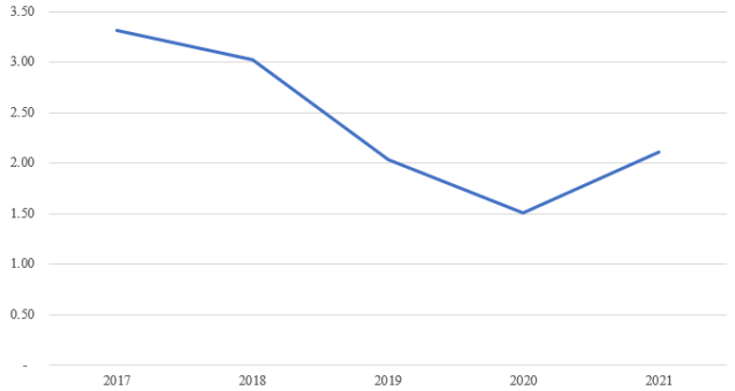
Figure 20: Current ratio excl leases, incl gross margin, Pandora 2017-2021

	2017	2018	2019	2020	2021
Inventories	2,729	3,158	2,137	1,949	2,991
Inventories, incl gross margin	10,691	12,282	9,441	8,279	12,517
Current asses, incl gross margin	14,894	16,583	13,869	13,302	15,514
Current liabilities excl lease liabilities	4,499	5,492	6,832	8,797	7,361
Current ratio excl leases, incl gross margin	**3.31**	**3.02**	**2.03**	**1.51**	**2.11**

(Own creation, 2022, adapted from Pandora, 2018-2021a)

The development of the ratio as based on above calculations is presented below:

Figure 21: Current ratio development excl leases, incl gross margin, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

As can be seen in the calculations and development above, the current ratio is much higher when taking the profitability of the company into account. Consequently, the liquidity of the company is significantly stronger than initially calculated. Even though the current ratio is lower in 2021 compared to 2017 (2.11 in 2021 and 3.31 in 2017), it is still well above 1 and thus the current assets can easily cover the current liabilities. Due to this, the short-term liquidity risk of Pandora is assessed to be low.

4.5.2 Long-term liquidity risk

Long-term liquidity regards the ability to pay all obligations a company has in the future. One way to measure this is by analyzing the financial leverage of the company. This can be measured by calculating the financial leverage and the solvency ratio (Petersen & Plenborg, 2012).

Below, the formulas for both of these are presented, as described by Petersen & Plenborg (2012):

Equation 7: Financial leverage

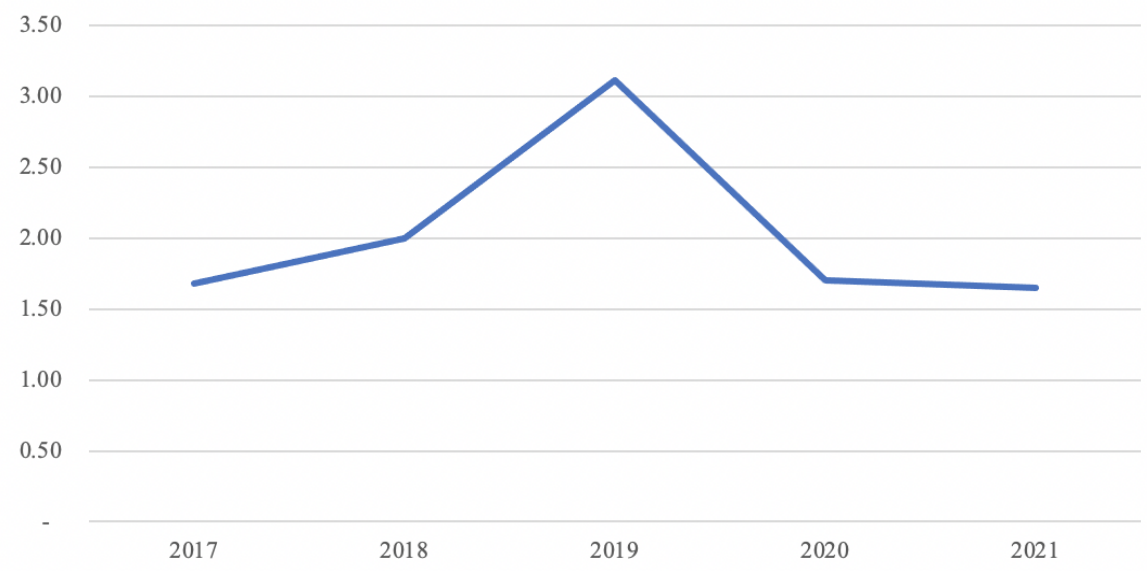
$$\text{Financial leverage} = \frac{\text{Total liabilities}}{\text{Equity}}$$

Equation 8: Solvency ratio

$$\text{Solvency ratio} = \frac{\text{Equity}}{\text{Total liabilities + equity}}$$

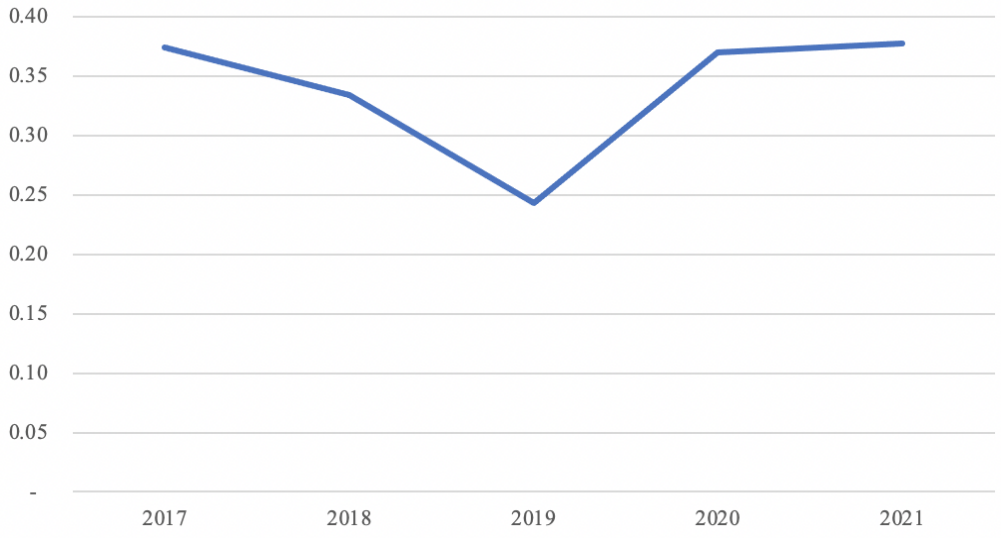
The calculation of these can be found in appendix 4 where the calculation has been performed based on the book values in Pandora's balance sheet. Both of these measures indicate whether there is any risk in the long-term liquidity of Pandora or not. The below two figures show the development of the measures, based on the calculations in appendix 4.

Figure 22: Financial leverage development, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

Figure 23: Solvency ratio development, Pandora 2017-2021



(Own creation, 2022, adapted from Pandora, 2018-2021a)

As can be seen above, the financial leverage and solvency ratio present the same information regarding Pandora's long-term liquidity risk. If the financial leverage is high, and the solvency ratio is low, this would generally indicate that the long-term liquidity risk of the company is high (Petersen & Plenborg, 2012).

In Pandora's case, the financial leverage increased (solvency ratio decreases) between 2017 and 2018, after which it increased (decreased) more rapidly in 2019. This indicates that Pandora's long-term liquidity risk increased in 2019. This increase was driven by the increase in Pandora's loans and borrowings in 2019. In 2020, the loans and borrowings were decreased which decreased the total liabilities of the company to around the same level as in 2018. On top of this, the equity increased which resulted in a decreased financial leverage (increased solvency ratio) in 2020. This trend continued in 2021, which further decreased the long-term liquidity risk of the company with the financial leverage being 1.65 and the solvency ratio being 0.38. This indicates a moderate to low financial leverage, and a moderate to high solvency ratio accordingly which in turn indicates that Pandora's long-term liquidity risk can be considered moderate to low.

In conclusion, Pandora is considered to have a strong short-term liquidity mainly due to their inventories, and their long-term liquidity is moderately strong. Consequently, the overall liquidity risk of Pandora is deemed low.

4.6 Financial analysis conclusion

In section 4, the income statement and balance sheet of Pandora were first reorganized for analytical purposes. Then, a profitability analysis was conducted by first analyzing the ROIC of Pandora. The analysis showed that Pandora's profit margin is the main driver of their ROIC, which has experienced a decline since 2017, but again took off in 2021 during which it reached a strong level of 46.10%. This was followed by an analysis of the ROE of Pandora, which likewise showed an increasing trend in the ratio during 2021, compared to prior years. The overall profitability of the company is, based on the analysis, deemed high.

After the profitability analysis, a liquidity risk analysis followed where both the short-term and long-term liquidity of Pandora was analyzed. In 2021, the current ratio is assessed to be strong due to the high value of inventories Pandora has, which indicates a low risk in the short-term liquidity. Likewise, the financial leverage and solvency ratio of the company are considered moderately strong mainly due to the decrease in loans and borrowings, which indicates a rather low risk in the long-term liquidity as well.

5 Cost of capital

The cost of capital is useful for different purposes, one of which is for valuation purposes where the cost of capital is used to discount future cash flows to their present values. Companies cannot avoid risk in their operations when aiming to be successful. The stakeholders of the company are assumed to be risk averse and they thus require compensation for taking these risks. As a result, the cost of capital must reflect the risk of an investment project the company takes on (Petersen & Plenborg, 2012).

One method that can be used to estimate the proper cost of capital is the weighted average cost of capital (WACC). WACC is deemed suitable for the valuation of companies when the DCF model is used, which is the model that will be applied in this thesis as discussed in section 2.1.3 (Petersen & Plenborg, 2012).

The formula for WACC is presented below (Petersen & Plenborg, 2012):

Equation 9: WACC

$$WACC = \frac{NIBD}{(NIBD + E)} \times rd \times (1 - t) + \frac{E}{(NIBD + E)} \times re$$

Where:

- E = market value of equity
- NIBD = market value of net interest-bearing debt
- re = required rate of return on equity
- rd = required rate of return on debt
- t = corporate tax rate

The components above thus need to be calculated to estimate WACC.

5.1 Capital structure

The proportion of debt and equity respectively, i.e the capital structure of Pandora, must be estimated as the values need to be based on market values (and not book values). The reason

for this is that market values provide a true reflection of investors' and lenders' opportunity cost of capital (Petersen & Plenborg, 2012).

The market value of equity as of December 31st 2021 is calculated by multiplying the number of shares with the share price as of end of December 2021. The market value of debt is calculated as the net interest-bearing debt which can be found in the analytical balance sheet.

Thus, the market value of equity by the end of 2021 is equal to 98,775,946 x 815.4 = 80,541,906,368 (Pandora, 2021a & nasdaqomxnordic, 2022) and the net interest-bearing debt in 2021 is equal to 2,801,000,000. The weight of equity is consequently calculated to be 80,541,906,368 / 83,342,906,368 = 96.64%, whereas the weight of debt is 2,801,000,000 / 83,342,906,368 = 3.36%. These weights will be applied when calculating WACC.

5.2 Required rate of return on equity

Next, the required rate of return on equity (re) must be estimated. One common approach to estimate this is by the use of the capital asset pricing model (CAPM). CAPM presents the formula below to calculate the required rate of return on equity (Petersen & Plenborg, 2012):

Equation 10: Required rate of return on equity

$$re = rf + \beta e \text{ x } (rm - rf)$$

Where:
rf = risk-free interest rate
βe = systematic risk on equity
(*rm* - *rf*) = market portfolio risk premium

CAPM suggests that the systematic risk (*β*) is the only risk that cannot be diversified away, and thus this risk is what the investors will pay for (Petersen & Plenborg, 2012).

5.2.1 Estimating the risk-free interest rate

This section aims to estimate the risk-free interest rate. The risk-free interest rate provides an indication of the return investors can expect without taking risks. An approach to calculate

this in theory would be to construct a portfolio with zero *ß* and measure the expected return on that portfolio. In practice, this is quite comprehensive due to the difficulties in constructing a portfolio with zero *ß*. Thus, another approach that can be chosen instead is to use a government bond as these are assumed to be risk-free (Petersen & Plenborg, 2012).

The risk-free interest rate can hence be determined by the use of a 10-year government bond as the valuation will later be based on an infinite time horizon. The government bond chosen will be denominated in DKK to reflect the currency of Pandora in order to avoid inflation risks. At the end of December 2021, the Danish 10-year government bond had a yield of 0.077% (World Government Bonds, 2022), which is the rate that can be used when calculating the return on equity since Pandora's 2021 fiscal year ended in December. Below figure presents the Danish 10-year government bond:

Figure 24: Danish 10-year government bond, yield

(Graph derived from World Government Bonds, 2022):

The yield of a bond can be considered to reflect the overall confidence level in investors. As investors become more confident in times of economic growth, the yield on bonds is normally increased due to the fact that the borrowing demand in terms of investments and consumption grows (Federal Reserve Bank of St. Louis, 2022).

As discussed in the strategic analysis, the coming years are expected to be subject to economic growth and consequently, higher confidence among investors. Since the risk-free interest rate chosen should reflect the expected future rate, I do not believe that it is adequate

to choose the rate based on the historical value as this seems too low. Thus, I expect the risk-free interest rate to increase in the future, and assess the rate to be 2.5%. The risk-free rate of 2.5% will hence be used to calculate Pandora's WACC.

5.2.2 Estimating the systematic risk (ße)

Beta (*ß*), which measures the systematic risk, is often measured using historical stock returns as these returns reflect information that is value-relevant. More specifically, beta can be described to measure the covariation between Pandora's return and the market return (Petersen & Plenborg, 2012).

The time period used for the beta estimation should be long enough to have enough observations, however the beta estimation should still aim to reflect the future the best way possible which is why shorter time periods can be preferred to better reflect the current and future risk (Damodaran, 1999a).

Further, the return interval should also be decided upon. Quarterly or annual returns will not provide enough observation, and weekly or daily returns can affect the beta due to the non-trading problem. Monthly returns are thus deemed an appropriate return interval as the observations would be sufficient if the company has been listed for at least three years (Damodaran, 1999a).

In this thesis, monthly stock returns from a five-year time period will be used. Pandora's share price and the share price of the Danish market are derived from nasdaqomxnordic (2022b, 2022c) and for the market return, the OMX Copenhagen 20 index is used due to the fact that Pandora is a Danish company, and this is thus considered the relevant market to use.

Based on this, the monthly returns for both Pandora and the Danish market from 2017 to 2021 are calculated. Using the calculated returns, I have calculated the covariance between Pandora's return and the Danish market returns. In order to derive the beta value, the calculated covariance is divided by the variance of the Danish market returns. This gives a beta value of 1.02.

Aswath Damodaran (2022) provides another approach when estimating the beta of a company. This approach estimates the beta value based on the industry that the company

operates in. As Pandora is a company which sells jewelry, the company can be categorized under the Retail - General sector as per the definition of Damodaran. This sector has a calculated beta of 1.12 (Damodaran, 2022).

It can be seen that the beta calculated based on historical returns is lower than the beta derived from Damodaran. As the beta should reflect the future, I choose to use the beta estimate from Damodaran in my calculation because I believe it reflects the future beta better. The beta used for the calculation of the required rate of return on equity is thus 1.12.

5.2.3 Estimating the market portfolio risk premium

The market portfolio risk premium indicates the difference between returns on the market and the risk-free return. Generally, there are two approaches when estimating the market risk premium: the ex-post approach, which uses the historical risk premium on the market portfolio to estimate the future risk premium, and the ex-ante approach, which uses consensus earnings forecast to estimate the risk premium on the market portfolio (Petersen & Plenborg, 2012). As Pandora is a Danish company, the market risk premium of the Danish market will be applied as this is deemed the relevant risk premium to use.

According to the website called market risk premia, which provides valuation parameters relating to various countries, the market risk premia of the Danish market in December 2021 was estimated to be 4.31% (DK - Market Risk Premia, 2022).

In Pablo Fernandez's report, which is based on a survey of the risk-free rate and market risk premium of 88 different countries, and out of which Denmark had 16 respondents, Pablo Fernandez et al., have assessed the average market risk premium of Denmark in 2021 to be 5.8% (Fernandez, Bañuls and Fernandez Acin, 2021).

For the calculation of the required rate of return on equity, an average of the above two estimates of the market risk premium will be used, which is equal to 5.06%.

5.2.4 Concluding required rate of return on equity

As all components for the required rate of return on equity has been calculated in the above subsections, the calculation for the required rate of return on equity is as follows:

rf = 2.5%

ße = 1.12

(*rm* - *rf*) = 5.06%

Required rate of return on equity = 2.5% + 1.12 x 5.06% = 8.17%.

As argued by Petersen & Plenborg (2012), an additional liquidity premium of 3-5 percentage points is usually applied to stocks which are considered illiquid (Petersen & Plenborg, 2012). Since Pandora is considered to have strong liquidity, this premium will not be added to the required rate of return on equity, which is again estimated to be 8.17%.

5.3 Required rate of return on debt

After having calculated the return on equity, this section aims to estimate the required rate of return on debt. The formula to calculate this, after tax, is presented below (Petersen & Plenborg, 2012):

Equation 13: Required rate of return on debt

$$rd = (rf + rs) \text{ x } (1 - t)$$

Where:

rf = risk-free interest rate

rs = credit spread

t = corporate tax rate

Hence, the above three components must be estimated in order to calculate the return on debt. The risk-free interest rate has already been estimated in section 5.2.1, thus the below sub-sections will discuss the credit spread and the corporate tax rate.

5.3.1 Credit spread

To calculate the credit spread, Damodaran (1999b) provides two approaches: either by looking at the recent borrowing history or by estimating a synthetic rating. By using the synthetic rating approach, the interest coverage ratios for companies must be calculated to see which S&P rating the company falls under. This rating would then correspond to a specific credit spread (Damodaran, 1999b).

The interest coverage ratio of Pandora is calculated to be 12 in 2021 and it is calculated by dividing EBIT with the total interest expenses. Below figure presents the calculation for the last five years:

Figure 25: Interest coverage ratio, 2017-2021

Years	2017	2018	2019	2020	2021
EBIT	7 784	6 431	3 827	2 684	5 839
Total interest expenses	44	58	178	247	468
Interest coverage ratio	177	111	21	11	12

(Own source, 2022, adapted from Pandora 2017-2021a).

As can be seen, the interest coverage ratio has been above 8.5 in all five years. Thus, Pandora has a credit rating of AAA, which gives a credit spread of 0.75% (Damodaran, 1999b). Based on this, I assume the credit spread of Pandora in the calculation of the required rate of return on debt to be 0.75%.

5.3.2 Corporate tax rate

For companies that operate globally, the effective tax rate is viewed as the appropriate tax rate to use when estimating return on debt. This is due to the fact that the effective tax rate reflects the local tax rates applied in the countries of operation. However, estimating the future effective tax rate would require a large amount of assumptions and it can thus be difficult to do in practice (Petersen & Plenborg, 2012). For this reason, the corporate tax rate will be applied.

The corporate tax rate in Denmark was 22% in 2021 (Pandora, 2021a), and this will be used as the tax rate when calculating the required rate of return on debt.

5.3.3 Concluding required rate of return on debt

Based on the above subsections, the components to calculate the return on debt have been estimated. Thus, the below calculation gives the required rate of return on debt:

rf = 2.5%

rs = 0.75%

t = 22%

Required rate of return on debt = (2.5% + 0.75%) x (1 - 22%) = 2.54%.

5.4 Estimating WACC

In the above sections, all the components for the weighted average cost of capital (WACC) have been estimated. Consequently, the calculation of Pandora's WACC is the following:

Where:

- Weight of equity = 96.64%
- Weight of debt = 3.36%
- re = 8.17%
- rd = 2.54%
- t = 22%

WACC = 3.36% * 2.54% * (1 - 22%) + 96.64% * 8.17% = 7.96%.

6 Forecasting

In this section, the point of view shifts to a forward-looking perspective and aims to develop the pro forma statements of Pandora. The development of these statements is typically performed when making a company valuation, and the development rests on the strategic and financial value drivers of the company. The strategic drivers are specific to the industry and company, such as developing new products, and the financial drivers are ratios or numbers that reflect the underlying performance of the company, such as growth and investment ratios. The strategic and financial value drivers will impact the cash flows and value of the company (Petersen & Plenborg, 2012).

Two approaches that can be chosen for forecasting are the line-item approach and the sales-driven approach. The sales-driven approach provides a better link between a company's expected level of activity and their accounting items (Petersen & Plenborg, 2012), which is why this approach is chosen for this thesis.

The structure of the pro forma statements distinguishes three different periods of time; the historical period, the explicit forecasting period and finally the terminal period (Petersen & Plenborg, 2012). In the historical period, the trends of the company's accounting items are presented which will serve as a basis for the forecasts. In the explicit forecasting period, the level of the value drivers might alter and the assessment of the value drivers is based on the

historical period, as well as the strategic and financial analysis conducted in section 3 and 4. These will be used to forecast the accounting items of Pandora. In the terminal period, the environment is assumed to be constant and thus the level of the financial value drivers remain the same which gives a constant level of growth to the accounting items in this period.

The pro forma statements will be developed based on the template provided by Petersen & Plenborg (2012), which outlines the steps that need to be performed to create the pro forma statements. The accounting items forecasted are presented, as well as the value drivers that are forecasted, and how both the accounting items and value drivers are calculated is shown. However, some adjustments have been made to their template to make it suitable for the forecasting of Pandora. This is presented in appendix 5. The forecast assumptions of the value drivers are presented in appendix 6, and shows the expected growth rates of the drivers. These growth rates will then be used to forecast the accounting items of Pandora's income statement, balance sheet and cash flows, which will then result in pro forma statements that will be used in the valuation.

In the below sub-sections, the financial value drivers will be further discussed to give an understanding of why they have been assessed as appendix 6, presents. First, the items from the income statement will be presented which will be followed by the items from the balance sheet.

6.1 Revenue growth

Revenue growth is a key value driver since other value drivers such as the operating expenses as a percentage of revenue are dependent on the revenue. Hence, the revenue forecast is essential. Pandora operates in the global jewelry industry and thus obtains their revenue through sales of jewelry.

As elaborated upon in the industry analysis, the jewelry industry is assessed to be of a stable nature with rather standardized products, jewelry. Even though jewelry items can vary, such as rings, earrings or bracelets, the nature of the products is not complex. Due to this, radical disruptions or innovations in the jewelry industry are not deemed likely but instead, the industry is considered rather predictable with innovations in terms of, amongst others, personalization. Because of this assumption, historical data is assessed to provide a strong indication of future outcomes.

As seen in figure 26, the average revenue growth during the last 5 years has been 4% growth per year. The biggest negative impact on revenue growth was during 2020, where the growth was -13% which, as elaborated in the macro-analysis, was mainly due to COVID-19 and the restrictions that followed with the outbreak. As the impacts of this pandemic are no longer deemed a threat as such, I have assumed that Pandora's future revenue will not be negatively impacted by this virus, and the negative growth of -13% is thus not deemed likely in the coming years. Growth rates of 0% and -4%, as in 2018 and 2019, are not deemed likely either due to the successful turnaround program that gave the company better insights and knowledge regarding their business as elaborated on in section 4.4.1.

Figure 26: Revenue & revenue growth in DKK, 2017-2021

Years	2017	2018	2019	2020	2021	**Average**
Revenue	22 781	22 806	21 868	19 009	23 394	
Revenue growth	*12%*	*0%*	*-4%*	*-13%*	*23%*	***4%***

(Own source, 2022, adapted from Petersen & Plenborg, 2012).

Pandora has a positive view on their future revenue generation, which can be understood by the initiatives to increase manufacturing capabilities through the production of their new manufacturing sites in Vietnam and Thailand. The production of these facilities makes the company well prepared for increasing demand and consequently, increasing revenue. The expectation of increasing demand is supported by the macro analysis; the top seven markets of Pandora based on revenue expect a continuing growth in their real GDP. This is an important macroeconomic state as growth in real GDP indicates continued consumer spend on items such as jewelry.

Moreover, the internal analysis elaborated on the Pandora brand. Pandora obtains a strong position in the industry mainly due to their well-known brand and the company is aiming to stay on top of changing consumer behavior through methods such as data analytics and social listening. Thus, Pandora is actively working to capture the future demand of their customers. In addition to this, Pandora's new growth strategy, the Phoenix strategy which was discussed in section 1.2.2, aims at increasing brand awareness in markets with growth opportunities, specifically the US and China. If successful, Pandora can further increase their revenues. This can especially be the case in China which expects a stronger revenue growth rate than the

majority of the other regions that Pandora operates in. The overall global jewelry industry is expected to grow 3.86% on an annual basis, between 2022-2026, as discussed in section 3.4. Thus, I assume that Pandora's revenue will continue to grow on an annual basis.

Based on all considerations above, I have assessed the revenue growth of Pandora to be an average of Pandora's historical growth rate of 4% during the last 5 years, and the expected 3.86% growth for the global jewelry industry during the coming five years. Thus, the expected annual revenue growth rate of Pandora from 2022 to 2026 is 3.93%.

The revenue growth in the terminal period is assessed to be 2%, which is in accordance with the long-term growth rate of the overall economy (Petersen & Plenborg, 2012).

6.2 Cost of sales

The cost of sales as a percentage of revenue is presented in the common-size analysis and in figure 27 below. The cost of sales comprises the expenses that are incurred in order for the company to generate revenue, such as raw materials (Pandora, 2021a). As seen in figure zz, Pandora's cost of sales as a percentage of revenue fluctuated between 26% and 23% and averaged 24% during the past five years.

The cost of raw materials can fluctuate quite considerably as discussed in the strategic analysis. There was a significant increase in the prices of gold and silver in 2020 and 2021, which directly impacted the cost of sales of Pandora. However, Pandora still managed to control their total cost of sales as a percentage of revenue, which has been a decreasing trend over the last five years. In the coming years, I do not expect the prices to continue increasing. The reason for this is that raw material prices normally trend in the opposite direction of the general stock market. The reason for the large increase in gold and silver prices in 2020 and 2021 can be explained by the significant decrease in the overall stock market due to COVID-19, as discussed in section 3.1.2. As the general stock market is expected to increase in the coming years due to a more stable economic climate and expected growth of the real GDP, I expect the raw material prices to decrease as the general stock market increases.

Pandora can overall be assumed to have increased their efficiency at controlling their cost of sales as it has decreased as a percentage of revenue over the years. I assume this increased efficiency will maintain, and together with the above assumptions of decreasing raw material

prices, I assess the expected cost of sales as a percentage of revenue to decrease by 0.3% per year in the explicit forecasting period. In the terminal period, I expect no development and assess the item to remain at the E2026 level.

6.3 Sales, distribution and marketing expenses

Sales, distribution and marketing expenses is another item that should be forecasted. This item comprises the expenses that are related to the distribution of goods sold and sales campaigns (Pandora, 2021a). As seen in figure zz, Pandora's sales, distribution and marketing expenses as a percentage of revenue fluctuated between 39% and 29% and averaged 34% during the past five years. This item has increased as a percentage of revenue over the last five years, and thus constitute a larger share of the revenue in 2021 and 2020 compared to 2017.

The reason for the large increase in expenses in 2018 is mainly because of the increased number of Pandora owned concept stores (Pandora, 2018). In 2021, the amount of sales, distribution and marketing expenses increased compared to 2020 mainly due to increased marketing investments in the Pandora brand. However, the growth in revenue in 2021 was higher than the increase in the sales, distribution and marketing expenses. As mentioned previously, the Phoenix strategy continues the focus on the Pandora brand as well as the other three pillars design, personalization, and core markets. Due to this, I assume a continued trend in increased sales, distribution and marketing expenses in the future but I also assume an increase in revenue that more than offsets the increasing cost of this item. Further, as assessed in the common-size analysis in section 4.4.2, I expect Pandora to increase their efficiency at controlling their sales, distribution & marketing expenses. Hence, I forecast this item to decrease by 0.5% per year in the explicit forecasting period. In the terminal period, I expect no development and assess the item to remain at the E2026 level.

6.4 Administrative expenses

The administrative expenses comprise of the expenses that are incurred in order to manage Pandora, such as the administrative staff expenses (Pandora, 2021a). As seen in figure zz, Pandora's administrative expenses as a percentage of revenue fluctuated between 12% and 8% and averaged 10% during the past five years. In 2021, the administrative expenses as a percentage of revenue reached the same level of 8% as in 2017, and the amount of expenses reached below the 2017 level. I expect the administrative expenses to have the same

proportion as in 2021, meaning at 8% of revenue, both in the explicit forecasting period and in the terminal period.

Figure 27: Cost of sales & operating expenses development, 2017-2021

Years	2017	2018	2019	2020	2021	**Average**
Cost of sales	- 5 693	- 5 684	- 5 749	- 4 288	- 5 368	
Cost of sales/revenue	*-25%*	*-25%*	*-26%*	*-23%*	*-23%*	***-24%***
Sales, distribution & marketing expenses	- 6 662	- 7 657	- 7 550	- 7 427	- 8 348	
Sales, distribution & marketing expenses/revenue	*-29%*	*-34%*	*-35%*	*-39%*	*-36%*	***-34%***
Administrative expenses	- 1 921	- 2 045	- 2 423	- 2 295	- 1 840	
Administrative expenses/revenue	*-8%*	*-9%*	*-11%*	*-12%*	*-8%*	***-10%***

(Own source, 2022, adapted from Pandora 2017-2021a).

6.5 Depreciation & amortization

The depreciation & amortization in the pro forma income statement is calculated as a percentage of the tangible and intangible assets. During the five year historical period, depreciation & amortization fluctuated between 8% and 26% of tangible and intangible assets, and the average rate was 18% which can be seen in figure 28 below. I assess the average rate to be too low for the forecasting period due to the impact of IFRS 16 which impacted, and will continue to impact, the level of depreciation & amortization as of 2019 and onwards. Thus, the rate applied in the explicit forecasting period and the terminal period will be the same rate as in 2021, meaning 22%.

Figure 28: Depreciation & amortization as a percentage of tangible & intangible assets, 2017-2021

Years	2017	2018	2019	2020	2021	**Average**
Tangible & intangible assets	9 323	10 412	10 030	8 997	8 910	
Depreciation & amortization	721	989	2 319	2 315	1 999	
Depreciation & amortization / tangible & intangible asset	*8%*	*9%*	*23%*	*26%*	*22%*	***18%***

(Own source, 2022, adapted from Pandora 2017-2021a).

6.6 Tax rate

Estimating the future effective tax rate of Pandora is difficult due to the large number of assumptions that are required for this purpose, as discussed in section 5.3.2. As seen in the figure below, the effective tax rate has fluctuated between 22.3% and 24.8% during the past five years. Due to the difficulties estimating the future effective tax rate, the corporate tax rate

in Denmark will be applied when forecasting both in the explicit forecasting period and in the terminal period.

Figure 29: Tax rates, 2017-2021

Years	2017	2018	2019	2020	2021	**Average**
Effective tax rate	24.8%	23.4%	23.1%	22.3%	22.6%	**23.2%**
Corporate tax rate	22.0%	22.0%	22.0%	22.0%	22.0%	**22.0%**

(Own source, 2022, adapted from Pandora 2017-2021a).

6.7 Net financial expenses

The net financial expenses are calculated in relation to the net-interest bearing debt. During the five year historical period, this relation has fluctuated between 0% and -16%. In 2019, the relation is 0% due to the fact that the net financial expenses equaled zero. In 2021, financial expenses increased mainly due to increased costs from derivative financial instruments whereas financial income decreased driven by decreased foreing exchange gains, which led to an increase in net financial expenses. Simultaneously, NIBD decreased in 2021 compared to 2017-2019 which also drove the increase in net financial expenses as a percentage of NIBD. I expect NIBD to increase in the coming years (which will be further elaborated upon in section 6.12) and thus I expect the net financial expenses as a percentage of revenue to continue at the average level of 5% during the explicit forecasting period and terminal period.

Figure 30: Net financial expenses, 2017-2021

Years	2017	2018	2019	2020	2021	**Average**
Net financial expenses	- 117	151	-	- 191	- 461	
Net financial expenses / NIBD	*-3%*	*3%*	*0%*	*-7%*	*-16%*	***-5%***

(Own source, 2022, adapted from Pandora 2017-2021a).

6.8 Intangible & tangible assets

The intangible and tangible assets in the pro forma balance sheet are calculated as a percentage of revenues and this development during the five year historical period is presented in figure 31 below:

*Figure 31: **Intangible & tangible assets, 2017-2021***

Years	2017	2018	2019	2020	2021	**Average**
Intangible assets	6 999	7 778	7 445	6 943	7 094	
Intangible assets / revenue	*31%*	*34%*	*34%*	*37%*	*30%*	***33%***
Tangible assets	2 324	2 634	2 585	2 054	1 816	
Tangible assets / revenue	*10%*	*12%*	*12%*	*11%*	*8%*	***10%***

(Own source, 2022, adapted from Pandora 2017-2021a).

As can be seen in the figure above, intangible assets as a percentage of revenue was 31% in 2017, after which it increased during the following years, until it decreased to 30% in 2021. The same trend is seen in tangible assets as a percentage of revenue which was 10% in 2017, followed by an increase, until it decreased to 8% in 2021.

As no major changes to the intangible assets have been discussed in the annual reports of Pandora, I assess the intangible assets as a percentage of revenue to remain at the 2021 level, meaning 30% during the explicit forecasting period and the terminal period.

The tangible assets of Pandora have decreased in amount since 2018, but will be assessed to a higher level in the explicit forecasting period due to Pandora's growth plans with the opening of new stores as well as the new manufacturing facilities. Thus, the tangible assets as a percentage of revenue will be assessed to the average level of 10% in the explicit forecasting period, and to the 2021 level of 8% in the terminal period.

6.9 Deferred tax

As can be seen in the figure below, deferred tax assets and liabilities as a share of revenue make up rather small portions. As both these items have had stable developments during the historical period, the average rate will be used in the explicit forecasting period as well as the terminal period.

*Figure 32: **Deferred tax development, 2017-2021***

Years	2017	2018	2019	2020	2021	**Average**
Deferred tax assets	884	1 050	675	764	891	
Deferred tax assets / revenue	*4%*	*5%*	*3%*	*4%*	*4%*	***4%***
Deferred tax liabilities	501	461	235	368	113	
Deferred tax liabilities / revenue	*2%*	*2%*	*1%*	*2%*	*0%*	***2%***

(Own source, 2022, adapted from Pandora, 2017-2021a).

6.10 Right-of-use assets

This item mainly relates to the leasing of stores and offices and the development of the item can be seen in the figure below. As Pandora expects to open up new stores as part of their new growth strategy, I expect the right-of-use assets to increase compared to the 2021 value. Hence, I forecast this item to be the average of 15% during the explicit forecasting period as well as the terminal period.

Figure 33: Right-of-use assets development, 2017-2021

Years	2019	2020	2021	**Average**
Right-of-use assets	4010	3007	2532	
Right-of-use assets / revenue	*18%*	*16%*	*11%*	***15,0%***

(Own source, 2022, adapted from Pandora, 2017-2021a).

6.11 Net working capital

The net working capital is also calculated as a percentage of revenue in the pro forma balance sheet. This item however can be decomposed into different components: inventory, accounts receivable, other operating receivables, accounts payable, other operating liabilities and provisions. The development for all items as a percentage of revenue has been rather stable over the years, as can be seen in the figure below. Inventories have increased and I expect this trend to continue as the company expects to open up more stores. Thus, inventories are forecasted to the 2021 level of 13% during the explicit forecasting period and terminal period. The other items have also made rather small developments and thus I forecast these to continue at their average level of the past five years in the explicit forecasting period and terminal period as I do not expect any major changes to the items.

Figure 34: Net working capital development, 2017-2021

Years	2017	2018	2019	2020	2021	**Average**
Inventory	2 729	3 158	2 137	1 949	2 991	
Inventory/revenue	*12%*	*14%*	*10%*	*10%*	*13%*	***12%***
Trade receivable	1 954	1 650	1 643	870	1 009	
Trade receivable/revenue	*9%*	*7%*	*8%*	*5%*	*4%*	***6%***
Other receivables	1 103	1 102	1 544	890	876	
Other receivables/revenue	*5%*	*5%*	*7%*	*5%*	*4%*	***5%***
Trade payable	1 695	2 253	3 095	3 211	3 267	
Trade payable/revenue	*7%*	*10%*	*14%*	*17%*	*14%*	***12%***
Other payables & liabilities	2 931	3 052	2 513	2 435	3 584	
Other payables & liabilities/revenue	*13%*	*13%*	*11%*	*13%*	*15%*	***13%***
Provisions	197	307	331	399	442	
Provisions/revenue	*1%*	*1%*	*2%*	*2%*	*2%*	***2%***

(Own source, 2022, adapted from Pandora, 2017-2021a).

6.12 NIBD

The net interest bearing debt (NIBD) will be calculated as a percentage of invested capital. As can be seen in the figure below, NIBD as a percentage of revenue has fluctuated quite considerably during the historical period with the ratio being very high especially in 2019 at 62%. This was mainly due to a strong increase in NIBD during 2019 as a result of an increase in Pandora's loans and borrowings. The amount in loans and borrowings steadily decreased in 2020 and 2021, which resulted in a decreased NIBD. Invested capital has had much less fluctuations during the historical period and thus the NIBD is the main reason behind the development in the figure below. In 2021, NIBD as a percentage of invested capital was at 29%, and the decrease compared to previous years was mainly due to strong cash conversion. According to Pandora's capital structure policy, the 2021 NIBD to EBITDA ratio was below their capital structure policy range (Pandora, 2021a) and it can thus be understood that Pandora has no plans to further decrease their NIBD. On the contrary, I expect NIBD to slightly increase as a result of the new production facilities, and thus the NIBD as a percentage of invested capital will be forecasted to 31% in the explicit forecasting period and terminal period.

Figure 35: NIBD development, 2017-2021

Years	2017	2018	2019	2020	2021	**Average**
NIBD	4 155	4 880	8 615	2 674	2 801	
NIBD / invested capital	*39%*	*43%*	*62%*	*27%*	*29%*	***40%***

(Own source, 2022, adapted from Pandora, 2017-2021a).

6.12 Pro forma statements

The above subsections have resulted in the pro forma statements presented in Appendix 7, 8 and 9. The free cash flow is derived by adding back depreciation and amortization to the NOPAT, and then deducting the change in net working capital and the net investments. The net investment is presented in appendix 10.

7 Valuation

In this section the actual valuation of Pandora, based on the assumptions and analyses made in this thesis, will be conducted. To perform the valuation, Pandora's future income, cash flows and an appropriate discount rate need to be known. These factors have been calculated and estimated in the earlier sections of this thesis.

7.1 Discounted cash flow model

As elaborated upon in section 2.1.3, the discounted cash flow model is the valuation model chosen for the purpose of this thesis. The enterprise value approach will be used, and in order to reach the market value of equity, NIBD needs to be deducted from the enterprise value (Petersen & Plenborg, 2012). The free cash flows are calculated in the forecasting section, the WACC is calculated in the cost of capital section, and the growth rate of 2% will be applied to calculate the enterprise value as per Equation 1: DCF model.

The growth rate of 2% is used to calculate the terminal value. The terminal value is the value of the cash flows generated in perpetuity, hence after the explicit forecasting period. This rests on the assumption that the company will continue to generate cash flows in infinity, at a constant growth rate. This growth rate is set at 2% which is equal to the long-term growth rate of the overall economy. The reason behind this is that a company is not expected to grow at a higher rate than the overall economy but instead, a stable growth will be assumed as this is sustainable in perpetuity (Damodaran, 2012).

As stated in section 2.1.3, the net interest-bearing debt must be deducted from the enterprise value in order to estimate the market value of equity. According to Damodaran (2012), deferred tax liabilities should also be deducted from the enterprise value to reach the equity value. The reason for this is that these liabilities need to be considered as an obligation for the firm due to the fact that they are assumed to potentially come due in the future. This will not happen until the growth rate of the firm moderates (Damodaran, 2012). As Pandora's growth rate will moderate in the terminal period which is in six years, the deferred tax liability in E2027 of DKK 579 million will be discounted back to the present value, and then deducted from the enterprise value.

In the below figure, the calculation is presented where the enterprise value is first calculated as a sum of the present values of the free cash flows and the present value of the terminal value. The terminal value is calculated by dividing the cash flow in the terminal period with the WACC minus the growth rate of 2%, and is then discounted using the same discount rate as in E2026. Then, the net-interest bearing debt as well as the deferred tax liabilities are deducted from the enterprise value to reach the market value of equity. Dividing this by the number of shares, the share price as of 31st December 2021 is calculated.

Figure 36: Discounted cash flow valuation, Pandora

DKK million	E2022	E2023	E2024	E2025	E2026	E2027 (Terminal period)	Terminal value
Free cash flows	3 720	4 242	4 573	4 923	5 293	6 556	110 023
WACC	7.96%	7.96%	7.96%	7.96%	7.96%	7.96%	
Discount factor	0.926	0.858	0.795	0.736	0.682	0.682	
PV	3 446	3 640	3 634	3 624	3 609		75 021

PV Free cash flows	17 953
PV Terminal value	75 021
Enterprise value	92 975
NIBD	2 801
Deferred tax liabilities	365
Estimated market value of equity	89 808
Number of shares	99
Estimated share price	909

(Own source, 2022)

As can be seen above, the enterprise value of Pandora amounts to DKK 92,975 million. After having deducted NIBD amounting to DKK 2,801 million and deferred tax liabilities amounting to DKK 365 million, the estimated market value of equity is derived which reach an amount of DKK 89,808 million. This is divided by the total amount of shares in Pandora, 98,775,946, which gives an estimated share price as of 31st December 2021 of DKK 909 compared to the market share price of DKK 815.

7.2 Multiple valuation

In order to assess the valuation made using the discounted cash flow model, a multiple valuation will be conducted and the result of this approach will be discussed and compared to the present value approach. As discussed in section 2.1.3, this approach estimates the value of a company by comparing its key figures to company peers.

The peers chosen for this multiple valuation are Chow Tai Fook Jewellery Group Limited and LVMH Moët Hennessy - Louis Vuitton as they are both companies operating in the jewelry

industry and thus have similar operations compared to Pandora (Chow Tai Fook Jewellery Group, 2022 & LVMH, 2022).

In the below figure, the enterprise value (EV), revenue and EBITDA of the two peer companies are presented. Further, the ratios used for the multiple valuation are calculated and presented. A valuation is performed on Pandora by multiplying the average revenue multiple and the average EBITDA multiple with the revenue and EBITDA of Pandora, which resulted in two different valuations. Dividing these by the total number of shares provided two different share prices, as seen below:

Figure 37: Multiple valuation, Pandora and peer companies

	2021				
	Revenue	**EBITDA**	**Enterprise value**	**EV/Revenue**	**EV/EBITDA**
LVMH (EUR)	64 210	19 900	323 950	5.0	16.3
Chow Tai Fook (HKD)	89 680	10 680	140 710	1.6	13.2
Average peers				3.3	14.7
Pandora (DKK)	23 394	7 838	92 975	4.0	11.9
	Average ratio	**Pandora's number**	**Pandora valuation**	**Pandora share price**	
Revenue	3.3	23 394	77 366	781	
EBITDA	14.7	7 838	115 430	1 166	
Average				974	

(Own source, 2022, adapted from Yahoo Finance, 2022a-2022b).

As can be seen in the figure above, the two multiples provide two different values for Pandora's share price: DKK 781 and DKK 1,166. The revenue multiple provides a share price of 781 compared to the actual share price of 815, which indicates that Pandora was over-valued as of December 2021. The EBITDA multiple, on the other hand, provides a share price of 1,166, which indicates that Pandora was under-valued as of December 2021. On average, the two multiples provide a share price value of DKK 974, which is close to the share price estimate using the discounted cash flow model of DKK 909. This increases the reliability in the valuation using the discounted cash flow model. As the share price estimates from both the discounted cash flow model and the multiple valuation provide estimates not far from the market value of DKK 815, the overall reliability of the valuation is increased.

8 Sensitivity analysis

It is important to perform a sensitivity analysis after having conducted a valuation. The reason for this is to examine how the valuation is impacted by changes in some of the key factors used in the valuation (Petersen & Plenborg, 2012). In the case of Pandora, the WACC and the stable growth rate will be subject to the sensitivity test and the impact of these changes on the estimated share price will be examined.

This test is presented in the figure below. As can be seen, the WACC and the growth rate are subject to increases/decreases of 0.5 percentage points which impacts the estimated share price. The changes in the value of the share price is seen in the figure depending on how the WACC and the stable growth rate have changed.

Figure 38: Sensitivity analysis, WACC and growth rate

			WACC						
			-1.5%	-1%	-0.5%	0%	0.5%	1%	1.5%
			6.46%	6.96%	7.46%	7.96%	8.46%	8.96%	9.46%
	-1.5%	0.5%	972	889	818	756	703	656	614
	-1%	1%	1046	950	869	800	740	688	642
	-0.5%	1.5%	1136	1023	930	850	783	724	673
Growth rate	0%	2%	1246	1111	1001	909	832	766	709
	0.5%	2.5%	1383	1218	1086	979	889	814	750
	1%	3%	1560	1352	1191	1062	957	870	797
	1.5%	3.5%	1798	1525	1322	1165	1039	937	851

(Own source, 2022)

The sensitivity analysis clearly indicates that the estimated share price is sensitive to changes in both WACC and the stable growth rate. Thus, the importance of the estimations made in the valuation when calculating the different factors is emphasized as this directly impacts the estimated share price.

9 Discussion

The outcome of this thesis indicates that the share price of Pandora as of 31 December 2021 was undervalued. This indication is based on the valuation performed using the discounted cash flow model, and it was supported by the multiple valuation performed which showed an even higher deviation from the original price of DKK 815, and thus emphasized that the share price was under-valued. However, it is important to make such conclusions with care, and

first discuss the potential limitations and pitfalls of the methods chosen before stating that the share price has been undervalued.

The discounted cash flow model, which in this thesis provided a share price of DKK 909, carries some limitations worth mentioning. First of all, there are plenty of assumptions made when using this method. The cash flows that are discounted relies on the forecasting made of both Pandora's income statement and balance sheet. Hence, accurate forecasts need to be made in order to predict the correct cash flows. This in itself carries risk as the predictions are made several years into the future and the further into the future, the higher is the uncertainty as it can be difficult to know what the world looks like at that point of time.

This brings another risk, which is the one of the terminal value. As can be seen in figure 36, the terminal value accounted for approximately 81% of the enterprise value. Thus, the terminal value has a great impact on the estimated enterprise value, and the cash flow in the terminal period is, in this thesis, calculated six years ahead. As mentioned earlier, this carries risk since the state of the world can change dramatically in six years and the assumptions made into the future in this thesis can thus be very different from what the market expects, which could consequently have a large impact on the estimated enterprise value and the share price.

Further, the assessment of the WACC which is the rate by which the cash flows are discounted can also imply risks. Assumptions need to be made to determine the different factors of the WACC such as the risk free rate and the beta value, which again can explain why the share price derived in this thesis differs from the market expectations. The risk free rate for instance is assumed to be 2.5% in this thesis although it is unlikely that the risk free rate remains the same in the next 20 years. In addition to this, unchanged capital structure is assumed. Thus, there are many assumptions made which can be considered limitations when using the discounted cash flow model, and these assumptions can explain why the valuation provided a different share price than the market.

The multiple valuation, which was performed to assess the reliability of the share price derived from the discounted cash flow model also carries limitations. Based on the average valuation of the two multiples, DKK 974, the reliability of the estimated share price using the discounted cash flow model, DKK 909, is increased as the two methods are rather aligned in

value. However, it must be noted that the multiple valuation carries certain downsides and cannot fully be trusted on its own.

First of all, it is very difficult finding companies that are exactly comparable to the company subject to the valuation. In this case, Pandora is a company selling only jewelry whereas LVMH is a company consisting of numerous brands within different industries. The valuation of Pandora based on the LVMH multiples can thus be misleading and wrong.

Further, the different multiples provided different share price estimates. Although the average of these was close to the share price using the discounted cash flow model, there is nothing arguing for the average being the correct approach to follow and it is therefore unclear which share price estimate to use. Thus, the multiple valuation should be used with care and it might make sense to not base a valuation of a company solely on this method, but rather to use it in connection with a present value approach.

10 Conclusion

The objective of this thesis was to perform a valuation of Pandora in order to see if the estimated share price is in accordance with the market value of Pandora as of December 31st, 2021. In order to perform this valuation, a strategic and financial analysis were first performed.

The strategic analysis revealed different factors in the external environment of Pandora that might impact the company and its profitability. The main takeaways from the macro analysis, which was conducted using the PESTEL model, was that the economic climate in the world has a positive expected trend with increases in consumer spend. Further, the PESTEL analysis highlighted that Pandora is especially sensitive to the risks of changing commodity prices and the political climate in Thailand.

The micro environment was analyzed using Porter's five forces framework and revealed that the global jewelry industry, which Pandora operates in, is of a competitive nature with threats mainly stemming from new entrants, bargaining power of buyers and the rivalry of the competing firms. Further, the analysis concluded that Pandora's position in the industry is strong and the company is not as sensitive to these threats as smaller companies might be.

The internal analysis which was conducted using the VRIO framework revealed that the resources that can potentially create a sustained competitive advantage for Pandora are their crafting facilities and the brand of Pandora. Finally, a market analysis showed that the expected growth rate of the global jewelry industry expects a revenue growth of 3.86% annually in the coming years which Pandora can capture if they stay on top of the changing preferences and customer behaviors.

The strategic analysis was followed by a financial analysis which first aimed to reorganize the income statement and balance sheet of Pandora. This was done to receive an overview of the financial performance over the past five years. Based on the reorganized statements, a profitability analysis was conducted which revealed a strong increase in ROIC in 2021 mainly driven by the profit margin of the company. Pandora's ROE likewise increased in 2021, and the profitability of the company was assessed to be high on an overall level. The liquidity risk analysis showed strong liquidity, both long-term and short-term for the company, which consequently indicates a low risk.

After finalizing the financial analysis, the WACC of Pandora was estimated. The estimation was based on assumptions made and as the weight of equity is substantially larger than the weight of debt in the capital structure of Pandora, the assumptions on the risk-free rate, beta and the market risk premium are of particular importance as they have a strong impact on the return on equity. The WACC was later used to discount the free cash flows of Pandora to their present value, and the free cash flows were estimated based on the forecasting section.

The valuation was performed using the discounted cash flow model which estimated the share price to be DKK 909 compared to the market price of DKK 815 on 31 December 2021. A multiple valuation was performed to assess the reliability of the discounted cash flow model, and the estimated share price based on this method was DKK 974. As discussed in section 9, both of these methods carry limitations which should be taken into consideration when performing a valuation. The sensitivity analysis revealed that the share price is highly sensitive to the WACC, which emphasizes the importance of correct assumptions when estimating the WACC and, consequently, the risk in using this method.

Thus, it can be understood that the valuations performed in this thesis relies heavily on assumptions made by me only. The market consists of a great number of people making assumptions, which is why there can be differences in the valuation as the assumptions are most likely different compared to the ones made by only one person. Hence, it cannot be concluded that the Pandora stock was under-valued as of 31 December 2021, as this is a quite harsh conclusion to make. However, it can be concluded that the share price derived from this thesis is different from the market price and the reason for why this is the case is due to the different assumptions made by me and the market, as discussed in section 9.

Consequently, based on my information and my assumptions, the share price of Pandora as of 31 December 2021 is DKK 909.

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Appendices

Appendix 1: Analytical income statement

DKK million	2017	2018	2019	2020	2021
Effective corporate tax rate	24.8%	23.4%	23.1%	22.3%	22.6%
Revenue	22 781	22 806	21 868	19 009	23 394
Cost of sales	- 5 693	- 5 684	- 5 749	- 4 288	- 5 368
Gross profit	**17 088**	**17 122**	**16 119**	**14 721**	**18 026**
Sales, distribution & marketing expenses	- 6 662	- 7 657	- 7 550	- 7 427	- 8 348
Administrative expenses	- 1 921	- 2 045	- 2 423	- 2 295	- 1 840
EBITDA	**8 505**	**7 420**	**6 146**	**4 999**	**7 838**
Depreciation & amortization	- 721	- 989	- 2 319	- 2 315	- 1 999
EBIT	**7 784**	**6 431**	**3 827**	**2 684**	**5 839**
Tax on EBIT	- 1 930	- 1 505	- 884	- 599	- 1 320
NOPAT	**5 854**	**4 926**	**2 943**	**2 085**	**4 519**
Financial income	198	533	351	316	152
Financial expenses	- 315	- 382	- 351	- 507	- 613
Net financial expenses	**- 117**	**151**	**-**	**- 191**	**- 461**
Tax shield, net financial expenses	29	- 35	-	43	104
Net earnings	**5 766**	**5 042**	**2 943**	**1 937**	**4 163**

(Own source, 2022, adapted from Pandora 2018-2021a)

Appendix 2: Analytical operating balance sheet

DKK million	2017	2018	2019	2020	2021
Non-current assets					
Intangible assets	6 999	7 778	7 445	6 943	7 094
Property, plant and equipment	2 324	2 634	2 585	2 054	1 816
Right-of-use assets	-	-	4 010	3 007	2 532
Deferred tax assets	884	1 050	675	764	891
Total non-current assets	**10 207**	**11 462**	**14 715**	**12 768**	**12 333**
Current assets					
Inventories	2 729	3 158	2 137	1 949	2 991
Trade receivables	1 954	1 650	1 643	870	1 009
Right-of-return assets	188	94	73	62	70
Income tax receivable	143	86	467	83	68
Other receivables	772	922	1 004	745	738
Total current assets	**5 786**	**5 910**	**5 324**	**3 709**	**4 876**
Total operating assets	**15 993**	**17 372**	**20 039**	**16 477**	**17 209**
Non-current liabilities					
Provisions	150	279	278	370	416
Deferred tax liabilities	501	461	235	368	113
Other payables	481	172	1	-	-
Total non-current liabilities	**1 132**	**912**	**514**	**738**	**529**
Current liabilities					
Provisions	47	28	53	29	26
Refund liabilities	791	869	753	654	724
Contract liabilities	64	66	71	82	163
Trade payables	1 695	2 253	3 095	3 211	3 267
Income tax payable	572	543	438	382	1 003
Other payables	1 023	1 402	1 250	1 317	1 694
Total current liabilities	**4 192**	**5 161**	**5 660**	**5 675**	**6 877**
Total operating liabilities	**5 324**	**6 073**	**6 174**	**6 413**	**7 406**
Invested capital	**10 669**	**11 299**	**13 865**	**10 064**	**9 803**

(Own source, 2022, adapted from Pandora 2018-2021a)

Appendix 3: Analytical financing balance sheet

DKK million	2017	2018	2019	2020	2021
Non-current assets					
Other financial assets	289	323	290	244	222
Total non-current assets	**289**	**323**	**290**	**244**	**222**
Current assets					
Derivative financial instruments	153	162	187	351	69
Cash	993	1 387	1 054	2 912	1 043
Total current assets	**1 146**	**1 549**	**1 241**	**3 263**	**1 112**
Total financial assets	**1 435**	**1 872**	**1 531**	**3 507**	**1 334**
Non-current liabilities					
Loans and borrowings	5 283	6 421	7 962	2 066	2 765
Total non-current liabilities	**5 283**	**6 421**	**7 962**	**2 066**	**2 765**
Current liabilities					
Loans and borrowings	164	248	2 069	3 996	1 161
Derivative financial instruments	143	83	115	119	209
Total current liabilities	**307**	**331**	**2 184**	**4 115**	**1 370**
Total financial liabilities	**5 590**	**6 752**	**10 146**	**6 181**	**4 135**
Net-interest-bearing debt	**4 155**	**4 880**	**8 615**	**2 674**	**2 801**
Total equity	6 514	6 419	5 249	7 389	7 001

(Own source, 2022, adapted from Pandora 2018-2021a)

Appendix 4: Financial ratios

	2017	2018	2019	2020	2021
ROIC	54.87	43.60	21.23	20.72	46.10
Profit margin	25.69	21.60	13.46	10.97	19.32
Turnover rate of invested capital	2.14	2.02	1.58	1.89	2.39
ROE	89	79	56	26	59
Current ratio	1.54	1.36	0.84	0.71	0.73
Current ratio excl leases	1.54	1,36	0,96	0,79	0,81
Financial leverage	1.68	2.00	3.11	1.70	1.65
Solvency ratio	0.37	0.33	0.24	0.37	0.38
Current ratio excl leases, incl gross margin	3.31	3.02	2.03	1.51	2.11

(Own source, 2022, adapted from Pandora 2018-2021a)

Appendix 5: Value drivers

Step	Accounting item	Value drivers
	Income statement	
1	Revenue	Revenue growth
2	Cost of sales	As a percentage of revenue
3	**Gross profit**	**(1-2)**
4	Sales, distribution & marketing expenses	As a percentage of revenue
5	Administrative expenses	As a percentage of revenue
6	**EBITDA**	**(3-4-5)**
7	Depreciation & amortization	As a percentage of tangible & intangible assets
8	**EBIT**	**(6-7)**
9	Tax on EBIT	Tax rate
10	**NOPAT**	**(8-9)**
11	Net financial expenses	As a percentage of NIBD
12	Tax shield, net financial expenses	**(Tax rate * 11)**
13	**Net earnings**	**(10-11+12)**
	Balance sheet	
14	Intangible & tangible assets	As a percentage of revenue
15	Deferred tax assets	As a percentage of revenue
16	Deferred tax liabilities	As a percentage of revenue
17	Right-of-use assets	As a percentage of revenue
18	Net working capital	As a percentage of revenue
19	**Invested capital**	**(14+15-16+17+18)**
20	NIBD	As a percentage of invested capital
	Cash flow statement	
21	NOPAT	**(10)**
22	+ Depreciation & amortization	**(7)**
23	- Δ Net working capital	**(Δ18)**
24	- Net investments	**(Δ14+7)**
25	**Free cash flow**	

(Own source, 2022, adapted from Petersen & Plenborg, 2012)

Appendix 6: Growth rates

Forecast assumptions	Historical period					Explicit forecasting period					Terminal period
Years	2017	2018	2019	2020	2021	E2022	E2023	E2024	E2025	E2026	E2027
Revenue growth	12%	0%	-4%	-13%	23%	3,9%	3,9%	3,9%	3,9%	3,9%	2%
Cost of sales / revenue	25%	25%	26%	23%	23%	22,7%	22,4%	22,1%	21,8%	21,5%	21,5%
Sales, distribution & marketing expenses / revenue	29%	34%	35%	39%	36%	35,5%	35,0%	34,5%	34,0%	33,5%	33,5%
Administrative expenses / revenue	8%	9%	11%	12%	8%	8%	8%	8%	8%	8%	8%
Depreciation & amortization / tangible & intangible assets	8%	9%	23%	26%	22%	22%	22%	22%	22%	22%	22%
Tax rate	25%	23%	23%	22%	23%	22%	22%	22%	22%	22%	22%
Net financial expenses / NIBD	-3%	3%	0%	-7%	-16%	-5%	-5%	-5%	-5%	-5%	-5%
Intangible assets / revenue	31%	34%	34%	37%	30%	30%	30%	30%	30%	30%	30%
Tangible assets / revenue	10%	12%	12%	11%	8%	10%	10%	10%	10%	10%	8%
Deferred tax assets / revenue	4%	5%	3%	4%	4%	4%	4%	4%	4%	4%	4%
Deferred tax liabilities / revenue	2%	2%	1%	2%	0%	2%	2%	2%	2%	2%	2%
Right-of-use assets / revenue	-	-	18%	16%	11%	15%	15%	15%	15%	15%	15%
Net working capital decomposed into:											
+ Inventory / revenue	12%	14%	10%	10%	13%	13%	13%	13%	13%	13%	13%
+ Trade receivable / revenue	9%	7%	8%	5%	4%	6%	6%	6%	6%	6%	6%
+ Other receivables / revenue	5%	5%	7%	5%	4%	5%	5%	5%	5%	5%	5%
- Trade payable / revenue	7%	10%	14%	17%	14%	12%	12%	12%	12%	12%	12%
- Other payables & liabilities / revenue	13%	13%	11%	13%	15%	13%	13%	13%	13%	13%	13%
- Provisions / revenue	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
NIBD / invested capital	39%	43%	62%	27%	29%	31%	31%	31%	31%	31%	31%

(Own source, 2022)

Appendix 7: Pro forma income statement

Income statement	2017	2018	2019	2020	2021	E2022	E2023	E2024	E2025	E2026	E2027
Revenue	22 781	22 806	21 868	19 009	23 394	24 313	25 269	26 262	27 294	28 367	28 934
Cost of sales	- 5 693	- 5 684	- 5 749	- 4 288	- 5 368	- 5 519	- 5 660	- 5 804	- 5 950	- 6 099	- 6 221
Gross profit	17 088	17 122	16 119	14 721	18 026	18 794	19 609	20 458	21 344	22 268	22 713
Sales, distribution & marketing expenses	- 6 662	- 7 657	- 7 550	- 7 427	- 8 348	- 8 631	- 8 844	- 9 060	- 9 280	- 9 503	- 9 693
Administrative expenses	- 1 921	- 2 045	- 2 423	- 2 295	- 1 840	- 1 912	- 1 987	- 2 066	- 2 147	- 2 231	- 2 276
EBITDA	8 505	7 420	6 146	4 999	7 838	8 251	8 777	9 332	9 917	10 534	10 745
Depreciation & amortization	721	989	2 319	2 315	1 999	2 140	2 224	2 311	2 402	2 496	2 419
EBIT	7 784	6 431	3 827	2 684	5 839	6 111	6 553	7 021	7 515	8 038	8 326
Tax on EBIT	- 1 930	- 1 505	- 884	- 599	- 1 320	- 1 344	- 1 442	- 1 545	- 1 653	- 1 768	- 1 832
NOPAT	5 854	4 926	2 943	2 085	4 519	4 767	5 112	5 476	5 862	6 269	6 494
Net financial expenses	- 117	151	-	- 191	- 461	- 203	- 212	- 220	- 228	- 237	- 233
Tax shield, net financial expenses	29	- 35	-	43	104	45	47	48	50	52	51
Net earnings	5 766	5 042	2 943	1 937	4 163	4 608	4 947	5 305	5 684	6 084	6 312

(Own source)

Appendix 8: Pro forma balance sheet

Balance sheet	2017	2018	2019	2020	2021	E2022	E2023	E2024	E2025	E2026	E2027
Intangible assets	6 999	7 778	7 445	6 943	7 094	7 294	7 581	7 879	8 188	8 510	8 680
Tangible assets	2 324	2 634	2 585	2 054	1 816	2 431	2 527	2 626	2 729	2 837	2 315
Deferred tax assets	884	1 050	675	764	891	973	1 011	1 050	1 092	1 135	1 157
Deferred tax liabilities	501	461	235	368	113	486	505	525	546	567	579
Right-of-use assets	-	-	4 010	3 007	2 532	3 645	3 790	3 939	4 094	4 255	4 340
Net working capital decomposed into:											
+ Inventory	2 729	3 158	2 137	1 949	2 991	3 161	3 285	3 414	3 548	3 688	3 761
+ Trade receivable	1 954	1 650	1 643	870	1 009	1 459	1 516	1 576	1 638	1 702	1 736
+ Other receivables	1 103	1 102	1 544	890	876	1 216	1 263	1 313	1 365	1 418	1 447
- Trade payable	1 695	2 253	3 095	3 211	3 267	2 918	3 032	3 151	3 275	3 404	3 472
- Other payables & liabilities	2 931	3 052	2 513	2 435	3 584	3 161	3 285	3 414	3 548	3 688	3 761
- Provisions	197	307	331	399	442	486	505	525	546	567	579
Invested capital	10 669	11 299	13 865	10 064	9 803	13 128	13 645	14 181	14 739	15 318	15 046
NIBD	4 155	4 880	8 615	2 674	2 801	4 070	4 230	4 396	4 569	4 749	4 664

(Own source)

Appendix 9: Pro forma cash flow statement

Cash flow statement	2018	2019	2020	2021	E2022	E2023	E2024	E2025	E2026	E2027
NOPAT	4 926	2 943	2 085	4 519	4 767	5 112	5 476	5 862	6 269	6 494
Depreciation & amortization	989	2 319	2 315	1 999	2 140	2 224	2 311	2 402	2 496	2 419
Δ Inventory	429	- 1 021	- 188	1 042	170	124	129	134	139	74
Δ Trade receivable	- 304	- 7	- 773	139	450	57	60	62	64	34
Δ Other receivables	- 1	442	- 654	- 14	340	48	50	52	54	28
Δ Trade payable	558	842	116	56	- 349	115	119	124	129	68
Δ Other payables & liabilities	121	- 539	- 78	1 149	- 423	124	129	134	139	74
Δ Provisions	110	24	68	43	44	19	20	21	21	11
Net investments	2 078	1 937	1 282	1 912	2 955	2 606	2 708	2 815	2 925	2 067
Free cash flow	2 924	3 584	4 627	2 191	3 720	4 242	4 573	4 923	5 293	6 556

(Own source)

Appendix 10: Net investments

Investments, intangible and tangible assets	2018	2019	2020	2021	E2022	E2023	E2024	E2025	E2026	E2027
Intangible and tangible assets, end of period	10 412	10 030	8 997	8 910	9 725	10 108	10 505	10 918	11 347	10 995
Depreciation & amortization	989	2 319	2 315	1 999	2 140	2 224	2 311	2 402	2 496	2 419
Intangible and tangible assets, beginning of period	- 9 323	- 10 412	- 10 030	- 8 997	- 8 910	- 9 725	- 10 108	- 10 505	- 10 918	- 11 347
Investments, intangible and tangible assets	2 078	1 937	1 282	1 912	2 955	2 606	2 708	2 815	2 925	2 067

(Own source)