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GRA 19703 Master Thesis

Thesis Master of Science 100% - W

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"This thesis is a component of the MSc program at BI Norwegian Business School. It is important to note that the school does not assume any responsibility for the methodologies employed, outcomes obtained, or conclusions reached within this work."

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Abstract

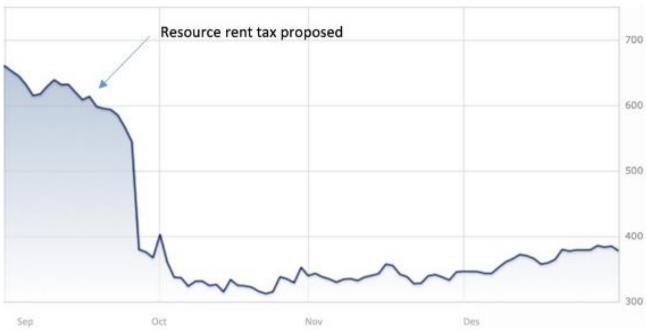
SalMar ASA, founded in 1991, is a prominent Norwegian aquaculture company considered as worlds's second-largest farmed Atlantic salmon producer. SalMar ASA's vision is "Passion for Salmon," prioritizing fish-centric farming and excellence in every production aspect. They operate as a global powerhouse, covering the entire value chain from farming to sales.

Norway's aquaculture industry has surged in recent years, and the increasing demand for high-quality Atlantic salmon is projected to persist. Strict political regulations, challenges regarding salmon lice, and license development requirements are key factors influencing the industry. The latter have made mergers and acquisitions crucial for companies to sustain growth.

On September 28, 2022, the Norwegian government proposed a resource rent tax of 40%, which was adjusted to 35% later in March. Following the announcement, SalMar ASA's stock price fell by 31%, resulting in a loss of NOK 20 billion in a single trading day. This decline also impacted other industry players, raising concerns about the potential repercussions on Norway's key industry.

Through this master's thesis, we conduct a valuation of SalMar ASA to analyze how the introduction of resource rent taxation affects the company's fundamental value. The objective is to enhance comprehension regarding the effects of a 35% tax increase on Norwegian aquaculture companies, specifically by examining the valuation of the most severely affected company. By using DCF analyses, as well as substantiating the result through relative valuation, sensitivity analysis, and Monte-Carlo simulations, we have calculated a share price equal to 403.55 per 12.31.2022. Hence, a reduction of 33.86% due to the proposed resource rent tax, ultimately leading to a hold recommendation for the marginal investor.

	Multiples		
	P/E	EV/EBIT	EV/EBITDA
Mowi	12,2	11,2	10,0
Grieg	12,7	8,1	6,1
Lerøy	14,4	8,4	8,0
Bakkakfrost	17,8	28,9	21,9
Average	14,3	14,1	11,5
SalMar stock price	**337,1**	**434,8**	**435,8**
Average	**402,6**		



Share price	
With resource rent tax	
SUM PV	19 709 068
PV TV	53 474 859
Enterprise value	73 183 928
NIBD	14 617 960
Market value of equity	58 565 967 723
# shares	145 138 920
Share price	**403,5**
Without resource rent tax	
SUM PV	28 203 959
PV TV	74 960 051
Enterprise value	103 164 010
NIBD	14 617 960
Market value of equity	88 546 050 196
# shares	145 138 920
Share price	**610,1**

Forecasts	**2023E**	**2024E**	**2025E**
Revenue	35 401 600	33 979 764	32 069 888
Salmon price	92,00	87,00	80,50
GWT	296000	300440	306449
NOPLAT w/ resource rent tax	2 641 874	4 001 187	4 073 986
NOPLAT w/o resource rent tax	7 600 895	7 295 620	6 885 560

Historical data	**2020**	**2021**	**2022**
Revenue growth	5,51 %	16,51 %	34,00 %
ROE	18,28 %	17,23 %	17,31 %
ROIC	18,14 %	14,38 %	12,80 %
Operating margin	23,62 %	20,09 %	22,48 %
GWT	173500	198200	193700

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1.0 Introduction/motivation

Our master's thesis aims to assess the influence of the proposed resource rent tax on the fundamental value of SalMar ASA, worlds´s second-largest salmon farming company. We will conduct a comprehensive valuation analysis, considering both the presence and absence of the resource rent tax. Our study is based on the consultation memorandum dated 28.09.22 and the government's legislative proposal regarding resource rent tax on aquaculture as of 28.03.23. We have chosen to focus on SalMar because it experienced significant repercussions in the form of a substantial decline in share price when the proposed resource rent taxation was announced. Our source of motivation for writing about the subject of valuation comes through several engaging electives related to corporate valuation, making this research not only academically valuable but also applicable to future working careers.

Following the government's consultation note, the seafood index on the Oslo stock exchange experienced a drastic decline of 21.5% on the first trading day. The graph illustrates the enormous impact of resource rent taxation, where the seafood index fell approximately 50% from June to October. Moreover, SalMar was among the most brutal hit, witnessing a drop of approximately 31 percent the day after the announcement (Høgseth et al., 2022). This single-day event resulted in a loss of NOK 20 billion for SalMar alone, impacting an industry that could potentially be one of Norway's most vital sectors in the years to come. Therefore, this is an opportune moment to analyze the Norweigan aquaculture industry, given the significant changes that have had severe consequences for the industry itself and its stakeholders. Moreover, we sought to enhance our understanding of the industry and determine whether the market has underestimated or overestimated the consequences of resource rent taxation.

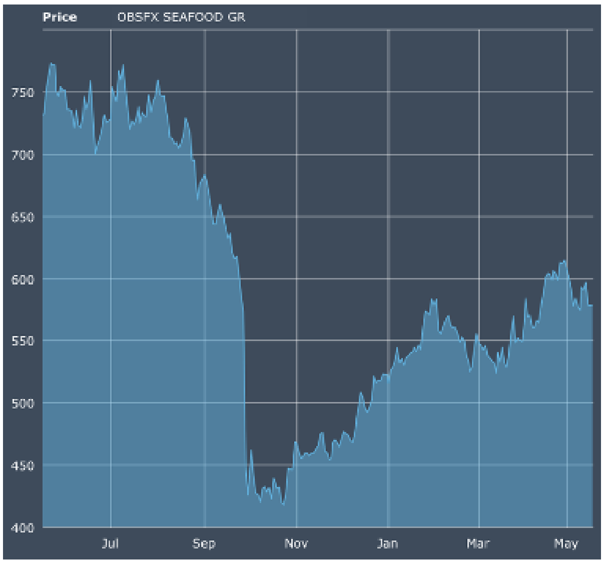


Figure 1: OBSFX seafood index, period: July 2022-November 2022

1.1 Problem statement

This paper aims to evaluate and analyze the impact of the resource rent tax on the fundamental value of SalMar ASA. By conducting market and financial analyses as well as employing various valuation methods, we provide recommendations for the marginal investor regarding buying, holding, or selling based on publicly available information. The primary problem statement is as follows:

> *What effect does the resource rent tax have on the fundamental value of SalMar ASA as of December 31, 2022?*

Furthermore, we are interested in investment decisions, and therefore, we have included a sub-problem statement that addresses this topic:

> *Given the implementation of the resource rent tax, should the marginal investor buy, hold or sell SalMar ASA as of December 31, 2022?*

1.2 Structure

In this sub-section, we will briefly present the thesis structure to give the reader an orderly overview of the topics we have included.

Section 2 focuses on methodology and provides a structured overview of the data collection process, the valuation methods employed, and the assumptions acknowledged in our study.

Section 3, which is crucial for understanding the impact of the new taxation system on the valuation of Norwegian aquaculture companies, focuses on resource rent taxation. We delve deep into this tax system, examining the specific elements subject to taxation and the deductions provided to aquaculture companies, setting the stage for the subsequent valuation analyses.

Section 4 presents market analysis, providing insights into factors influencing the salmon farming industry. We examine broader industry inputs, although with a focus on SalMar. Additionally, we analyze Norwegian farmed fish's supply and demand dynamics, including regression analysis on future salmon prices.

Section 5 and 6 specifically target SalMar. We conduct a financial analysis, comparing the company with major competitors to identify competitive advantages. Furthermore, section 3's concepts are applied, forecasting future income and deductibilities, and determining future resource rent taxation.

Section 7 focuses on calculating the weighted average cost of capital for discounting future cash flows of SalMar. Extensive comparisons with industry peers are made to ensure accurate results and provide a comprehensive overview.

Section 8 and 9, revolve around the fundamental valuation of SalMar, utilizing DCF analysis, comparative valuations, sensitivity analyses, and Monte Carlo simulations. In section 9, the outcomes of these analyses are examined, leading to a final conclusion on SalMar's valuation.

Acknowledgement

We would like to express our gratitude to our thesis advisor, Chunyu Yang, for his invaluable guidance during times of uncertainty, while also allowing us the freedom to pursue the direction we desired for our thesis.

Additionally, we would like to extend our appreciation to BI Norwegian Business School for providing an exceptional learning environment throughout our academic journey.

2.0 Methodology

This section will delve into selecting a methodology to acquire and analyze the gathered data, which is crucial for a comprehensive answer to our problem statements. Moreover, the method is essential in preparing, implementing, and interpreting analysis (Sucarrat, 2017). The primary goal of the methodology section is to shed light on various questions regarding our case study. Hence, we will split the section into the following three sections; *data collection, data analysis, and assumptions.*

Data collection

This master's thesis relies exclusively on publicly available information, also called a desk research-based study. We can then adopt a marginal investors perspective, making the case study more reliable and valuable for other readers seeking to utilize the knowledge gained from the study. During this section, the objective is to provide precise details to enable readers to utilize the data sources for their own analysis.

The primary data sources utilized in this study include the following:

1. *Annual and Quarterly Reports*: The annual and quarterly reports of SalMar and its peer group served as essential data sources. These reports were particularly valuable for Section 5: Financial Analysis and Section 6: Historical Analysis of Results and Forecasts. They provided comprehensive information, including financial statements and balance sheets. Readers can find these data sources listed under "Annual and Quarterly Reports" in the bibliography.

2. *Financial Data Sources:* In Section 7, Calculating Discount Rates, specific financial data sources were utilized to determine the discount rates for the valuation analysis.
   a) Central Bank of Norway: The primary source for finding the 10-year government bond representing the risk-free rate. This reliable source provided accurate and up-to-date information on the risk-free rate, a crucial component in discount rate calculations.
   b) Damodaran: Damodaran was a key data resource used to gather information regarding the Norwegian risk premium. This information was

further supported by evidence from PwC. Additionally, Damodaran was utilized to calculate the industry beta and credit spread. Readers can refer to the following specific data sources from Damodaran, which are listed under "webpages" in the bibliography:

- Damodaran Betas
- Damodaran Ratings and Coverage Ratios
- Damodaran Country Default Spreads and Risk Premiums

3. *Resource rent tax related sources:* The Ministry of Finance, operating under the Norwegian government, serves as the authoritative and exclusive source of information regarding the new resource rent tax regulations. These official government sources were invaluable in providing essential insights into a key aspect of the thesis, specifically the calculation of resource rent taxable income and deductibility. The proposed resource rent tax published on 09.28.22 and the revised proposal published on 03.28.23 by the Norwegian Department of Finance guided the calculation of resource rent taxable income. These sources outlined the guidelines and criteria for determining taxable income and helped identify the specific deductions applicable to SalMar's operations.

To establish a comprehensive foundation for our valuation, we have primarily relied on "*Financial Statement Analysis"* by Plenborg, Petersen, and Kinserdal and *"Valuation—Measuring and managing the value of companies*" by Tim Koller, Marc Goedhart, & David Wessels as our academic sources. This influential work has played a pivotal role in shaping our understanding and approach to valuation. In addition to these primary sources, we have also consulted other relevant academic literature to enhance our analysis.

Throughout sections 5 to 8, "Financial Statement Analysis" has been instrumental in guiding the valuation procedure. It has provided us with a solid framework and methodology to assess and analyze SalMar's financial statements and performance. However, a detailed discussion of this valuation approach will be presented in the upcoming section.

Data analysis

There is an excessive amount of different valuation techniques, making choosing the optimal strategy for your case quite overwhelming. However, according to Plenborg et al., we can classify the various valuation approaches into four groups; *present value, relative valuation, asset-based value,* and *contingent claim valuation* (Petersen et al., 2017). We will now elaborate on the different techniques and substantiate our choicen valuation approach.

The present value approach calculates the intrinsic value of a firm based on future cash flow projections and a discount factor that reflects the risk of these cash flows made by analysts. A comprehensive understanding of the respective company and its operating market is needed to provide realistic assumptions and accurate cash flow forecasts. Furthermore, various valuation models exist within the present value approach, but all yield equivalent value estimates when appropriately implemented. In practical terms, the discounted cash flow model is the most frequently used one, where one estimate either a company's enterprise or equity value. The latter is calculated by subtracting the net interest-bearing liabilities from the projected free cash flows, discounted by the weighted average cost of capital (WACC). Alternatively, the analysts can obtain the market value of equity directly by discounting the forecasted cash flows by the required rate of return on equity (r_e) (Petersen et al., 2017)

Other methods within the present value approach include the dividend model, the residual income (RI) model, and the Economical Value Added (EVA) model (Petersen et al., 2017). These models are less frequently used; thus, we are not going to elaborate further on these approaches.

The asset-based approach involves estimating the net asset value of a company, considering the present market value of each individual asset (Young, 2020). This approach benefits companies with uncertain viability by assessing assets at their net market value, considering the scenario where the company becomes insolvent and incapable of generating future operating cash flows using those assets (Petersen et al., 2017). Furthermore, analysts must select which assets and liabilities to include when performing this valuation approach, leaving room for significant assumptions (Young, 2020). Moreover, measurements within the asset-based approach can vary depending on the chosen measurement basis (Petersen et al., 2017). As a final remark, according to Penman (2013), valuing all of the company's assets can be highly challenging as it involves complex accounting practices, even for professionals. Consequently, the asset-based approach is considered laborious and can result in difficulties in terms of measurement (Penman, 2012).

The relative valuation approach, often referred to as *multiples*, implies calculating the company value by comparing its performance/value to relatable competitors and peers (Tuovila, 2020). The primary advantage of this valuation approach is that it does not rely on any specific forecasted number or parameter, making it relatively straightforward. That being said, it can be challenging to identify peers that share similarities in terms of revenue, capital structure, operating market, size, and other relevant elements.

Finally*, the contingent claim valuation model*, better known as the *real options model*, involves comparing and formulating several alternative scenarios consisting of different contingencies. Then, by assigning similar characteristics as financial options to the firm's assets, we can use option pricing models to estimate the firm value. However, similar to the asset-based approach, there is a high degree of complexity when applying this approach. According to Damodaran, assets consisting of option-like characteristics exclusively generate profit under distinct circumstances (Damodaran, 2005). Moreover, predicting these specific circumstances and other required variables can be challenging when conducting a contingent claim valuation. Therefore, utilizing the contingent claim valuation model will likely provide rather uncertain estimations regarding firm value (Kaldestad & Møller, 2016)

Our chosen valuation techniques

Finally, we will now discuss and justify which valuation methods we have used during our valuation of SalMar. Each of the aforementioned valuation techniques consists of different advantages and disadvantages. Hence, it is essential to align the valuation approach with our specific objective in order to choose the most suitable method. In our case study, our objective is to assess the impact of the newly proposed resource rent tax on the valuation of Norwegian aquaculture companies. Specifically, we will conduct a valuation of SalMar to analyze the extent of the new taxation.

First, we find the contingent claim valuation unsuitable for our purpose due to the degree of complexity and the corresponding uncertain value estimation. Secondly, as discussed previously, the asset-based valuation approach will usually give relatively unreasonable results. Additionally, this model is particularly applicable to companies with uncertain viability and that experience financial distress - which is not the case for SalMar. Hence, we will not utilize this valuation approach.

Therefore, our case study mainly focuses on two valuation techniques: the present value approach and the relative valuation method. The primary approach consists of the present value, specifically, the discounted cash flow model (DCF analysis). By conducting this model, we estimate the enterprise value (EV) of SalMar, and then derive the market value to equity by subtracting our estimated net interest-bearing debt (NIBD). One significant advantage of employing this method is the ability to assess the direct impact of introducing resource rent taxation. Using the FCFF (Free Cash Flow to the Firm) model, we can calculate two distinct scenarios: one incorporating the new resource rent taxation and another excluding it. This approach allows us to isolate the pure effect of the increased taxation, facilitating comparability for analysts conducting similar calculations for other companies within Norwegian aquaculture. As a result, we acquire a comprehensive understanding of the precise impact of resource rent taxation and its associated implications.

Furthermore, we will substantiate our results from the DCF analysis with different relative valuation ratios. SalMar has several competitors in the Norwegian aquaculture market, with whom it shares numerous characteristics. Throughout our analysis, including the relative valuation, we will primarily compare SalMar to the following peers: Mowi, Lerøy Seafood, and Grieg. Additionally, we will include Bakkafrost during the relative valuation to enhance the explanatory power of our assessment. Toward the end of the thesis, will we conduct a sensitivity analysis and a Monte Carlo simulation to address forecast uncertainty.

Assumptions

Here we will present some important assumptions to bear in mind during our master thesis:

- Most importantly, information beyond December 31, 2022, will not be considered in the analysis. However, new information regarding resource rent taxation will be included as of March 28, 2023. Consequently, the changes made on May 25, 2023, will not be taken into account to maintain the integrity of the thesis.
- This thesis is written from an investor's perspective, thus: solely based on publicly available information.
- The core operations of SalMar primarily revolves around farming, processing, and selling Atlantic Salmon. Consequently, our case study will primarily concentrate on these key aspects.
- Some theories and models will not be described in depth, as we assume the reader has a general understanding of the economic concepts.
- We assume the WACC remains constant during the forecasted period, implying a flat interest structure.
- We do not consider currency fluctuations or hedging opportunities related to export.
- Some company and market-specific analyses such as SWOT, Pestel, and Porter will be excluded to hold the focus around our given topic.
- We assume a homogenous tax system for the selected company and its subsidiaries
- Throughout the thesis, we will alternate between using the terms "resource rent tax" and "ground rent tax"; it is important to note that these terms are synonymous.

3.0 The Norwegian tax system and resource rent tax

3.1 The tax system

In this thesis, we will analyze the impact of resource rent tax on aquaculture valuation. Thus, it is essential to understand the structure and how the tax system operates in the chosen industry. The foundation for this section will be the proposed resource rent tax published on 09.28.22 and the revised proposal published 03.28.23 from the Norwegian department of finance. This will be our base for future discussions and assumptions necessary for our valuation. We will mainly look at the tax-deductible components, the foundation of the tax calculations, and the potential impact on valuation. With the objective to provide a solid foundation on the resource rent tax and obtain replicability in our research, hopefully giving a clear structure to future valuations in the aquaculture industry.

Be aware that the regulations discussed in this section serve as general guidelines for the entire industry, and not all aspects may be equally relevant for all companies. In section 6, we will delve into a more comprehensive analysis of the specific aspects that hold significance for the valuation of SalMar.

3.2 The background of resource rent tax in the aquaculture

From 1986-2022 Norway can report an abnormal growth in production, profitability, and value relatively to other industries. In addition, the concentration has decrease, with only a few companies owning the majority of licenses and less value creation for the society then in other industries (Ulltveit-Moe, 2020). The purpose of the proposed resource rent tax is that industries with extraordinary profits due to use of natural resources should have an increased taxation. Consequently, the Norwegian public would greatly benefit from the utilization of its natural resources. According to the report from NOU, only a fraction of the value created in this industry has gone to the public (The Ministry of Finance, 2022). Therefore, the government intends to introduce a similar system to that used in the petroleum industry. The argument suggests that companies operating in regulated environments have a competitive advantage, while emphasizing the neutral nature of the tax. According to the government, this tax is not expected to affect future investment decisions due to the availability of deductions (The Ministry of Finance, 2022).

3.3 Resource rent tax structure

The proposed resource rent tax is in theory a neutral taxation on the cashflow, developed by Brown (1948) (*NOU 2022:20*, 2022). There were two different tax models discussed by the committee, cash flow and periodic. However, from our research the only relevant model is the cash flow structured taxation. This is based on the NOU finale proposal. With this structure, the government would be a passive owner, giving deduction on investments and also claim part of the profits. Where the deductions in invested capital should equal the reduced profits. Hence, the IRR to projects will ultimately be the same. As illustrated in the figure below with fictitious numbers:

Investment without Resource tax rent				**Investment with 35% Resource tax rent**			
Year	**0**	**1**	**2**	**Year**	**0**	**1**	**2**
Cashflow	-1 000	550	650	Cash flow before tax	-1 000	550	650
						-	-
				Tax 35%	350	193	228
				Cash flow	-650	358	423
NPV	42,18			NPV	27,42		
IRR	**12,68 %**			**IRR**	**12,68 %**		

Figure 2: IRR comparison with and without ground tax rent

The figure above shows in simple terms how a cash flow taxation works, when government covers their share of expenses consecutively. In other words, the public and investors share the project upside and downside. NPV reduces, since investors now have a smaller piece, but also less exposure which yields an identical IRR.

In the proposed resource rent tax published on 03.28.23 from the Norwegian department of finance they suggested a tax of 35% (Ministry of Finance, 2023). This will be our assumption in this paper, even though it is likely that the finale tax may fluctuate. However, based on current market reports and information from the finance department we can assume with high degree of confidence that the fluctuations will be small. In the calculation of the resource rent tax the committee suggest that the corporate tax is calculated first and then resource related tax is deducted from the basis of the resource rent tax calculation. This is the same model as used in petroleum industry and will yield a marginal tax rate of the following:

$$0.22 + 0.35 = 0.57$$

Giving an effective tax rate of:

$$\frac{0.35}{1 - 0.22} = 0.449$$

We will illustrate how this structure affects SalMar in the FCFF calculations later in the paper.

In the following sections, we will provide a more comprehensive explanation of how the determination of taxable income and cost deductions is carried out.

3.3.1 Determination of taxable income

The committee initially proposed a new resource rent tax for 2022, which suggested determining revenues based on the norm price of salmon after the fish were slaughtered. The norm price was supposed to be collected from a public exchange. In contrast, actual sales were used to calculate the price of trout and rainbow trout. The calculations used a fish price after slaughter, including several processes not eligible for a tax deduction, such as processing and transport. However, the proposal was revised due to concerns about its potential negative impact on companies with fixed long-term agreements and issues with unfair taxation (Ministry of Finance, 2023). The issue with the proposal was around the calculation of taxable income. Eventually, the department acknowledged flaws in the first proposal and adjusted it based on market feedback.

To address the challenges of the initial proposal, the department has suggested a new policy where an independent council is tasked with setting a market value for all fish before slaughtering (*NOU*, 2022). This will give the same price foundation for all species, ensuring equal treatment. In addition, fixed long-term contracts could be included in determined taxable income if the contract has a particular volume and duration, between an independent buyer and a taxpayer (*NOU*, 2022).

To calculate gross ground rent income, the tax settlement price must be multiplied by two components: the sold volume and the revenue generated from the sale of living fish. Additionally, potential profits from the realization of assets used in the ground rent taxable business are included in the calculation (Ministry of Finance, 2023). However, in 2023, before a council is founded, each company will set a market value on its own, based on in-house valuation. The resource rent tax is restricted to salmon, trout, and rainbow trout. Moreover, it is assumed that companies within the sector can identify the production of fish associated with taxable income and have a basis for self-assessing the tax.

Overall, the new resource rent tax aims to create transparent and fair taxation by using an independent council for pricing, focusing on market values before slaughter.

3.3.2 Deductibility

According to the consultation memorandum on 28.03.23, all costs incurred to maintain, acquire, or secure taxable income are deductible (*NOU 2022:20*, 2022). The tax on resource rent is based on profits, and hence, any pertinent expenses related to resource rent activities must be deductible. In this section, we will explain which costs are eligible for deduction. As is well known, the ground rent tax on aquaculture should aim to exclusively tax businesses, or that part of the business which uses the community's resources and is a scarce material. Hence, it is crucial to differentiate between deductible costs that are closely associated with the ground rent. This distinction is vital in order to achieve a more accurate and realistic valuation.

3.3.2.1 Operating expenses

The operating costs directly conjoined to the aquaculture operations subject to resource rent will be deductible. This includes, among other things, operating costs associated with the acquisition of production equipment and various input factors. These input factors encompass expenses related to forage, smolt, costs incurred for combating salmon lice and diseases during the sea phase, as well as other related costs. In addition, personnel costs and salaries are also eligible for deduction. Moreover, costs associated with maintaining operating assets related to the resource rent, i.e., feeding systems, fish cages, vehicles, and boats, will also be deductible from the ground rent income (*NOU 2022:20*, 2022).

The resource rent tax's primary objective is achieving the highest possible accuracy. Hence, the Ministry argues that "standard deduction" would not represent the actual cost. Moreover, the standard deduction would increase the risk of deviation between the tax liability and the company's profits. Therefore, the exact cost for the respective entity must be used as the basis, to eliminate the risk of significant deviations (*NOU 2022:20*, 2022).

3.3.2.2 Operating assets

Future investments are not treated similarly to historical investments; hence, they will differ in the deduction. In section 3.3.2.3, we will discuss how historical assets will be depreciated using the declining balance method, involving justification by considerations of reasonableness. In contrast, future investments will be justified by consideration of neutrality. With a neutral ground rent tax, the government will act as a passive investor in the company's investments. In practice, this means the government will cover 35 percent, plus an additional corporation tax of 22 percent, of the investment costs, through a deduction (*NOU 2022:20*, 2022). Furthermore, as discussed at the outset, this tax is constructed as a cash flow tax, which provides immediate deductions for all investments.

3.3.2.3 Treatment of already completed investments

Depreciation on historical assets in ground rent-taxed aquaculture operations is deductible from the total resource rent income. For the entities in the Norwegian aquaculture, typical assets such as feeding systems, fish cages, smolt facilities, and boats will follow the depreciation rules in the Norwegian tax Act. These depreciations must reflect the actual value decrease of the respective asset, thus ensuring an accurate calculation of the taxable resource rent income. Furthermore, according to the consultation memorandum, the optimal depreciation method in the aquaculture, is the declining balance method due to its natural ability to reflect the assets' decline in value (*NOU 2022:20*, 2022).

Another critical aspect of the aquaculture is the significant amount of intangible assets, such as goodwill and permits. The latter are typically indefinite; hence depreciation would only be performed if there is an apparent decrease in value, as we will further discuss in section 3.3.2.8. If not, an intangible asset should not be deductible. To conclude, these intangible assets will normally not be deductible in ground rent income.

3.3.2.4 Loss on the realization of operating assets

Losses from operating asset sales associated with aquaculture activities are deductible from the resource rent income. Similarly, gains from selling equivalent assets are subject to resource rent tax. With that said, losses from the realization of other operating assets, as well as the sale of production permits, are not deductible (*NOU 2022:20*, 2022). Furthermore, it will be challenging to separate which costs directly relate to the aquaculture business and operations offshore versus those associated with non-directly related costs.

3.3.2.5 Financial expenses

According to the consultation memorandum, it is not desirable that the company-specific input factors regarding financing should affect the size of the resource rent tax (*NOU 2022:20*, 2022). Hence, financial costs are not deductible. In contrast, if this were not the case, it would be favorable for SalMar to increase its debt ratio and financing through debt over equity. Moreover, as the resource rent tax is a cash flow tax, the companies can immediately deduct the entire investment in the bases for computing the resource rent tax, even debt-financed fixed assets (*NOU 2022:20*, 2022). Hence, an additional deduction for debt financing costs, such as financial expenses, has no professional justification.

3.3.2.6 Sales- and marketing expenses

According to the government, the taxation point should be at the edge of the fish pen (The Ministry of Finance, 2022). Therefore, any activities performed after this point will be excluded from the taxable resource rent income. Hence, an increase in value after this point is not further taxed. Based on this rationale, the government proposes that sales and marketing costs will not be deductible from resource rent income for Norwegian salmon harvest entities. This means that expenses related to promoting and selling the products will not affect the calculation of resource rent tax.

3.3.2.7 Negative ground rate

The aquaculture industry suffers from significant fluctuations in profitability due to being a cyclical industry. Based on the findings from the committee's computations, there has been a resource rent in the industry in recent years (*NOU 2022:20*, 2022). That being said, in years with lower profitability, i.e., coming from macroeconomic factors like a decrease in salmon price, demand, and supply, a so-called "negative ground rate" can also be a reality. This involves deductible costs exceeding the company's gross sales revenue, consequently making the company operate at a loss. As discussed earlier, the resource rent tax works as an neutral taxation, implying that a potential negative ground rate income will be carried forward with an interest rate equal to a risk-free rate.

SalMar and other multinational producers of farmed salmon, usually have a fully integrated entity, with multiple aquaculture companies operating within the ground rent taxable activities. Accordingly, the company can deduct a negative resource rent income from company A to company B with a positive ground rent income, provided the companies are part of the same tax group (*NOU 2022:20*, 2022).

3.3.2.8 Deduction for costs of purchasing permits

This refers to the potential ability to deduct parts of the costs associated with acquiring permits when computing the resource rent tax. In short, companies that bought permits during auctions in 2018 and 2020, as well as fixed-price allocation in 2020, can receive a standardized deduction. The amount paid during 2018 and 2020 can be deducted by 40 percent and distributed evenly over five years (*NOU 2022:20*, 2022). Therefore, companies will reduce the ground rent tax effectively, contributing to a lower tax burden.

3.3.2.9 Basic allowance

A basic allowance is a fixed amount that can be deducted from a company's taxable income when calculating the resource rent tax. Furthermore, the basic allowance is set at 70 million Norwegian kroner (*NOU 2022:20*, 2022). This allowance effectively reduces the tax base for the resource rent tax, resulting in a lower tax burden for the companies. In addition, the basic allowance can only be applied once at the group level, as defined by the consultation memorandum. Lastly, unused basic allowance cannot be carried forward, and any unused portion in one company cannot be transferred or combined with the resource rent income of another company within the group (*NOU 2022:20*, 2022).

4.0 Market analysis

4.1 The history of SalMar - "Passion for Salmon"

SalMar was founded in 1991 after purchasing a bankruptcy estate with one farming license. Since then, SalMar has significantly improved production capacity, acquiring new licenses and technological improvements. This has increased the harvest volume from 11 000 GWT in 2000 to 193.700 GWT in 2022, a growth of 1661% (SalMar, 2022b). However, other factors are necessary to explain the incredible growth in a market with such strict regulations as the aquaculture industry. The remarkable growth of SalMar can be attributed to its strategic acquisition approach, which was initiated in 2000 with the purchase of Senja Sjøfarm AS. Since then, SalMar has executed several acquisitions and divestments, further fuelling its expansion. Notably, in 2007, following its listing on the Oslo Stock Exchange, SalMar acquired three companies with a total of eight licenses. This trend of rapid acquisitions continued, culminating in their most recent significant acquisition in the fourth quarter of 2022, propelling SalMar to become the world's second-largest salmon farming company (SalMar, 2022b). This continuous pursuit of strategic acquisitions has enabled SalMar to solidify its position in the industry and establish itself as a key player in the global salmon farming market.

Today, SalMar is recognized as one of the most successful salmon farming companies with exceptional cost efficiency and high profitability. Hand-in-hand with the company two strategic goals:

1. Outperform the industry within operational efficiency.
2. Ensure optimum utilization of the salmon to achieve highest possible price.

Noteworthy, SalMar is a fully vertically integrated farming company with corresponding control of each part of the value chain (SalMar, 2022b). This gives SalMar impeccable control of each process in the supply chain. According to the company, one key factor to success in the farming industry is good access to high-quality smolt. We will discuss in more detail the farming process of SalMar later in this section.

4.2 Production cycle and its financial considerations

Atlantic salmon's production and farming cycle spans about three years, encompassing three distinct phases. The initial stage, a 10-16 month period, consists of developing eggs into finished smolt. The process starts in a controlled freshwater environment, where the eggs are fertilized and grown to a size of up to 100 grams. Following the growth period, the salmon are transferred to seawater cages for 12-24 months. This gives room for additional development and achieving a suitable size for harvesting. Finally, the salmon are transported to a processing facility for slaughtering, gutting, cleaning, and packing. These final steps are carried out simultaneously to ensure optimal quality and efficiency (*Historie*, 2022).

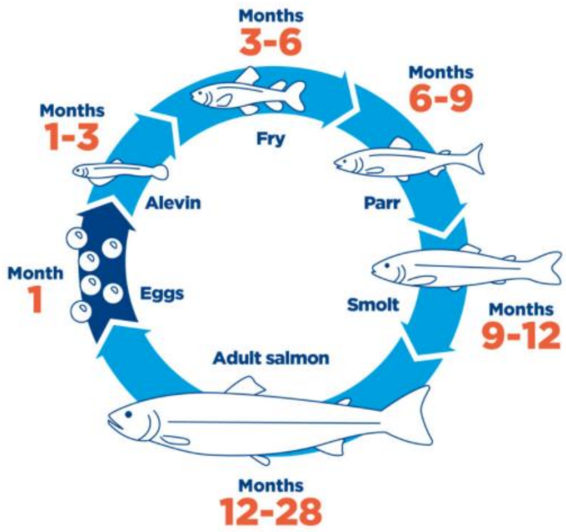


Figure 3: Production cycle

The aquaculture is known to be highly capital-intensive, as accumulating biomass in salmon farming requires extensive working capital. The goal is to reach a steady/stable production cycle involving concurrent stages of production. Throughout the 36-month production phase, the fish production costs have been incurred constantly. This applies costs associated with smolt growth at the onset, to the fish's development in seawater, and finally, to the salmon's harvest. As one generation advances to the following phase, it gets replaced by a new generation, resulting in a continuous cycle that necessitates significant working capital investments, during both steady-state production and potential expansion phases (SalMar, 2021). Hence, a rolling and never-ending process.

Furthermore, as the production cycle consists of approximately a 3-year duration, cash costs compared to generated revenue from the respective batch at the point of harvest are relatively small. Therefore, the producers get a substantial net cash flow upon harvesting. As production persists, the positive net cash flow is reinvested in working capital to generate new salmon, again highlining the necessity for significant working capital to support growth (SalMar, 2021)

4.3 Industry growth challenges

Under sub-section 4.3, we discuss the main challenges for growth in the aquaculture industry and delve into crucial factors that affect the opportunity for industry growth. Firstly, we address the importance of salmon licenses, a requirement for operating in the salmon industry. Secondly, we describe how volume constraints (MAB) have led to industry consolidation, and the major sustainability challenges affecting growth opportunities and increasing regulations. Finally, we discuss the challenges related to access to areas along the coast for salmon production, as well as access to feed, which is one of the largest barriers to growth in the industry.

4.3.1 The production licenses

Securing licenses is a crucial prerequisite, as well as the main barrier to entry, for all businesses seeking to operate within the Norwegian Atlantic salmon farming sector. The requirement for a salmon production license serves as a clear indication of the level of regulation governing the industry (Directorate of Fisheries, 2022b). In order to be awarded a license, the company must not only adhere to environmental standards and governmental ethical expectations, but also outbid the competitors.

The graph below shows the development of licenses granted by the Ministry of Trade, Industry and Fisheries. Here it is worth mentioning that the total licenses include: commercial, breed stock, education, research, development, and viewing licenses. Hence, the issuance of new licenses for salmon production has only been awarded in limited years due to sea lice challenges throughout the industry (Directorate of Fisheries, 2022b). This means that in order to develop production capacity, companies, including SalMar, are dependent on being able to acquire companies or licenses from other competitors. This is shown graphically, when SalMar made several acquisitions in 2010-2013. Furthermore, the company bought 8 green licenses in 2014 (SalMar, 2021). After this, SalMar maintained its 100 licenses in Norway but developed exciting licenses, such as Ocean Farm 1 - the world's first offshore fish farm. They have also made new acquisitions but mainly invested in geographical areas such as Iceland and Scotland, hence not included graphically.

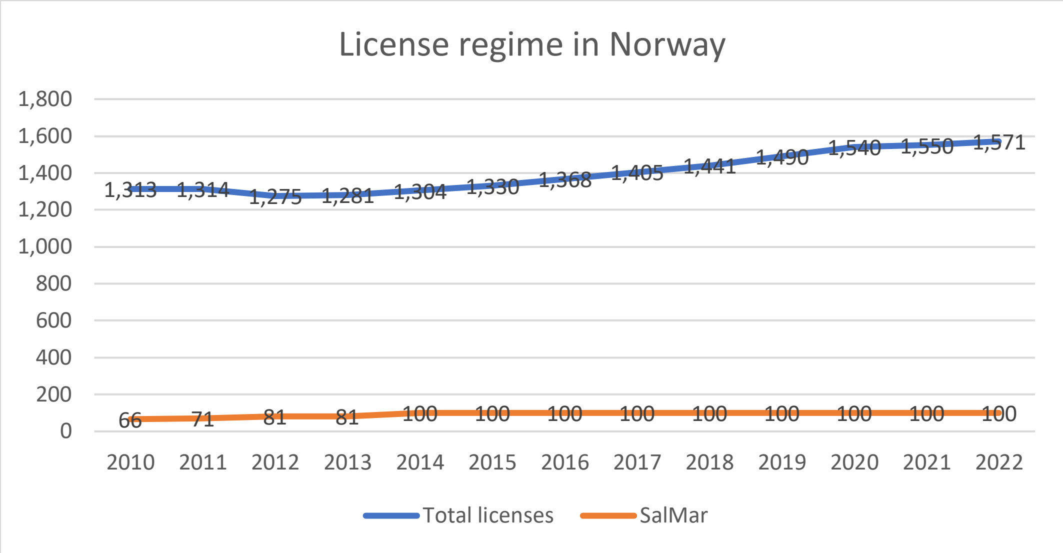


Figure 4: # licenses 2010-2022

Furthermore, the license requirement is not only a barrier to entry and a major factor in industry consolidation. It also imposes constraints on the production volume, making it challenging to produce growth for existing entities. These volume restrictions are based on Maximum Allowed Biomass (MAB), involving a maximum amount of fish a company can keep in the sea. In short, a standard permit for salmon, trout, and rainbow trout production is 780 tons. In Troms and Finnmark, however, a permit is up to 945 tons (Directorate of Fisheries, 2021).

4.3.2 Sustainability challenges in the industry

The aquaculture, like other industries, faces various sustainability challenges that vary over time, leading to the demand for Norwegian quality salmon being significantly greater than the supply. Year to date, the biggest sustainability challenges are considered to be escaped farmed salmon and salmon lice (Uglem et al., 2019). During the production process, the farmed salmon is constantly at risk of sea lice and diseases, affecting the salmon's mortality and physiology. In addition, these diseases does not only affect the farmed salmon, as it also influence the natural habitat of wild fish. The picture on the right represents the risk of salmon lice based on geographical areas in the country. The red

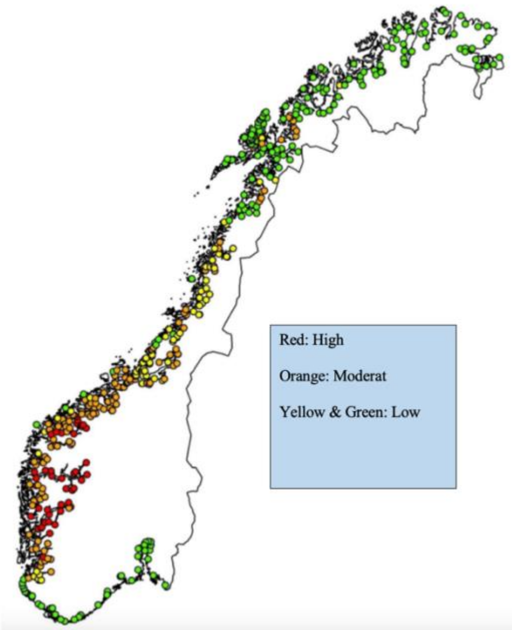


Figure 5: Salmon lice geographical representation

regions imply a high probability that salmon lice can lead to major damage to fish outside the cages.

Furthermore, emissions and particulate matter originating from farming facilities have detrimental effects on the ocean bottom and surrounding ecosystems. These harmful gases and substances result in the significant decline and mortality of benthic animals (Institute of Marine Research, 2018). Based on these challenges, the government has increased legislation and regulations, impacting the companies' monitoring, maintenance, and management practices costs. Moreover, the environmental challenges limit growth potential as the government restricts expansion to prevent increased ecological impact. As a result, the industry must find ways to grow while also reducing its environmental impact.

4.3.3 Coastline limitations

According to Nofima, the aquaculture industry is highly efficient concerning land use, with only 0.5 percent of the Norwegian sea area within the aquaculture baseline used in the sector (Andreassen, 2014).

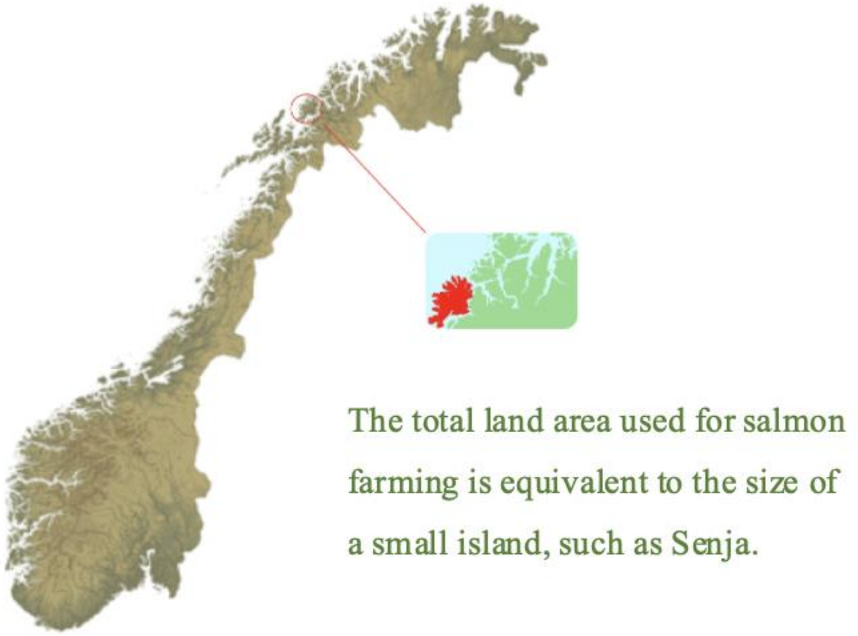


Figure 6: Geographical depiction of the total land used to salmon farming

Despite the small amount of geographical area occupied by the salmon farming industry, there are challenges related to space requirements between facilities. This is justified by the importance of having an adequate distance between plants to avoid ripple effects in the case of the spread of salmon lice. In addition, as discussed earlier, facilities lead to increased ecosystem degradation in the immediate area. Furthermore, it is not exclusively the salmon farming industry that wants the areas along the Norwegian coastline, as this is a favorable area for offshore energy production, fishing, and tourism.

Ecological factors make it demanding for the industry as they need specific oxygen levels, water flow, and temperature (SalMar, 2021). Therefore, the companies must continue to optimize the utilization of current farming locations, as it is likely that the government will only grant new areas once these environmental challenges are solved.

4.3.4 Salmon Feed Challenges: Costs, Access, and Impact

According to a new report from Bellona, 92 percent of the raw material used in the salmon feed is imported, including Soya from Brazil (Risholm et al., 2022). These raw materials are by far the largest single category within imports of aquacultural goods to Norway. Moreover, as Norwegian aquaculture continuously expands, this tendency is expected to rise persistently. For instance, from 2020 to 2021, the imports of fish feed raw materials in Norway increased by NOK 3.9 billion, an growth of almost 23 percent (Jensen, 2022). Additionally, the feed accounts for roughly 75 percent of the carbon footprint, implying that this is one of the biggest challenges for further growth in the salmon farming industry.

Figure 7: Average total cost per kg of produced salmon from 2020-2021

The salmonid feed is not only carbon-intensive but also accounts for a significant portion of the overall costs. As said, the feed production market is mainly abroad, consisting of a handful of players with increasing bargaining power. Historically, the suppliers operate using cost-plus contracts, passing the risk of raw material price fluctuations to the salmon farming companies (Marine Harvest, 2017). As the figure above represents, the salmonid feed comprises about 35-40 percent of the total costs for salmon farmers, indicating a substantial risk to any rise in raw material price.

Fish oil and fish meal are essential for salmonid feed, and over the past decade, these goods have seen a noticeable increase in price (Dahl, 2022). Due to the scarcity of these resources, sustainable alternatives are constantly under development. Skretting, the world's biggest salmonid feed producer, reached a significant milestone in 2016 when they developed salmonid feed without fish meal, without compromising neither fish welfare nor growth (Skretting, 2016). This indicates that the industry takes social responsibility seriously, as well as trying to mitigate the risk of increased production costs in the future. Hence, when making assumptions regarding perpetual production costs, SalMar will unlikely experience abnormal fluctuations in associated costs.

4.3.5 Effects of the Resource Rent Tax on Industry Growth

As mentioned in Section 3.0, the resource rent tax in aquaculture shares similarities with cash flow taxes in both the wind power and petroleum industries. However, for a cash flow tax to be advantageous to the stakeholders, substantial investments should be made in the initial year. These investments typically include expenditures on equipment and technical installations that serve as the foundation for operations. This scenario is similar to what is observed in the hydropower and petroleum industry. Unlike these industries, the aquaculture does not involve large tax-deductible investments in the first year, except for some production licenses in 2018 and 2020 (SalMar, 2022a). In addition, an intriguing aspect to consider is that the most significant future investments for the aquaculture industry will actually be on land. Investments in hatcheries, slaughterhouses, and processing facilities occur on land, not at sea, and are therefore not covered by the proposed resource rent tax in the consultation document.

Regarding our valuation object, the challenges are evident in practice. The relatively new traffic light system allowed SalMar to extend its production capacity with 1 223 tons of Atlantic salmon at the end of 2022. The license would cost them roughly 250 million kroner, but they canceled the purchase due to the resource rent tax. The decision came with the following message from SalMar; *"If the proposals were to be adopted, there would be major consequences for the company's investment decisions and capital allocation in the future." (Knudsen, 2022).*

Furthermore, another leading player in the industry, Lerøy Seafood, gave a graphical representation of how the resource rent tax influences the investment degree (Lerøy, 2023). This peer is a significant benchmark for us; therefore, the data on future investments are valuable and insightful for our projections and also representative of our company's trajectory.

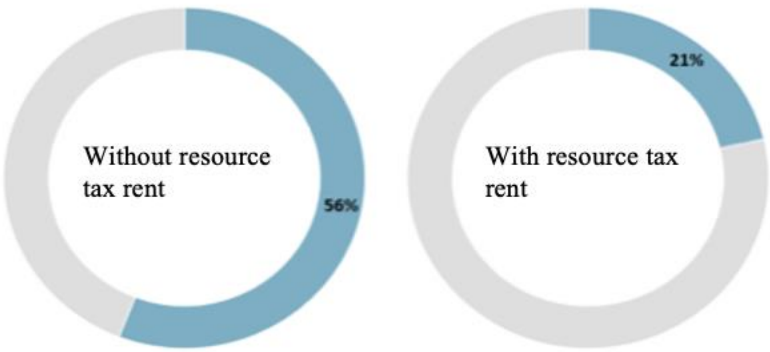


Figure 8: Reinvestable share of profit before tax with and without resource rent tax.

In conclusion, the resource rent taxation will significantly impact the industry's prospects, as it introduces an additional tax burden of 35 percent, regardless of various deductible expenses. However, we believe that the industry is taking action to mitigate the tax proposal by voicing its concerns through protest (i.e., SalMar withdrawing from license purchases). It is highly probable that once the resource rent tax is implemented, companies will still manage to sustain a high level of investment and, as a result, meet the increasing demand for Norwegian salmon.

4.4 Industry Growth

This subsection explores some potential factors influencing the future expansion of the salmon farming industry. The discussion mainly focuses on the traffic-light system and the development licenses from 2015. Both aim to address environmental challenges while promoting sustainable growth and technological advancements within the sector.

4.4.1 Traffic-light system

As a direct action towards reversing the negative trend of increased salmon lice, the Ministry of Industry and Fisheries introduced the capacity adjustment/traffic-light system in 2017. The system continuously monitors the salmon lice's presence and the corresponding environmental impact. The system divides the Norwegian coastline into 13 distinct geographical production regions. Each year, these regions are given a color code consisting of green, yellow, or red, which further dictates a biomass limit based on the prevalence of salmon lice within the area (Fagerbakke, 2020).

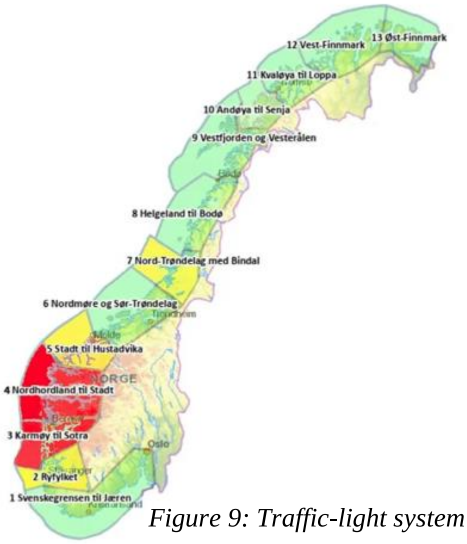


Figure 9: Traffic-light system 2022

The companies operating in a green zone are allowed to increase their production volume by 2 percent, with an additional 6 percent growth opportunity, if they meet stringent sustainability criteria. In the case of yellow light, the government may refrain from adjusting capacity. Lastly, if the zone is given a red light, the authorities can reduce the total MTB production by up to 6 percent under distinctive conditions. Additionally, if a production zone is given an MTB reduction of 6 percent, the authority will reduce the production volume in all future years (Directorate of Fisheries, 2022a)

The traffic light system, which relies on the prevalence of salmon lice in a given area, introduces an element of uncertainty regarding future industry prospects. This uncertainty arises because predicting and tracking salmon lice levels is challenging, and these levels can vary significantly over time. That being said, it also provides increased incentives in the industry to increase investments in new technology to prevent salmon lice. Therefore, it is hard to determine whether the traffic light system is an advantage and creates predictability, or whether it reduces the industry's optimal development. The image depicts the outcomes of the traffic light system's determinations for production volumes in 2022 across 13 distinct areas. Eight areas received a green light, three were assigned a yellow light, and the final two were given a red light. Collectively, these decisions resulted in an overall increase of over 21,000 metric tons of Atlantic salmon production in 2022.

4.4.2 Development licenses

To encourage a higher degree of investment in technological advancements, the Norwegian government introduced a new category of licenses in 2015. The goal is to minimize sustainability challenges. This is achieved through incentives for increased technological development within prototypes and test facilities, installation of new equipment, and conducting full-scale sample production. These initiatives aim to address and mitigate sustainability concerns. Furthermore, according to the Directorate of Fisheries, innovations resulting from these projects must be shared for the collective advantage of the entire industry (Directorate of Fisheries, 2015). This suggests that Norwegian salmon farming companies will likely experience enhanced competitiveness in the coming years. As the leading players in the industry collaborate to address shared challenges along the Norwegian coast, the global standing of these companies is poised to improve.

4.5 Supply

4.5.1 Global supply of farmed salmon

Salmon, as the primary source of animal protein, has experienced remarkable growth in the last years. From 1995 and 2022, the supply had an annual growth of 8% and 6% over the past 10 years (Kristiansen & Nilsson, 2023). Looking closer at the numbers, it is a noticeable trend where the annual growth rate is declining. In 2017 the total supply of farmed Atlantic salmon was 2,293 million tonnes. Since then, the amount of gutted weighted tons (GWT) has increased with a CAGR (compound annual growth rate) of 3.79%, giving 2,866 million GWT in 2022 (Kristiansen & Nilsson, 2023) . This indicates a reduced growth rate of over 50% compared with previous years.

The figure below shows the global GWT development alongside the two key nations – Norway and Chile.

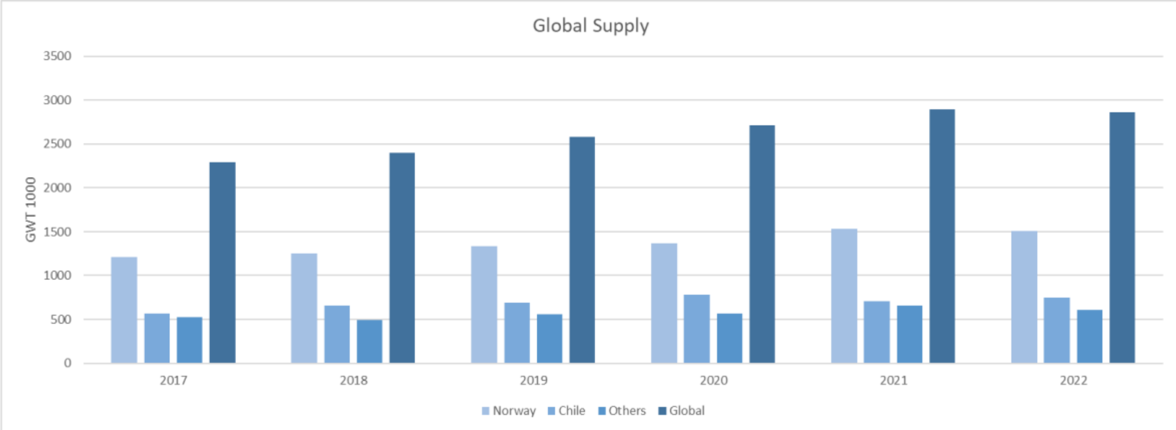


Figure 10: Global supply in gutted weighted tonn

An explanation for the reduced growth prospects is the limitations in license and environmental factors, as discussed in previous sections. These regulations impose restrictions on the company's potential supply, and it might become a reality that companies must focus more on environmental impact than before. However, the market is still expected to grow to meet the increasing demand and has an expected value of $76,145.3 million in 2028, which equals a CAGR of 3.7% in 2021-2028 (Markets, 2021).

From the table above, we can also observe Norway as the top country and primary source of salmon, with a market share of 52.7% in 2022. Due to country-specific factors, Norway has had a sizeable competitive advantage with natural resources suitable for farming. With conditions such as temperature, deep fjords and high levels of oxygen in the water. These factors give companies based in Norway superior natural resources compared to other countries. This might explain the industry's extraordinary profit, which is now under review.

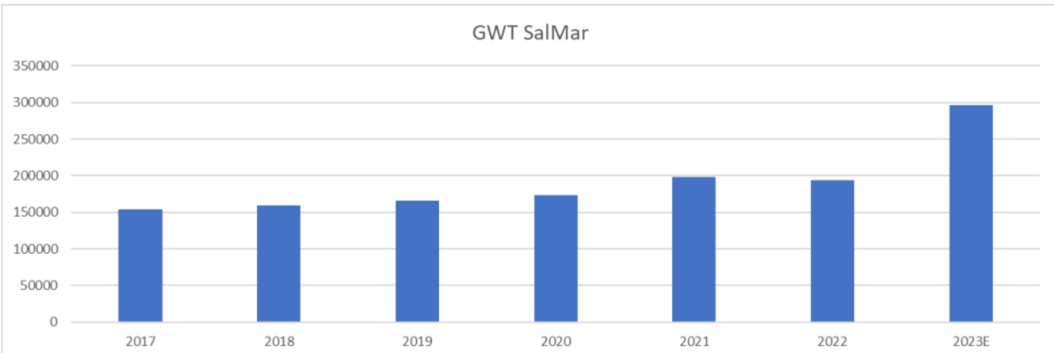


Figure 11: SalMar supply in gutted weighted tonn

Observing the supply volume from SalMar, the company obtained a CAGR of 3.9% in the period 2017-2022, almost identical to the Norwegian market with a CAGR of 3.8%. This implies that it can be challenging to have organic growth above the market due to the many restrictions mentioned in the previous section. Indicating that future organic growth will primarily come from technological improvements, which can help SalMar exploit its current license's full potential. In addition, growth can emerge from consolidation. This factor is highly relevant, as SalMar is a financially strong company and has made several acquisitions in the past. The most recent was the acquisition of NTS, which was consolidated into SalMar in November 2022. Due to this, SalMar has a volume guidance of 296,000 tonnes in 2023, which implies an outperforming of the market significantly, with a supply growth from 2022-2023 of 52.8%.

Based on historical data, strict requirements, and market information we assume that Norway will follow the projected industry growth of 3.7% in the long term. The growth of SalMar on the other hand will be discussed more in details later.

4.6 Demand

In this section, we will analyze historical demands and look at important factors that might influence future demand for salmon.

Observing the stock price for Oslo Seafood Index, it is clear that the industry has had extraordinary growth in the last years, as reflected in the price increase for the index (Oslo Stock Exchange Benchmark, 2023). During our examination of the aquaculture industry, we found that the companies' objectives have generally been to reduce mortality and increase overall volume and profit. Excessive supply, conversely, is not reported, implicating that the demand is still more potent than the supply.

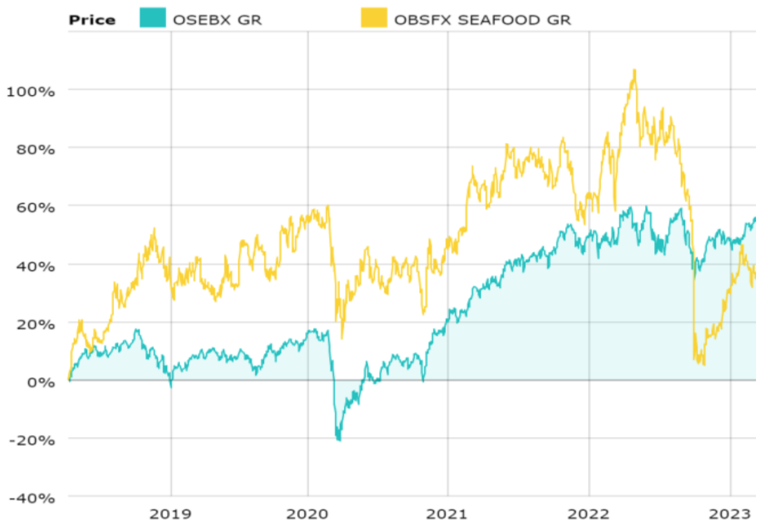


Figure 12: OBSFX Seafood GR

The graph above illustrates the market response to the news of the resource rent tax proposal, dramatically reducing the value of the seafood sector. However, the demand is proven to be resilient. Throughout history, there have been several macro challenges to overcome. Recently, we have experienced significant events, such as the pandemic and the conflict in Ukraine. Even though these events impact the market in the short term, the demand is still strong. Additionally, companies have the ability to move products to a different market when necessary due to the strong global demand. As the graphs below indicate, the volume of export has remained strong through many years of adversity (Seafood, 2023):

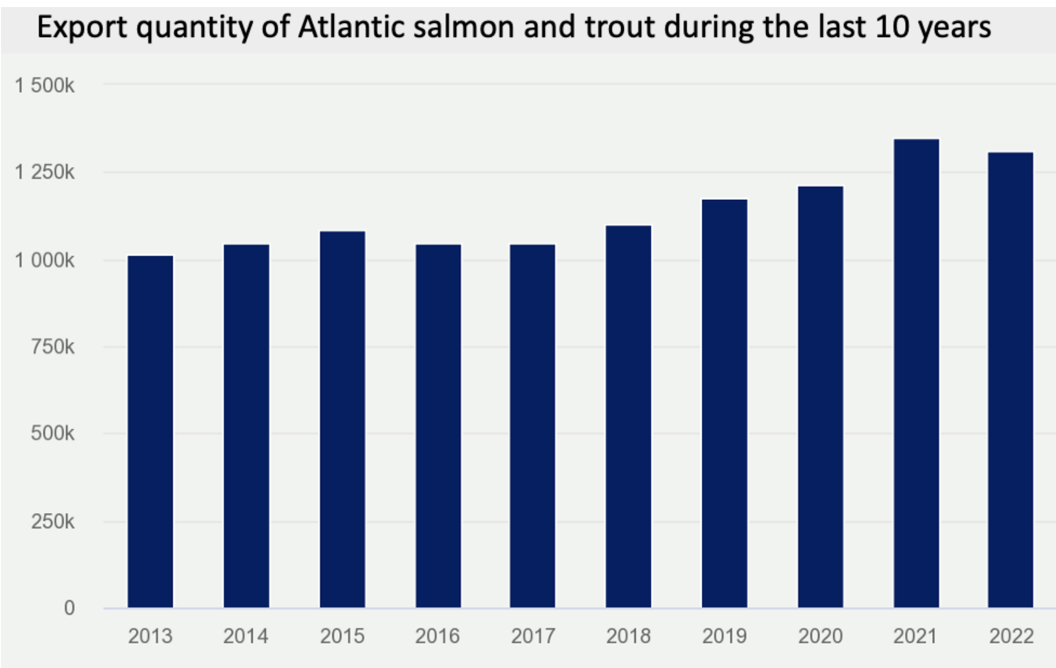


Figure 13: Historical export of Atlantic Salmon

Norway had a seafood export value of NOK 151.4 billion in 2022, an all-time high, and doubled the amount of export Norway had in 2015. In addition, that is an increase of 25% from 2021, also a record year for export value (Aandahl & Brækkan, 2023). Expressing a resilient demand even with high uncertainty in the general economy with decreased purchasing power, inflation, and high energy prices. However, the impressive growth in 2022 is not due to increased volume. The supply decreased by 2% (Aandahl & Brækkan, 2023). The main reason was a historically high price due to restricted supply and increasing demand.

If we look closer at the export, salmon was 70% of the fish exported. Furthermore, Norway exports salmon to 149 different markets, with USA, Polen, and France are the three major markets. The USA and China are the two most significant growth markets, with an increase of 46 and 45 percent. The increasing interested in Norwegian salmon strengthens the demand resilience in volatile times.

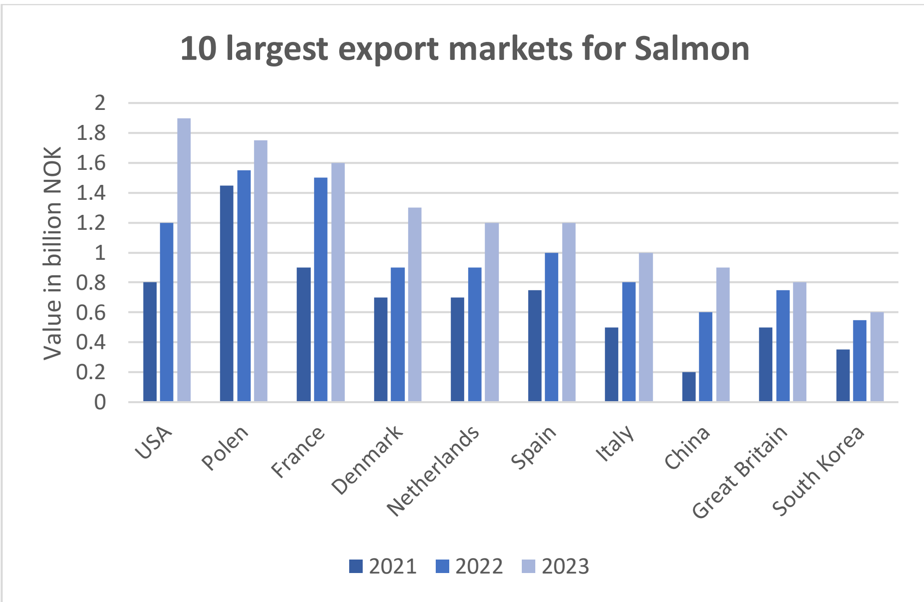


Figure 14: 10 largest export markets for salmon

In terms of future demand, several factors suggest an increase in growth going forward. The Food and Agriculture Organization of the UN (FAO) predicts a population of 9.8 billion in 2050, with a projected demand increase for animal-based foods of 70%. In addition, if we look at historical data, the global growth in fish consumption has been twice as high as population growth since 1961 (FAO, 2020). Furthermore, the value of salmon has increased with 120% from 2012, while the volume has increased with 45% in the same period. Illustrating a strong underlying demand (Mowi, 2022b).

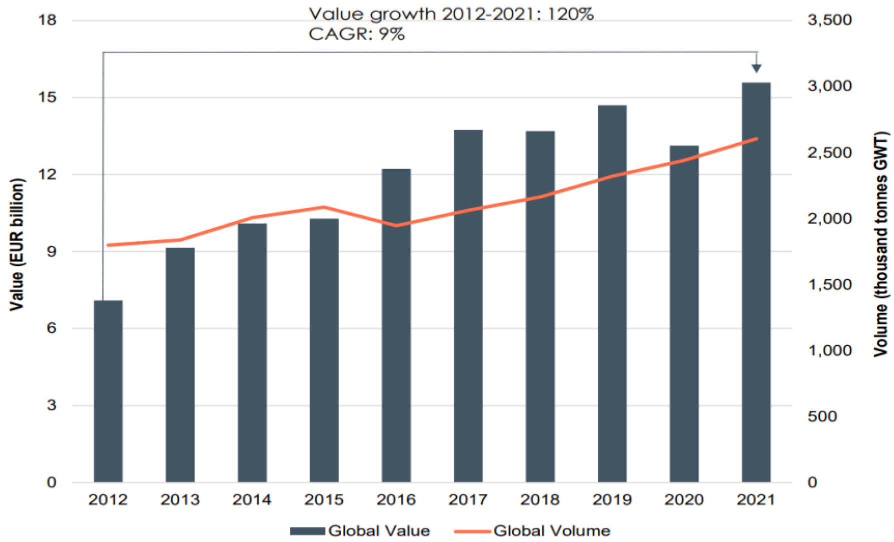


Figure 15: Value of salmon 2012-2021

Thus, to meet future demand, increasing farmed salmon production is necessary. However, the requirements for environmental measures are more in focus than ever and inflict challenges for countries and companies. Handling new requirements for production will be essential for companies to maximize their production potential and meet the growing demand.

4.7 The salmon price

As mentioned in previous sections, Atlantic salmon has a solid underlying demand with expected future growth. Increasing population and consumer preference towards animal-based proteins are some of the arguments mentioned. Simultaneously biological factors, geographical advantages, regulations, and financial barriers also reduce potential competition, which is one of the explanations for the industry super profit (Kristiansen & Nilsson, 2023). The high demand and barriers to entry indicate that years with lower supply growth will increase the price. Looking at the historical data for supply and price, we can see a negative correlation between supply and price. Furthermore, the many challenges with farming results in high volatility, as the graph below illustrates. Fundamentally, price is driven by supply.

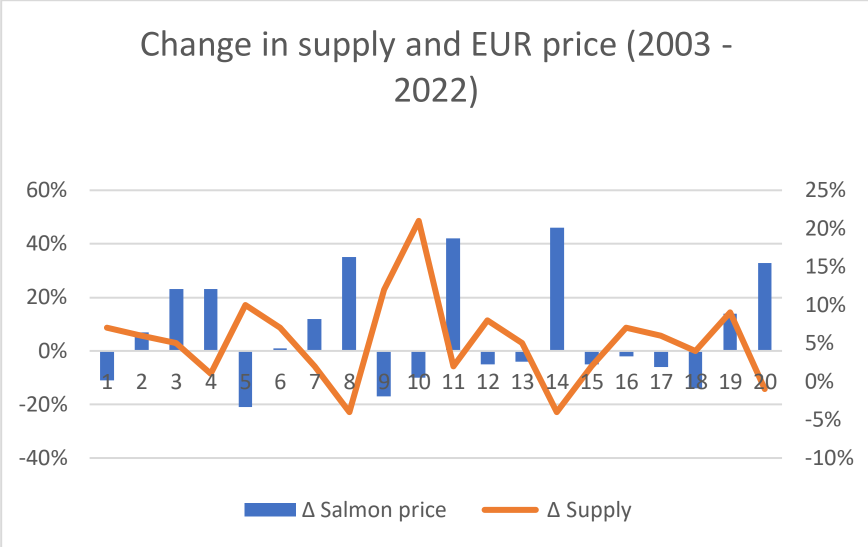


Figure 16: Supply versus EUR price

Further analysing the graph above we observe that years with reduced supply due to factors such as sea lies immediately increase the prices. Excess supply will, on the other hand, reduce the price. The industry experiences seasonal effects in the sea water temperature, which either decreases or increases the production time. To sum up, the aquaculture is an industry with high historical price deviation and it is reasonable to assume that this will continue in the future.

Therefore, we performed a linear regression to determine which exogenous variables that significantly influence the salmon price. First and foremost, the linear regression of change in price versus change in supply gave highly significant results, with an explanatory power of approximately 50 percent. However, an interesting point was that the explanatory power had changed drastically over time. Across the interval, 2003-2011, the change in supply explained 79.7% of the change in price. Conversely, during 2012-2022, it explained only 30.1%, indicating a negative trend in R-squared. Hence, if we had used the regression results from 2003-2011 when calculating the price change in, for instance 2021, we would underestimate the price change by 22%.

	Supply	Supply and Global GDP
Mutiple R	0.71	0.75
R-Squared	0.50	0.57
Adj, R-Squared	0.47	0.52
Standard error	0.15	0.14
Observations	20	20
Coefficients/P-values		
Intercept	20/0.0002	13/0.0556
Global supply	-2.55/0.0004	-2,61/0.0002
Global GDP	N/A	2.65/0.1231

Figure 17: Statistics from linear regression for salmon prices using supply and supply with global GDP.

Furthermore, we utilize the change in global purchasing power when representing the change in global GDP. We know that global purchasing power is a prominent factor in the demand for salmon. During 2003-2011, the average global GDP growth was 3.2%, but later during 2012-2022, it fell to an average of 2.7%. When we included this parameter in the regression, as shown in the table above, the linear regression had an increased 5% explanatory power. That being said, when examining the p-value, we observe a relatively high value of approximately 12%, revealing a somewhat weak relationship, as we prefer 5% or lower. However, including the variable is reasonable as it brings the demand aspect into the model.

Ultimately, we got the following regression results:

$$Regression = 13 - (2.61 * change\ in\ supply) + (2.65 * change\ in\ GDP)$$

Using our calculated model, we could, for instance, predict zero price change if we assumed a 3% growth in global GDP and 8% supply growth. For 2022, our prediction would be a price increase of around 23%, whereas a model using supply growth exclusively would estimate an increase of 14.63%. Despite this, the prices of farmed Atlantic Salmon increased by 33.9% in 2022 due to several macroeconomic factors. For instance, the spike in demand after the Covid-19 pandemic, where the low price, combined with record-high volumes, made salmon accessible to a broader range of consumers, stimulating demand (Egeness & Dahl, 2022). In addition, we see significant geopolitical challenges in Eastern Europe, consequentially increasing the salmon price even more (Berge, 2022)

According to our model, we predict a price increase of 3% in 2023 based on an increase in the supply of 3.7%, as discussed under subsection 4.5 Supply, and GDP growth of 0.1%. The latter is an unusual estimate due to years with significantly high-interest rates, but this will be further elaborated on during our price forecast later in the thesis.

5.0 Financial analysis

Reformulating the income statement and balance sheet serves as a crucial initial step when assessing the company's financial position through the calculation and comparison of financial ratios with its peers (Andreassen, 2014). This process enables a comprehensive evaluation of key financial indicators and provides valuable insights into the company's performance relative to industry benchmarks and competitors (Andreassen, 2014). This requires differentiating between SalMar's operating, investing, and financial activities, which consequentially gives a clear picture of the primary driving force behind the company's value creation (Christian Petersen et al., 2017, p.107). Utilizing previous annual reports can offer significant historical insight into a company's financial standing and trajectory. By evaluating key value drivers and their historical performance, we can gain a better comprehension and foundation to make a reliable projection of future cash flow.

In order to provide an accurate financial analysis, it is vital to assess the accounting quality and ensure that the accounting figures are suitable for analysis. The reliability of accounting quality is determined by adherence to established accounting standards, which are applicable to all financial statements. To prepare the accounting figures for analysis, we differentiate between operating and financial items to provide an accurate and unbiased representation of the analytical income statement and balance sheet (Christian Petersen et al., 2017, p.108). That being said, the distinction between operating and financial items is not always as straightforward; hence, some assumptions will be conducted and discussed during the next section.

Towards the conclusion of this section, we will evaluate the company's past performance by utilizing various key ratios related to risk, profitability, and liquidity. This includes ROIC, ROE, EBIT/kg, CCC, Financial leverage, and current- and solvency ratio. The primary objective of this shareholder and investor-oriented analysis is to estimate SalMar's value and future equity earnings.

5.1 Reformulated Income statement (Analytical I/S)

In order to reformulate financial statements for further analysis, it is appropriate to isolate operational and financial items in the income statement and balance sheet. Subsequently, we will explore, in-depth, the items that lack clear classification as either financial or operational, as well as the items that require additional clarification. See Appendix 1 for the complete reformulated income statement.

Revenue from associated companies

According to the annual report for 2021, the associated companies of SalMar include entities where the firm holds between 20% and 50% of the voting rights (SalMar, 2021). Thus, they possess significant influenceability but are not under complete control. Furthermore, these affiliated companies are categorized within the aquaculture industry, which is viewed as a part of SalMar's primary operations and business. Consequently, they are included in the operating income and the invested capital.

Taxes

In SalMar's annual report, the presented income statement does not differentiate between taxes on operations and financial items. Hence, the analyst must perform these tax estimations based on subjective assumptions (Christian Petersen et al., 2017, p.131) When calculating the tax shield, we have decided to utilize the Norwegian marginal tax rate for the respective year due to significant fluctuations in the effective tax rate. In short, if we base our NOPAT calculation on the effective tax rate, we could potentially obtain inaccurate results. To determine the tax shield, the net financial items are multiplied by the marginal tax rate. Similarly, the tax on special items is calculated by multiplying their total amount by the marginal tax rate. Finally, to calculate the tax on operations, the reported corporate tax is reduced by the tax shield and tax on special items.

Fair value adjustment (biomass)

As per IAS 41, the companies operating in the aquaculture industry must perform biomass adjustments to fair value (Accounts examples, 2017). As a result, they can determine the value of living fish in the sea, including the estimated worth of salmon at and above harvest size. The value adjustment tends to be high and positive during years with high salmon prices and vice versa during low salmon price years, indicating that the volatility in biomass does not result in permanent revenue or costs. Therefore, it is excluded from core operations and not considered in the forecast.

5.2 Reformulated Balance sheet (Analytical BS)

In order to achieve an accurate estimation of SalMar's future key performance indications and conduct a valuation using present value methods (DCF), we need to calculate the net debt and the invested capital. That is why we reformulated the balance sheet, which mainly involves segregating assets and liabilities into financial or operational (Christian Petersen et al., 2017, p.114). It is crucial to classify financial and operational activities similarly in the balance sheet and the income statement. The combined investment in the company's operational activities is referred to as net operating assets, which is the difference between operating assets and operating liabilities (Christian Petersen et al., 2017, p.126). Some important factors that need to be allocated appropriately are elaborated further below. See Appendix 2 for the complete reformulated balance sheet.

Investment in associates

Taking into account the same reasoning presented in the restructuring of the income statement and the fact that items should be classified consistently across the income statement and balance sheet - we consider this item as operational.

Investments in shares and other securities

Considered to be interest bearing, thus assumed to be a financial activity.

Other current liabilities

Items such as provisions, derivatives, and accrued holiday pay are included under other short-term liabilities. They are assumed to be operational and not interest-bearing.

Cash and cash equivalents

Distinguishing between excess cash and operating cash can often be challenging. Entities often use operating cash to finance upcoming investments, unforeseen bills, and build up inventories. However, in the annual report of SalMar, there is no clear information regarding the use of cash and cash equivalents. This item has been relatively stable in recent years, which may indicate excess cash. In 2021, the unrestricted funds increased significantly, but due to limited information, we still consider this as a financial item.

5.3 Profitability analysis

One of the essential aspects of financial analysis is to estimate a company's profitability. This is crucial for the company's long-term viability and for providing satisfactory returns to its shareholders (Christian Petersen et al., 2017, p.144) In this section of the analysis, we will closely examine SalMar's profitability. According to Petersen et al. 2017, historical profitability is a major element in defining the future expectations of the firm, hence something we will analyze in-depth. Furthermore, they pinpoint the importance of measuring profit against past performance, as well as peers' performance, in order to achieve a better understanding of the company's profitability.

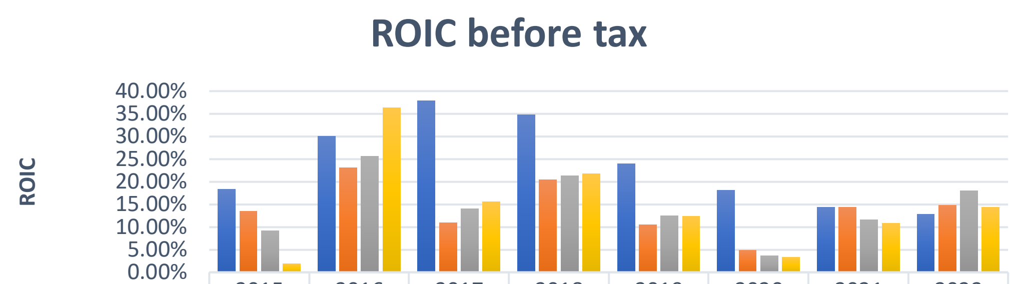
5.3.1 Return on invested capital (ROIC)

ROIC, or return on invested capital, is a financial ratio that measures how efficiently a company uses its capital to generate profits. When comparing the ROIC of SalMar to its peers, it is important to note that we are looking at ROIC before tax, hence calculating it using EBIT (earnings before interest and taxes) instead of NOPAT (net operating profit after taxes). The formula for return on invested capital before tax is shown below:

$$ROIC = \frac{EBIT}{Invested\ capital} * 100$$

Formula 1: ROIC (Petersen et al., 2017)

This is performed since the resource rent tax can significantly impact the outcome of ROIC after tax. For that reason, using EBIT gives a more informative picture of the company's future profitability since the tax situation will change drastically for the industry. Additionally, in the cross-sectional analysis below, where companies are exposed to different tax rates across countries, calculating ROIC before tax can provide a more accurate comparison.
By comparing SalMar's ROIC to that of its peers, we can gain insights into how effectively SalMar is utilizing its capital and how it stacks up against industry competitors.



	2015	2016	2017	2018	2019	2020	2021	2022
SalMar	18.39%	30.06%	37.92%	34.81%	24.01%	18.14%	14.38%	12.80%
Lerøy	13.53%	23.05%	10.91%	20.43%	10.55%	4.90%	14.35%	14.86%
Marine Harvest	9.19%	25.65%	14.02%	21.31%	12.48%	3.64%	11.61%	17.97%
Grieg Seafood	1.93%	36.32%	15.59%	21.72%	12.35%	3.36%	10.85%	14.42%

Figure 18: Comparison of ROIC before tax with industry peers

SalMar has recent years, claimed they are the most efficient producer of farmed salmon. This statement is generally aligned with the ROIC performance during the analytical period, where they performed better overall than their peers. That being said, we have only included the three main competitors of SalMar. Hence, some smaller aquaculture players could accomplish better results.

Furthermore, there is a second way to determine whether SalMar's ROIC is satisfactory. This approach involves comparing the ROIC with the average return required by both owners and creditors, namely the WACC. Suppose a company generates returns that exceed the return requirement. In that case, it produces a surplus called EVA (Economic Value Added), sometimes referred to as super profits by investors (Christian Petersen et al., 2017, p.144). This is the case for SalMar throughout the whole analyzed period. Here it is worth mentioning that we compare the past ROIC performance with the WACC, which does not include the resource rent tax. Nevertheless, as graphically illustrated below, SalMar has maintained an ROIC higher than the required rate of return for the last 7 years. This is valuable information when, later in the thesis, we will make predictions regarding future value creation. Moreover, when making assumptions about a perpetual growth rate, which, if it is positive, implicitly tells us that SalMar maintains an ROIC > WACC perpetually.

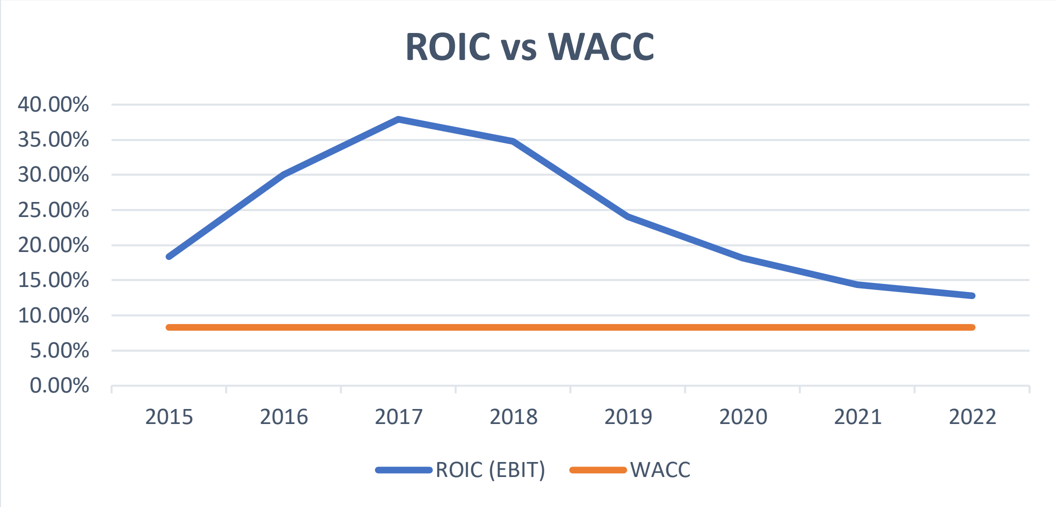


Figure 19: ROIC before tax compared with SalMar´s WACC.

Furthermore, figure 19 illustrates that the ROIC before tax declined steadily from 2017 to 2022. However, this pattern has influenced the whole industry, as observed in figure 18, and comes from various reasons. Firstly, we have seen that salmon price has a strong correlation with the ROIC of all companies in the industry, which according to Ilaks, has declined from 2017-2021 (Berge, 2022). Despite this, 2022 has set a new record for the price of Atlantic salmon, with an average price that is roughly 20 kroner higher than the previous highest price in 2016. Secondly, during 2017-2021 SalMar met some biological challenges leading to increase production costs and, hence, lower ROIC. Thirdly, since 2018, SalMar has had increasing issues regarding unwanted salmon lice. Salmon lice can impair the quality of the salmon's flesh and can, in the worst cases, lead to disease and death; hence, it has decreased the ROIC of SalMar (SalMar, 2019).

5.3.2 ROE

During the ROIC measurements, we examined that SalMar can obtain satisfactory operating profitability. However, this section emphasizes assessing the effect of financial leverage on profitability, which we will do by computing the ROE (return on equity). The formula used during ROE calculation is as follows:

$$ROE = \frac{Net\ profit\ after\ tax}{Book\ value\ of\ equity} * 100$$

Formula 2: ROE (Petersen et al., 2017)

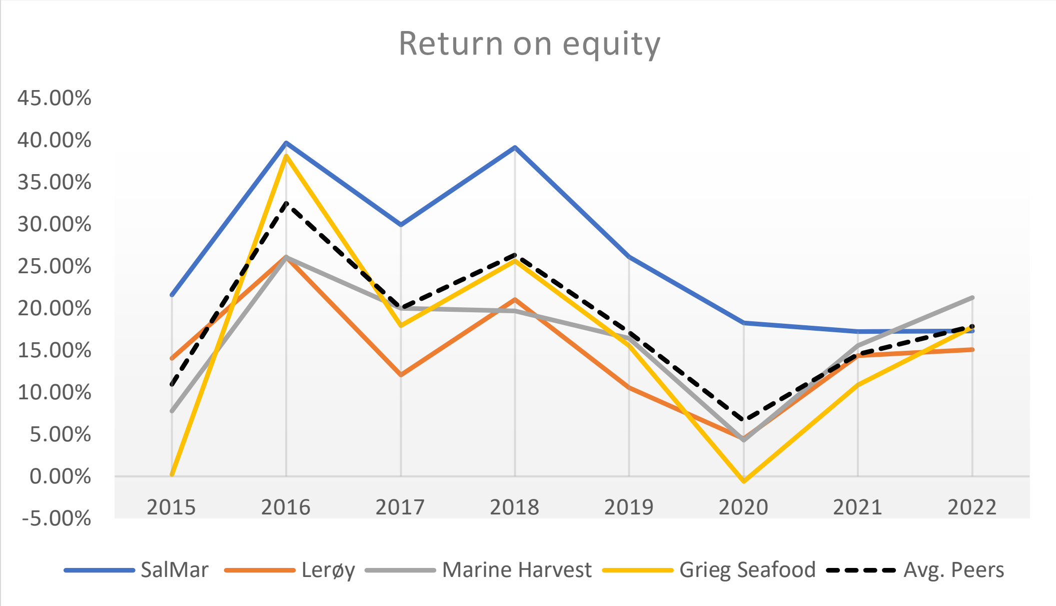


Figure 20: ROE comparison with competitors and industry average

As figure 20 shows, the pattern of ROIC and ROE are somewhat homogeneous, with the exception of 2017, accordingly due to a massive change in real value adjustments. In 2016 the adjustments led to an increased result of NOK 654 million. Similarly, the corresponding adjustment in 2017 decreased the result by NOK 370 million, making a net difference of approximately NOK 1000 million. Consequentially, the changes in the real value adjustment of biomass have contributed negatively to the net earnings, mainly explained by a decrease in price expectations at the end of 2017 compared to the beginning of 2017. Despite this, the impact was felt throughout the industry, resulting in a relatively lower calculated average return on equity (ROE) in 2017 as compared to the return on invested capital (ROIC) for all comparable firms.

Furthermore, SalMar performed the best ROE during the analyzed period because of its lack of exposure to Chile and competitive cost efficiency. The former, as discussed earlier, is known for low profitability and influences the ROE for companies highly exposed to this market. In addition, despite an increase in salmon prices, the trend is declining for the entire industry. This is worrisome, especially for SalMar, as their decline is more significant than some of their competitors.

As an additional insight for our forecasting later in the thesis, we analyzed the financial gearing (FGEAR) effect. As a first step, we calculate the "interest margin" or "spread," which is the difference between Net borrowing cost (NBC) and the ROIC. This indicator, generally speaking, shows if a company should increase or decrease its financial leverage. If the difference is positive, an increase in financial leverage will increase SalMar's ROE.

Spread before tax								
	2015	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***
ROIC	14,93%	24,14%	30,25%	28,22%	19,34%	14,16%	11,34%	12,80%
NBC	-2,79%	-0,96%	-9,01%	-5,39%	0,11%	-4,00%	-2,24%	-2,23%
Spread	**17,72%**	**25,10%**	**39,26%**	**33,62%**	**19,22%**	**18,16%**	**13,58%**	**15,03%**

Figure 21: Spread calculations

The table above reveals that the spread has been positive throughout the period, meaning the leverage has created value. Additionally, we observe that ROIC is the primary variable making the spread positive. Ultimately, this tells us that increasing the financial leverage would improve SalMar's ROE.

Furthermore, as a second step, we calculate the financial leverage utilizing the following formula:

$$Financial\ leverage = \frac{Net\ interest\ bearing\ liabilities}{Book\ value\ of\ equity} * 100$$

Figure 3: Financial leverage (Petersen et al., 2017)

The FGEAR shows us how much of SalMar's activities are funded by the equity holders compared to creditors. This is valuable insight as it gives us a pinpoint on the company's vulnerability, especially in periods of financial distress. Generally, if the spread is negative, they should decrease the FGEAR. In our case, SalMar has obtained a positive spread and corresponding FGEAR during the whole analytical period, implying that the returns on the investments exceed the cost of the borrowed funds - conclusively increasing the ROE.

Financial leverage								
	2015	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***
NIBD	2 627 809	2 364 166	1 222 141	1 527 316	3 531 251	5 825 838	5 535 844	14 617 960
BVE	5 227 040	6 680 833	7 668 128	9 139 843	9 740 101	10 986 902	15 483 176	24 154 763
FGEAR	**50,27%**	**35,39%**	**15,94%**	**16,71%**	**36,25%**	**53,03%**	**35,75%**	**60,52%**

Figure 22: FGEAR calculation

5.3.3 EBIT/kg

The financial metric EBIT/kg is frequently used in the aquaculture industry because it provides a clear indication of a company's operational profit per kilogram of harvested salmon. This ratio is a reliable measure of the profitability of salmon production. Moreover, analysts on the Oslo Stock Exchange commonly use it as a valuation multiple; thus, we have conducted a graphical representation of the EBIT/kg parameter for the four largest competitors. The formula used is the following:

$$EBIT/kg = \frac{EBIT}{Harvested\ volum\ (GWT)} * 100$$

Formula 4: EBIT/kg (Nordnet, 2014)

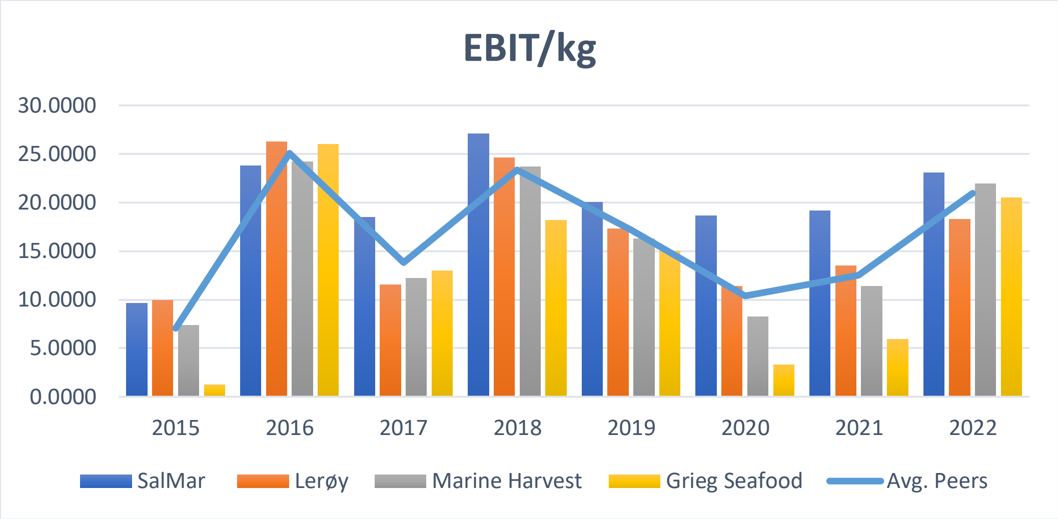


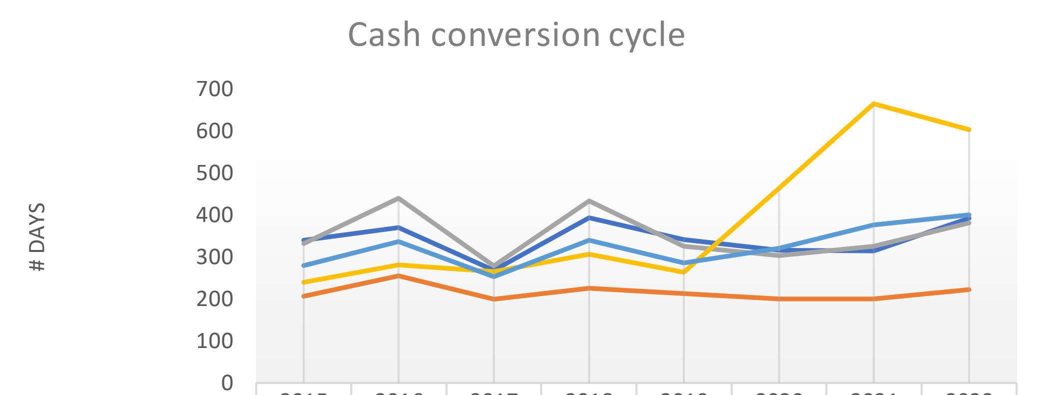
Figure 23: EBIT/kg, annual reports 2015-2022

As previously mentioned during the market analysis, there is restricted resource access in the Norwegian aquaculture industry, resulting in production stagnation since 2012. Therefore, being cost-effective is essential and an aspect that SalMar values highly. Our graph demonstrates that, with the exception of 2016, SalMar has consistently outperformed its main competitors in terms of the EBIT/kg parameter. This trend has been observed consistently throughout our profitability analysis, indicating that SalMar excels in terms of cost-effectiveness and value creation when compared to its competitors. Moreover, it has come to our attention that there is a distinct correlation between the EBIT/kg metric and the price of salmon. This relationship has led to a decline in the parameter since 2016. However, this year has a notable increase in the EBIT/kg metric, primarily due to the establishment of new price records in the salmon market.

5.4 Liquidity analysis

When we analyze the liquidity situation for SalMar, we divide it into short-term and long-term liquidity risks, which are crucial for any company. Inadequate liquidity can complicate a firm's ability to meet its financial liabilities, consequently missing out on positive NPV projects and profitable business opportunities. In the worst case, being illiquid and, at the same time, not possessing sufficient cash-convertible assets will result in insolvency and ultimately bankruptcy. The short-term liquidity analysis assesses whether a company can fulfill its immediate obligations as they become due. On the other hand, the long-term liquidity risk analysis, also known as solvency risk, evaluates a company's capability to meet all future obligations. However, first of all, we will evaluate the cash conversion cycle, which is a metric expressing the length of time (in days) it takes for SalMar to convert its investments in inventory and other resources into cash flows from sales.

5.1.1 Cash conversion cycle (CCC)



	2015	2016	2017	2018	2019	2020	2021	2022
SalMar	340	370	268	394	341	316	314	393
Lerøy	207	255	200	226	213	200	201	223
Marine Harvest	332	440	279	434	326	304	326	382
Grieg Seafood	240	282	266	306	264	464	665	604
Avg. Peers	279	337	253	340	286	321	377	401

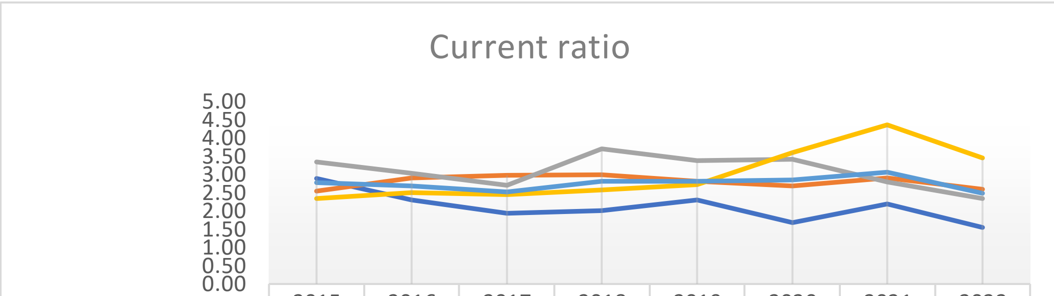
Figure 24: CCC industry comparison

In order to improve a company's cash flow, it should strive to shorten the cash conversion cycle. One way to achieve this is by tightening control over inventory and receivables or securing additional credit from suppliers. Comparing SalMar's cycle with the industry peers, it has been relatively steady with no significant outliners. Nonetheless, during 2015-2019, SalMar has experienced a higher CCC compared to the industry average, indicating a definite potential for improvement.

However, from 2020-2021, the company has successfully reduced its liquidity cycle compared to the average of its peers, thereby achieving a more favorable position. Furthermore, in 2022, they unfortunately reversed the trend and achieved the second highest CCC during the analytical period, but it is worth noting that this is a common trend among the comparable companies. An CCC improvement ensures that SalMar can lower its working capital requirements to finance its operations. In addition, it can reduce the need for external financing, such as lines of credit or loans, consequentially leading to lower financing costs. This is valuable information for the authors when performing working capital forecasts later in the thesis.

5.2.2 Current ratio – short term

The current ratio is one of the oldest financial ratios used in liquidity analysis and should be used correctly to provide valuable information. It is defined by dividing the current assets by the current liabilities (Christian Petersen et al., 2017, p.231). Generally speaking, a higher current ratio indicates a greater likelihood that the respective company can cover its current liabilities by selling the current assets. When calculating the current ratio, our primary objective is to collect information regarding the company's short-term financial liquidity. Furthermore, when analyzing the current ratios, there are different rules of thumb to assess the level of the financial ratio. An old and often criticized rule is that the current ratio should exceed 2 in order to indicate lower (short-term) liquidity risk (Christian Petersen et al., 2017, p.231). However, to get an adequate representation of short-term liquidity, it is essential to include trending information by looking at a longer period and comparing it to the industry norm - not a general rule of thumb.



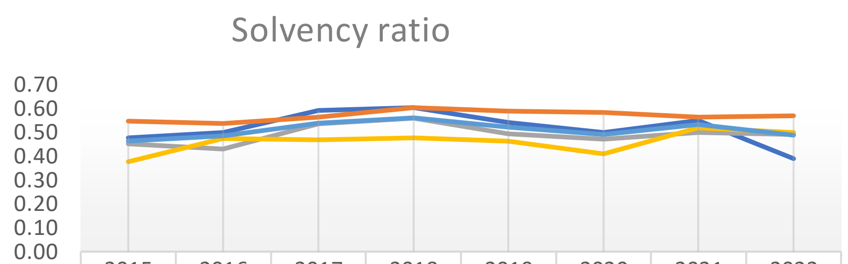
	2015	2016	2017	2018	2019	2020	2021	2022
SalMar	2.89	2.29	1.94	2.02	2.31	1.67	2.19	1.55
Lerøy	2.54	2.90	2.98	2.99	2.81	2.68	2.91	2.59
Marine Harvest	3.35	3.03	2.70	3.70	3.38	3.41	2.79	2.34
Grieg Seafood	2.34	2.50	2.44	2.58	2.72	3.61	4.36	3.46
Avg. Peers	2.78	2.68	2.52	2.82	2.81	2.84	3.06	2.48

Figure 25: Current ratio analysis

Our graphical illustration shows that SalMar is below the industry average, with the exception of 2015. Marine Harvest, the leading competitor in this metric, has consistently maintained a higher level of assets relative to liabilities. Nevertheless, as Salman's performance is closely aligned with the average, it is not worrisome. Hence, according to our analysis, SalMar has historically demonstrated a favorable short-term liquidity position and will likely maintain this position going forward.

5.3.3 Solvency ratio – long term

As a final financial metric, we calculate the solvency ratio, which evaluates SalMar's capability to fulfill its debt obligations. This is computed by dividing the total equity by the sum of total equity plus total liabilities (Christian Petersen et al., 2017, p.230). The ratio is crucial for any company, as it determines whether firms have sufficient cash flows to cover both short- and long-term liabilities. If a company has a low solvency ratio, the probability of long-term liquidity issues is higher.



	2015	2016	2017	2018	2019	2020	2021	2022
SalMar	0.48	0.50	0.59	0.60	0.54	0.50	0.55	0.39
Lerøy	0.55	0.54	0.56	0.60	0.59	0.58	0.57	0.57
Marine Harvest	0.45	0.43	0.53	0.56	0.50	0.47	0.50	0.49
Grieg Seafood	0.38	0.47	0.47	0.48	0.46	0.41	0.52	0.50
Avg. Peers	0.46	0.48	0.54	0.56	0.52	0.49	0.53	0.49

Figure 26: Graphical representation of industry solvency ratios

When examining our results shown in the table above, we observe that SalMar performs well compared to industry peers. They have consistently demonstrated strong financial stability and solvency ratios in previous years, positioning themselves favorably compared to their peers. However, in 2022, SalMar's performance took a considerable dip, and they fell below the average of their primary competitors. This decline can be attributed to a significant increase in debt, which outpaced the increase in equity. The substantial accumulation of debt without a corresponding growth in equity raises concerns about SalMar's ability to manage its financial obligations effectively and maintain its previous level of stability.

Nevertheless, as a general guideline, a solvency ratio equal to or bigger than 0.2 is regarded as financially stable. Thus, the companies used in our analysis all score above this threshold, indicating a low long-term liquidity risk.

6.0 Historical analysis of results and forecasts

In order to come up with a reasonable estimate of the effect of resource rent taxation in the salmon farming industry, high-quality and realistic forecasts are absolutely essential. So far, we have introduced ground rent taxation, market analysis, and financial analysis. This will be the basis for this section, where we will forecast cash flows for SalMar. By doing so, we can estimate how much of the profits are subject to the resource rent tax and ultimately calculate the value reduction for SalMar.

Furthermore, to ascertain the consequence of the resource rent tax, it is important to differentiate between the forecasted revenues and expenses incorporated in the taxation, as opposed to those only affected by the regular corporation tax. Accordingly, if we were too under- or overestimate the resource rent taxable income or expense, the valuation of SalMar would not be appropriate. Thus, during this section, we will closely elaborate on important key figures, including revenue drivers such as production volume, salmon price, insurance payments, and other operating revenue. In addition, we break down the cost drivers into smolt costs, feed costs, and other operating costs. Finally, we will discuss and project factors like depreciation, investments, financial costs, and working capital.

6.1 Forecast period

In valuation, there are two stages of growth, according to Damodaran. The initial period, often with earnings growth above the general economy and stable growth. Companies may gain high growth rates for a while, but eventually, they all will reach stable growth (Damodaran, n.d.). However, due to barriers to entry, increasing demand, licenses, and technological improvements, Salmar is yet to reach steady growth. With the Damodaran growth model and industry assumptions, we have predicted an explicit forecast period of 5 years and then a steady state in our model. (Damodaran, n.d.). Our duration is based on the belief that a more extended period would be challenging to calculate sufficiently, as the financial value drivers are changing rapidly. In our valuation model, we incorporate a 2-stage growth approach that takes into account specific factors affecting SalMar's future performance. The recent acquisition of NTS in 2023 leads to a significant spike in growth, reflecting the expanded operations and increased revenue potential. Subsequently, over the next two years, we anticipate a decrease in growth due to the downward trend in salmon prices. However, in the period from 2026 to 2028, we project a gradual recovery and an upturn in growth, driven by improved operating income. Beyond this period, we assume the company reaches a steady-state phase, where growth stabilizes.

As previously mentioned, aquaculture is an industry faced with many changes and development in terms of regulations, R&D, diseases, and more. Thus, a forecast past our given 5 years would be difficult to argue for and yield unsatisfactory results. In the next section, we will estimate SalMar's growth in revenues for the next five years and decide on our terminal growth rate.

6.2 Operating revenues

In our analysis of future revenues, we will look at production volumes and salmon prices, as these factors are the core drivers of sales revenue. Before this forecast, we conducted several analyses of the historical salmon prices and production volumes in section 4; these analyses will be our foundation for future predictions.

6.2.1 Production volume

Production volume growth might be obtained from new licenses, increased efficiency on current licenses, technological improvements, and acquisitions. As mentioned in section 4.4, the global supply growth of salmon is declining due to more focus on the environment, strict regulations, and restrictions. From 2017 we can observe a CAGR of 3.79%, a considerable decrease compared to previous years, clearly indicating a declining trend. However, as we previously mentioned, the demand is solid and expected to grow significantly in the coming years. We believe the strong underlining demand substantiates a future growth. That being said, in the short term we believe the growth will be affected by the new taxation.

The resource rent tax has led to reduced investments in the industry. For instance, SalMar had the opportunity to expand production by 1,223 tons but chose to cancel the purchase. This highlights the significant impact of the new taxation and emphasizes the need to incorporate it when estimating future growth.

SalMar's production volume forecast will follow the company's volume guidance for 2023 and our projections for the following years. As illustrated below, the production volume is estimated to increase by 52.8% in 2023. This is due to the acquisition of NTS. We find the company estimates reasonable in accordance with NTS production capacity. However, the salmon industry is highly consolidated, with limited companies to buy and licenses to the acquirer. Thus, we believe SalMar will not conduct further significant acquisitions in the following explicit forecast period.
Additionally, the debt ratio increased significantly in 2022 due to decreased market values and the acquisition. This substantiates our assumptions that SalMar will hold off with large purchases. Moreover, we have estimated a growth of 1.5% in 2024, and 2% growth in 2025. This is based on the new taxation. As previously discussed SalMar has dropped several investments due the taxation. Even though this is probably only a short-term effect due to uncertainty, we find it reasonable to incorporate the effects of their present reluctance to invest. After 2025 we believe the growth will normalize. Therefore, the growth from 2026 follows the global industry projected growth, supported by the strong demand growth and normalization of investments.

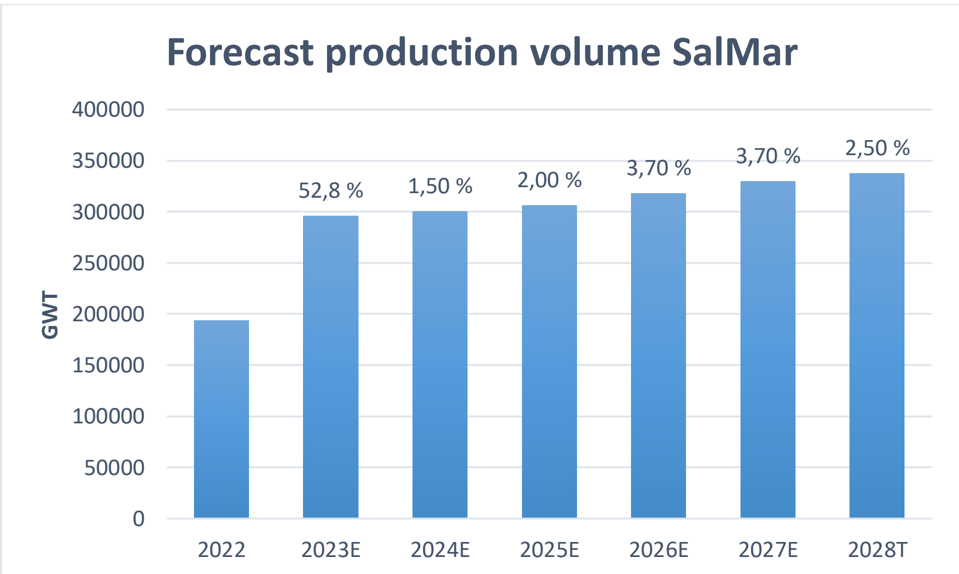


Figure 27: Forecasted production volume SalMar

Analyzing license growth, potential technological improvements, historical growth, and incorporating SalMar's new acquisition, we estimate a CAGR of 8.27% in 2022-2028, heavily impacted by the increased growth in 2023. From 2023-2028 the CAGR is 2.23%, 1.47 percentage points below what the industry previously expected. However, the annual growth estimate of 3.7% is prior to the resource rent tax.

6.2.2 Salmon price

In the model we have decided to use FishPool's estimated forward prices as the future salmon price. We find that our regression contains to many uncertainties and often under- or overestimates true prices as discussed in section 4.7. Thus, using our regression would likely generate inadequate results and we find it reasonable to use the forward prices in the market. FishPool estimates an average salmon price of NOK 92 in 2023, NOK 87 in 2024 and NOK 80.5 in 2025. For the two following years we have made our own assumptions due to lack of information. To obtain the prices for 2026 and 2027 we have looked at the historical salmon prices to analyse any potential trends. As illustrated below:

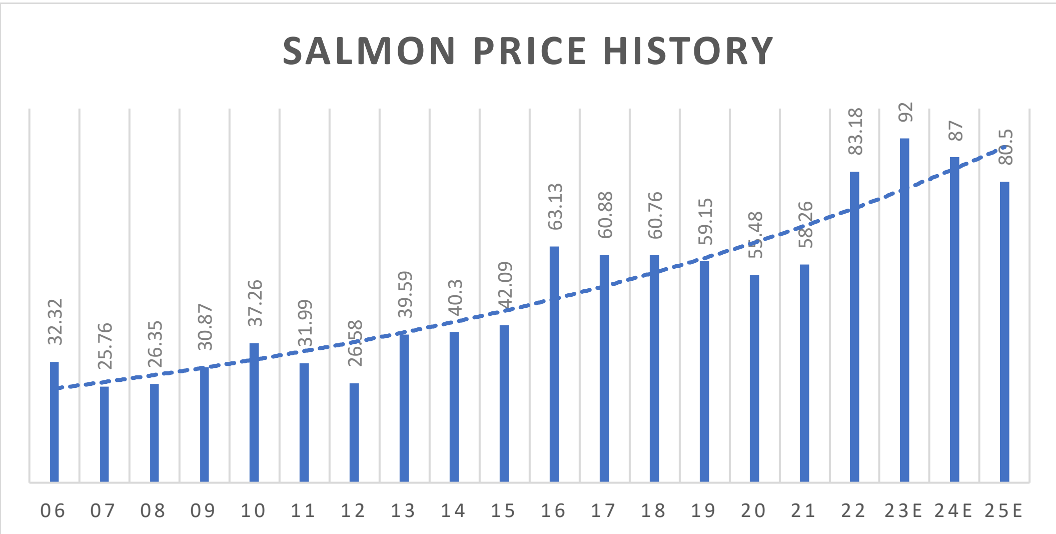


Figure 28: Salmon price history

In the salmon price history, we can observe an average annual growth of 6.68% by including the forecast for 2023-2025. The salmon prices are currently on an all-time high, and a correction is reasonable to assume. We can observe this pattern in historical prices, where price peaks are typically followed by a subsequent drop before the price stabilizes. In addition, technology improvements reduce biological events and makes the supply less volatile in the future (Paulsen, 2000). Therefore, we assume that Fish Pool's estimates is adequate. However, with a demand far superior to supply as previously discussed, we can argue that after 2025 the price will start increasing again. Therefore, we use the historical growth of 6.68% in the time period 2026-2027 as illustrated below.

Operating revenue forecast

In our revenue forecast we have chosen to exclude "Other operating Income", since more than 99.5% of SalMar revenue is explicitly generated by sale of salmon. In addition, we noticed that historical revenue per kilo is around 30% higher than the sales price multiplied with gutted salmon. Thus, to obtain most appropriate estimates we will multiple the results with a factor of 1.3. By incorporate our analysis done for the future production volume, salmon price and estimated factor, we predict the following revenue:

Revenue Forecast						
	2022A	2023	2024	2025	2026	2027
Salmon Price	83	92	87	81	86	92
Production volume	193 700 000	296 000 000	300 440 000	306 448 800	317 787 406	329 545 540
Sales revenue	20 945 555 800	35 401 600 000	33 979 764 000	32 069 866 920	35 476 366 775	39 244 709 144
Growth		69,02 %	-4,02 %	-5,62 %	10,62 %	10,62 %

Figure 28: Forecasted revenue

6.3 Operating expenses

When we analyze the historical cost of goods sold for SalMar, we utilize the average operating costs sourced from the Norwegian Directorate of Fisheries' profitability survey. They publish a yearly profitability survey based on the largest Norwegian Salmon producers; hence, a reasonable estimate for our forecasts (Norwegian Directorate of Fisheries, 2021). From there, we compute the total COGS by multiplying the operating expense per kilogram by the total production volume. The primary cost factors (smolt, feed, and other operating costs) are included in the table below. Furthermore, according to the consultation memorandum on 28.03.23, the production fee per kilogram will be increased in 2022. In practice, this means the current production fee of 0.40 cents per harvested kg will increase to 0.90 (Ministry of Finance, 2023). In our forecasts, the production fee is included in other operating costs. In addition, it is essential to emphasize that not all costs included in COGS are associated with salmon farming and thus not deductible in the taxable income for resource rent tax. Therefore, our estimates from the Norwegian Directorate of Fisheries' profitability survey exclude these costs that are not deductible.

Historical deductible COGS							
	2016	2017	2018	2019	2020	2021	*Average*
Smolt cost per kg	**3,18**	**3,43**	**3,44**	**4,1**	**4,14**	**4,45**	***3,79***
% change		*7,86%*	*0,29%*	*19,19%*	*0,98%*	*7,49%*	*7,16%*
% of Tot. Production cost per kg	*9,39%*	*10,14%*	*10,15%*	*10,72%*	*10,31%*	*10,68%*	
Feed cost per kg	**14,55**	**14,38**	**14,15**	**15,63**	**16,62**	**16,79**	***15,35***
% change		-1,17%	-1,60%	10,46%	6,33%	1,02%	3,01%
% of Tot. Production cost per kg	42,97%	42,49%	41,77%	40,85%	41,39%	40,31%	41,63%
Other operating cost per kg	**8,71**	**8,13**	**7,24**	**8,98**	**9,71**	**10,31**	***8,85***
% change		*-6,66%*	*-10,95%*	*24,03%*	*8,13%*	*6,18%*	*4,15%*
% of Tot. Production cost per kg	*25,72%*	*24,02%*	*21,37%*	*23,47%*	*24,18%*	*24,75%*	*23,92%*
Total production cost per kg	**33,86**	**33,84**	**33,88**	**38,26**	**40,15**	**41,65**	***36,94***
% change		*-0,06%*	*0,12%*	*12,93%*	*4,94%*	*3,74%*	*4,33%*

Figure 29: Main drivers of COGS on historical basis

Drawing from historical data and considering our market analysis discussions, it is evident that feed costs constitute a significant portion of the overall production expenses, averaging 42% per kilogram of the total production costs. In fact, the production costs have doubled during the last 10-15 years and are expected to increase further in the future (Misund, 2022). In our calculations shown above, the average increase in production costs during our analytical period is 4.33%. Furthermore, as commodities are traded internationally, SalMar is naturally exposed to exchange rate risk. These commodities are primarily traded in USD, implying that the Norwegian Kroner exchange rate against USD is essential for operating expenses. As of today, the krone is relatively weak, an ongoing trend since 2014, influencing the total operating costs for all entities in the Norwegian aquaculture.

Forecast

Based on historical developments in COGS we conclude that the production cost will keep increasing in the future. However, from 2021-2022 we also increased the COGS by an additional 1.20% to cover the newly proposed increase in production fee per kilogram farmed. Thereafter, we assume a constant growth factor for our future predictions equal to the historical average of 4.33%.

Deductible COGS forecasts						
	2022	2023E	2024E	2025E	2026E	2027E
Production volume	**193 700**	**296 000**	**300 440**	**306 449**	**317 787**	**329 546**
Production cost per kg	*43,95*	*45,86*	*47,85*	*49,92*	*52,08*	*54,34*
Δ production cost pr kg		*4,33%*	*4,33%*	*4,33%*	*4,33%*	*4,33%*
Totale production cost	**8 513 992**	**13 574 235**	**14 374 787**	**15 297 550**	**16 550 832**	**17 906 874**

Figure 30: Forecast of COGS

6.4 Investments & depreciation

Regarding investments and corresponding depreciation, it is essential to distinguish between operating assets used in aquaculture activities, which are deductible from resource rent tax, and those not eligible for deduction. However, it can be challenging to differentiate between these assets in practice, making it reasonable to assume a percentage factor for calculations. According to the CEO of Ellingsen Seafood, a large Norwegian Salmon producer, roughly 80% of the total investments in the industry will be outside the resource tax (NRK, 2022). In contrast, the CEO of MOWI recently expressed that Norwegian aquaculture companies are actively prioritizing tax optimization as they seek to secure the highest possible deductions for future investments (Furuset, 2023). Based on these arguments, we will assume that 60% av the investments performed by SalMar in the future will be deductible by the additional 35%. In comparison, the remaining investments will only be deducted by 22%.

Historical depreciation								
	2016	2017	2018	2019	2020	2021	*2022*	*Average*
Operating revenue	9 029 814	10 817 238	11 342 554	12 237 589	12 912 342	15 043 945	20 158 279	
Depreciation	**358 020**	**418 612**	**487 778**	**718 449**	**812 093**	**806 680**	**1 037 695**	
% of revenue	3,96%	3,87%	4,30%	5,87%	6,29%	5,36%	5,15%	**4,97%**

Figure 31: Historical depreciation

In general, depreciation has been relatively stable throughout our analytical period. This means that, on average, the depreciation has been 4.97% of the sales revenue. That being said, the depreciation should vary based on the degree of investments performed and thus be closely correlated with future investments carried out by SalMar. When computing the investments, we utilize the annual change in fixed assets as a substitute for the exact investments, which also will be the basis for our CAPEX calculations. When doing so, we observed that the increase in investments has been significant in recent years, averaging 24.19%.

We know from our market and financial analyses that the industry requires high investments. However, in our historical analyses, there is a big outliner during 2022 due to the acquisition of NTS. Therefore, the outlier will be omitted from the calculations and the foundation for our future predictions to achieve the most realistic scenario possible. As a result, we get an average increase in investments of 15.72%.

Historical Investments								
	2016	2017	2018	2019	2020	2021	*2022*	*Average*
Operating revenue	8 963 239	10 755 452	11 301 338	12 202 197	12 856 778	14 971 988	20 158 279	
Δ fixed assets	1 046 626	602 262	600 345	2 284 827	3 584 255	3 760 989	15 713 723	
% of operating revenue	*11,68%*	*5,60%*	*5,31%*	*18,72%*	*27,88%*	*25,12%*	*77,95%*	***15,72%***

Figure 32: Historical investments

Forecasts

We will depend on our calculated historical depreciation as a percentage of total revenue to make precise predictions of future depreciation. By employing this method, we ensure that depreciation adjusts in accordance with the varying sales revenue, which is especially crucial considering the significant upswing in revenue expected in the coming year due to the NTS acquisition.

Depreciation forecasts						
	2022	2023E	2024E	2025E	2026E	2027E
Operating revenue	20 158 279	35 401 600	33 979 764	32 069 888	35 476 322	39 244 762
Total depreciation	1 037 695	1 760 226	1 689 530	1 594 568	1 763 942	1 951 315

Figure 33: Forecasts of depreciation

When it comes to projecting future investments, accurately estimating the impact of the new resource rent tax presents a challenge. Introducing this tax significantly reduces the funds available for investments, as a substantial portion of the previous profits is allocated to cover the tax burden. Additionally, prevailing uncertainty in the market has led SalMar and other competitors to delay several investment decisions. Given these factors, relying solely on historical investment levels may not be appropriate for estimating future investments. We have chosen a conservative approach in light of the uncertainties surrounding implementing the new tax policy and the cautious investment behavior observed among competitors. Therefore, for our explicit forecast period, we have assumed an investment level equivalent to 50% of the historical average. This choice acknowledges the potential constraints on available funds due to the tax burden. It aligns our forecast with industry trends. It also reflects the need for SalMar to adapt to the government's tax policy while still reserving a reasonable amount for strategic investments. Furthermore, to provide a comprehensive analysis, we will perform a sensitivity analysis in section 8.3, examining the influence of different investment levels on the valuation of SalMar. This analysis will shed light on the potential variations in valuation outcomes due to different investment assumptions, offering a more comprehensive understanding of the company's value in light of the new taxation regime.

Furthermore, it is important to highlight that the resource rent tax operates as a cash-flow taxation system, as discussed earlier in the thesis. This means that new investments directly related to the aquaculture business will receive an immediate deduction of 35% when calculating the resource rent taxable income. However, these deductions will subsequently be recovered over time through ordinary depreciation methods at the corporate tax level.

Investments forecasts						
	2022	**2023E**	**2024E**	**2025E**	**2026E**	**2027E**
Operating revenue	20 158 279	35 401 600	33 979 764	32 069 888	35 476 322	39 244 762
Investments forecasts	3 168 608	2 782 325	2 670 579	2 520 475	2 788 198	3 084 372

Figure 34: Forecasts of investments

6.5 Resource rent taxable income

Throughout our historical analysis, we have carefully examined several variables that play a significant role in calculating resource rent taxable income. To provide a concise overview of our forecasts and projected changes, we have created a table summarizing the estimated resource rent tax for the upcoming years.

The estimation of the deductible portion of other costs is an essential consideration in determining the impact of the new resource rent tax on SalMar's financials. After careful consideration and analysis, we have assumed that 40% of the other costs are directly associated with aquaculture activities and, therefore, are eligible for deduction. This estimation considers an in-depth review of SalMar's cost structure, examining the nature of these costs and their alignment with the criteria for deductibility outlined in the tax regulations discussed in section 3.3.2.1 on operating expenses. This analysis showed that a large portion of the other costs, such as expenses related to feed, equipment, and maintenance, directly support the aquaculture operations. However, administrative salaries and expenses beyond SalMar's aquaculture operations were identified as non-deductible costs. The assumption of a 40% deductible portion for other costs is a reasonable reflection of this breakdown, ensuring that only costs directly associated with aquaculture activities are considered for deduction.

Furthermore, when looking at the future resource rent taxable income, we are exclusively multiplying the total GWT with the spot price. This is conducted to provide a more accurate estimate of future tax expenses and their impact.

Resource rent taxable income forecasts					
	2023E	2024E	2025E	2026E	2027E
Spot price	92	87	81	86	92
GWT	296 000	300 440	306 449	317 787	329 546
Deductible COGS	13 574 235	14 374 787	15 297 550	16 550 832	17 906 874
Basic allowance	70 000	70 000	70 000	70 000	70 000
Deductible Investments	951 555	913 338	862 003	953 564	1 054 855
Deductilbe other costs	3 327 973	3 194 312	3 014 771	3 334 998	3 689 255
Deductible corporation tax	2 037 088	1 955 272	1 845 374	2 041 388	2 258 232
Resource rent taxable income	7 271 149	5 630 571	3 579 447	4 338 698	5 209 063
Resource rent tax (35%)	2 544 902	1 970 700	1 252 806	1 518 544	1 823 172

Figure 35: Forecasts of resource rent tax

6.6 Working capital

We calculate the net working capital by subtracting accounts payable and operating liabilities from the total current operating assets. The NWC indicates the company's short-term liquidity, which in this case, has a positive value every year during our analytical period. Hence, from an investor's perspective tells that SalMar has sufficient current assets to clear its liabilities. From the table below, we observe that NWC varies between roughly 10-40 percent in percentage terms of operating revenue, with an average of 24.73%. In 2022, we observe an abnormally high net working capital, mainly due to the significant increase in current operating assets from the acquisition of NTS.

Historical net working capital								
	2016	2017	2018	2019	2020	2021	*2022*	*Average*
Current operating assets	6 119 636	5 138 551	6 685 027	7 259 298	7 694 725	9 342 595	14 761 711	
Accounts payable	1 199 402	1 248 975	1 194 760	1 305 050	2 056 323	2 317 308	3 337 649	
Operating liabilities	2 165 393	2 883 281	2 609 511	3 033 656	3 178 193	2 905 214	3 839 767	
Net working capital	2 754 841	1 006 295	2 880 756	2 920 592	2 460 209	4 120 073	7 584 295	
% of operating revenue	*30,51%*	*9,30%*	*25,40%*	*23,87%*	*19,05%*	*27,39%*	*37,62%*	***24,73%***
Δ Net working capital	861 412	- 1 748 546	1 874 461	39 836	- 460 383	1 659 864	3 464 222	
% of operating revenue	11,76%	-16,16%	16,53%	0,33%	-3,57%	11,03%	17,19%	

Figure 36: Historical NWC

Forecasts

The future NWC and the corresponding change in net working capital are based on the historical average, which is an appropriate outlook. Similar to the other estimated parameters, we adopt a similar approach when analyzing net working capital (NWC), linking it to the total operating revenue. This entails multiplying the average NWC by each year's operating revenue. By incorporating the operating revenue into the calculation, we account for the fluctuations in the company's overall financial performance and align the NWC estimation with the revenue trends.

Net working capital forecasts						
	2022	2023E	2024E	2025E	2026E	2027E
Operating revenue	20 158 279	35 401 600	33 979 764	32 069 888	35 476 322	39 244 762
Net working capital	4 985 957	8 756 247	8 404 569	7 932 180	8 774 729	9 706 816
Δ Net working capital	865 884	3 770 289	- 351 678	- 472 390	842 549	932 088

Figure 37: Forecasts of NWC

7.0 Calculating discount rate

This section will consist of several analyses to calculate SalMar's WACC thoroughly and obtain reasonable estimates of a valid WACC. The results are based on acknowledged financial methods, obtained knowledge, and input from the industry. Our analysis resulted in a WACC of 8.33%.

7.1 Weighted average cost of capital (WACC)

The WACC is the discount rate and reflects the risk of future cash flows. This is an essential factor in SalMar's valuation and deserves a thorough review. To estimate SalMar's WACC, we use the following formula**:**

$$WACC = \frac{E}{V}Re + \frac{D}{V}Rd * (1 - Tc)$$

Formula 5: WACC (Petersen et al., 2017)

The capital structure calculations will contain a higher weight for the last year. This is due to the belief that the 2022 capital structure gives a better fundament for future capital structure, following the introduction of the resource rent tax. Later in our thesis, we will use the calculated WACC as the discount rate in our DCF model.

7.2 Capital structure

Capital structure is defined as how a corporation finances its assets through a combination of equity and debt (Christian Petersen et al., 2017, p.467). We base the structure on market values to reflect the actual return on equity and debt. To find a reasonable estimate, we have calculated the capital structure for SalMar, and the chosen peers based on the historical market values going back six years, see Appendix 3.

We can observe a significant change in 2022 throughout the industry, where the consequences of the proposed tax dropped the market value drastically. Additionally, the resource rent tax is highly likely to have a lasting effect. Thus, it is reasonable to believe that the 2022 capital structure reflects a change in the market. With this in mind, we have decided to weight the capital structure in 2022 higher than previous years to reflect future values and ensure an accurate estimate of the WACC.

7.3 Capital asset pricing model (CAPM)

To acquire the necessary return on equity we will perform the CAPM model, with the following underling factors: risk-free rate, beta and risk premium.

$$Cost\ of\ equity = rf + \beta(rm - rf)$$

Formula 6: CAPM (Petersen et al., 2017)

7.3.1 Risk-free rate

Risk-free rate is the return an investor can achieve without default risk. The norm in valuation is to use a government proxy as the risk-free rate with the underlying assumption that government bonds are risk-free (Christian Petersen et al., 2017). Different approaches can be used in valuation to obtain the risk-free rate, where each strategy has different trade-offs. To find the terminal value later on and account for inflation and duration, we choose a 10-year government bond. Additionally, we will look at Norwegian bonds to match SalMar's denoted currency to remove currency mismatch. Resulting in a risk-free rate of 3.264% (Norges Bank, 2023)

7.3.2 Risk premium

The risk premium is the difference between market returns and returns from risk-free investments. To obtain the risk premium, there are two different approaches, ex-post and ex-ante. The ex-post approach looks at the difference between historical stock return and risk-free historical return 50-100 years back in time (Petterson & Plenborg). In order to collect the risk premium, we look at an ex-post analysis done by Damodaran in January 2023, who is well-acknowledge in the field of valuation. He reports a risk premium of 5.94% for the Norwegian market (Damoderan, 2023c), supported by PWC, which reports a risk premium of 5.9% (PwC, 2022).

7.3.3 Measuring the systematic risk (ße)

Systematic risk (ß) indicates the stock's underlying risk and volatility to the market. At the same time, a higher beta increases the required rate of return to investors. Given the importance of the beta, we have decided to calculate the beta based on the following approaches: regression beta (raw beta), beta from comparable firms, and the industry beta. In addition, we have used a formula to "Smoothing" the beta due to research from Marshall Blume's, where the observation of betas indicates that they revert to mean over time (Tim Koller et al., 2020).

$$Adjusted\ \beta = \frac{2}{3} * \ \beta + \frac{1}{3} * \ 1$$

Formula 7: Adjusted beta (Petersen et al., 2017)

7.3.4 Raw regression beta (Equity beta)

It is common practice to estimate the equity beta based on the historical return for the selected company and a relevant index as a proxy for the market. To estimate SalMar's equity beta, we have used OSEBX as the market proxy. We gathered five years of monthly data to ensure an adequate number of data points and minimize bias. In addition, these observations is then plotted in a graph to observe any changes in the systematic risk (Tim Koller et al., 2020, p.486). When calculating the raw regression beta, we encountered an outlier. Despite its presence, we have included it in our analysis for several reasons. Firstly, including outliers provides a more comprehensive representation of the data, capturing the full range and variability. It allows us to gain insights into the data distribution. Secondly, we found that omitting this variable did not significantly influence the outcome of our analysis. Therefore, by including the outlier, we ensure transparency and acknowledge its presence without compromising the overall results. The following formula were used to calculate the raw regression beta:

$$\beta = \frac{Cov\ (Ri, Rm)}{Var(Rm)}$$

Formula 8: Equity beta (Petersen et al., 2017)

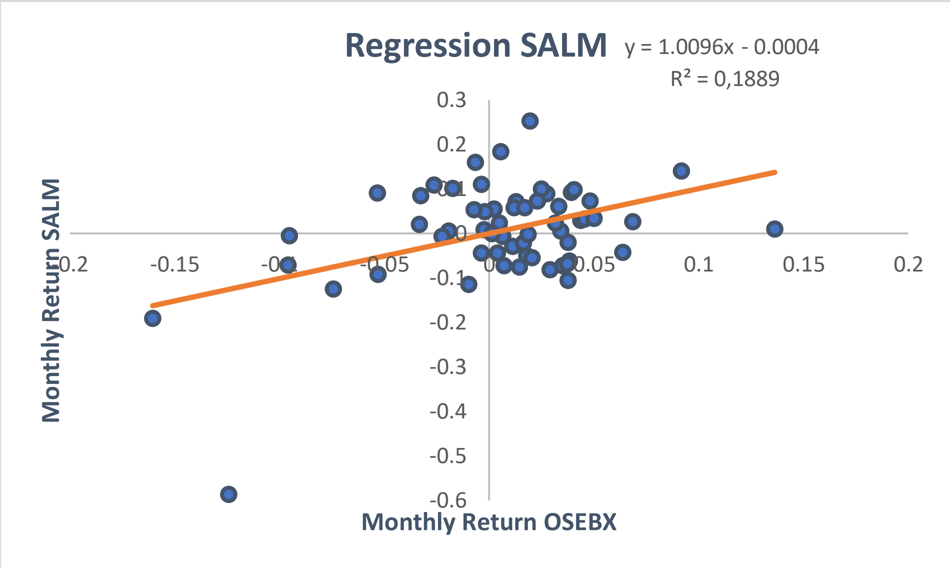


Figure 38: Regression beta

7.3.4 Peers beta

To give a better estimation of SalMar's beta we will also look at industry peers with the same calculation of the beta as in 7.3.3. In order to compare betas, it is essential to delevere the beta. This is due to the non-linear relationship of equity betas. Where a comparison based of the equity beta will most likely result in an overestimation of the true beta. This is also known as Jensen's inequality. We convert equity betas into unlevered betas using the following formula:

$$Unlevered\ Beta\ (\beta u) = \frac{\beta e}{1 + (1 - Tc) * \ D/E}$$

Formula 9: Unlevered beta (Petersen et al., 2017)

By doing this, we are stripping the betas of leverage and isolating the risk associated with the company's assets. This allows us to observe betas, focusing only on the operational risk. Assuming the competitors have similar operating characteristics, this approach can pinpoint the operating risk compared to competitors (Tim Koller et al., 2020, p.489)

Beta from peers					
Beta	Raw beta	Adj Beta	Tax	D/E	Unlevered
LSG	1,03	1,02	22 %	0,76	0,64
Grieg	1,04	1,03	22 %	1,76	0,43
Mowi	1,04	1,03	22 %	0,65	0,68
Average	**1,04**	**1,03**	**0,22**	**1,06**	**0,59**

Figure 39: Beta from peers

Beta SalMar					
Beta	Raw beta	Adj Beta	Tax	D/E	Unlevered
SalMar	1,01	1,006	0,220	1,20	0,52

Figure 40: Beta SalMar

From appendix 3, "Capital Structure," we can observe a considerable increase in the D/E ratio in the last year, as previously discussed. The significant drop in market value across the entire industry happened in Q3 of 2022. For comparison, if we had excluded 2022 in the calculation of average D/E in the last six years, the average would have been 0.59, not 1.06. The market response to the resource rent tax gives an industry increase in the debt-to-equity ratio of 79%, compared to the average of the last 5 years. However, it is worth noting that while other factors, including SalMar's acquisition, have influenced the D/E ratio, the primary driver behind the change is the new taxation.

From the beta's aspect, we can observe almost identical unlevered beta across the industry, indicating that the chosen peers face similar operating risk and are acceptable firms to use in our analysis. In addition, we can observe that the unlevered beta is significantly lower than the equity beta due to the increased risk that comes with leverage.

7.3.5 Industry beta

Furthermore, we will examine the industry as a whole by utilizing an industry beta proxy. This approach will reduce the noise around our estimates and lessens the effect of random shocks (Tim Koller et al., 2020, p.489). With the current situation in the market, this is highly relevant to include in our beta calculations. Due to the complexity of calculating the industry beta, we will use data from Damodaran. He estimates an industry beta for "Food Processing" of 0,92 per Jan 2023 (Damoderan, 2023a).

Combining the information above and applying Blumes "Smoothing" formula, we get the following estimations:

	Beta			
	Raw Beta	Adjusted	Unlevered	Relevered
SalMar	1,01	1,01	0,52	1,01
Peers	1,04	1,03	0,59	1,07
Industry	0,92	0,95	0,75	0,92
Average	**0,99**	**0,99**	**0,62**	**0,998**

Figure 41: Beta comparison

Based on our analysis, we will use a beta of 0.998 moving forward. We believe this reflects the systematic risk associated with SalMar and is also similar to the consensus by industry analysis.

Implementing the calculated key factors above in the CAPM model gives us a cost of equity of 9.19%.

7.3.6 Cost of debt (Rd)

The cost of debt is what lenders require in return for giving SalMar a loan. This is a key factor in our WACC calculations and specific to our chosen company. To find the cost of debt, we first find SalMar's credit rating and add the risk-free rent. This is called the pre-tax cost of debt.

We use data available on the credit spread. Damodaran reports a spread of 2% on BBB-rated firms (Damoderan, 2023b). By implementing this, we acquire 5.26% of the cost of debt.

Cost of debt			
Credit rating	Credit spread	Risk-free rent	Cost of debt
BBB	2 %	3,26 %	**5,26 %**

Figure 42: Cost of debt

With the corresponding after-tax cost of debt of 4.11%.

Cost of debt - Tax 22%				
Credit rating	Credit spread	Risk-free rent	Corporate tax	Cost of debt
BBB	2 %	3,26 %	22 %	**4,11 %**

Figure 43: Cost of debt – tax 22%

7.4 Estimation of WACC

Using the calculated parameters above, we obtain the weighted average cost of capital of 8.33%.

WACC Calculations			
Cost of equity	E/V	Cost of debt	D/V
9,19 %	83 %	4,11 %	17 %
WACC	**8,33 %**		

Figure 44: Calculated WACC

8.0 Valuation models

8.1 DCF

Our primary valuation method, as previously discussed, is the DCF model. According to the model, only the free cash flow and WACC affects the market value of the firm (Petersen et al., 2017). The model estimates an enterprise value by summing the present value of future cash flow and then adding the terminal value discounted with WACC:

$$EV_0 = \sum_{t=1}^{t=n} \frac{FCFF_t}{(1+WACC)^t} + \frac{FCFF_{n+1}}{(WACC-g_n)} x \frac{1}{(1+WACC)^n}$$

Formula 10: EV (Petersen et al., 2017)

For further investigation, the cash flow is available in Appendix 4. It is based on our forecasted estimates from section 6, encompassing future revenues and costs. By applying our forecast predictions and the pre-calculated WACC, we obtain the estimated stock price pr. 31.12.2022. We decided to apply two scenarios, one with and one without the resource rent tax, to visualize the additional taxation's impact on our valuation. We will discuss this in more detail later on.

Discounted Cash Flow Model	2023E	2024E	2025E	2026E	2027E	2028T
NOPLAT w/o resource rent tax	7 600 895	7 295 620	6 885 560	7 616 938	8 426 040	8 636 691
NOPLAT w/ resource rent tax	5 055 993	5 324 920	5 632 754	6 098 394	6 602 868	6 767 940
Depreciation	1 760 226	1 689 530	1 594 568	1 763 942	1 951 315	2 000 097
Capex	2 782 325	2 670 579	2 520 475	2 788 198	3 084 372	3 161 481
Δ net working capital	1 171 952	-351 678	-472 390	842 549	932 088	955 390
FCFF w/ resource rent tax	2 861 942	4 695 549	5 179 236	4 231 589	4 537 724	4 651 167
FCFF w/o resource rent tax	5 406 844	6 666 249	6 432 042	5 750 133	6 360 896	6 519 918
WACC	8,33 %	8,33 %	8,33 %	8,33 %	8,33 %	8,33 %
Discount factor	0,923	0,852	0,787	0,726	0,670	0,619
PV FCFF (with resource tax)	2 641 874	4 001 187	4 073 986	3 072 617	3 041 546	2 877 859
PV FCFF (without resource tax)	4 991 086	5 680 467	5 059 443	4 175 254	4 263 581	4 034 128

With resource tax rent		Without resource tax rent	
SUM PV	19 709 068	SUM PV	28 203 959
PV TV	53 474 859	PV TV	74 960 051
Enterprice value	73 183 928	Enterprice value	103 164 010
NIBD	14 617 960	NIBD	14 617 960
Market value of equity	58 565 967 723	Market value of equity	88 546 050 196
# shares	145 138 920	# shares	145 138 920
Share price	**403,5**	**Share price**	**610,1**

Figure 45: DCF analysis and results

The estimated enterprise value in the scenario with resource rent tax is NOK 73.184 billion, with the corresponding share price of 403.5 after deducting net interest-bearing debt. When analyzing the results from our DCF model, we observe positive cash flow throughout our forecast period. However, we can also observe fluctuations. As previously mentioned, volume, price, and costs have a history of fluctuating due to the cyclical nature of the salmon industry. Furthermore, the acquisition of NTS in 2022 significantly impacts the change in net working capital, as reflected in our estimates.

8.2 Multiples

Relative valuation is a popular valuation method, due to its simplicity and speed. As previously discussed, we will focus our report on the DCF analysis. However, we also find it relevant to apply multiples to test the validity of our DCF results. When applying multiples in valuation, one fundamental assumption is that comparable firms are truly similar in terms of economic characteristics and outlook (Christian Petersen et al., 2017, p.317). The larger the difference between each comparable firm, the less valuable the valuation method is. Our chosen peers are Mowi, Lerøy, Grieg, and Bakkafrost. We find that they are most relevant to use in terms of expected cash flows, growth potential, and risk (Damodaran, 2006, p.317).

Below we will report sector-specific multiple (EBIT/KG), earnings multiple (P/E), and value multiples EV/EBIT and EV/EBITDA. The sector-specific multiple is a highly used ratio for profitability in the aquaculture industry. The EBIT/KG multiple works as a profitability measure for the industry, where we can observe how cost-efficient the company is. This ratio will not be used to calculate the stock price, but it is a critical estimate that can enlighten possible competitive advantage.

The chart below illustrates the historical development in EBIT/KG. Here we can observe that the profit correlates with the salmon price, but more importantly, we see that SalMar outperforms its peers in terms of cost-efficiency in years with lower salmon prices. The results indicate that they have a competitive advantage in this aspect. Section 5.3.3 of the profitability analysis explored this specific element in detail.

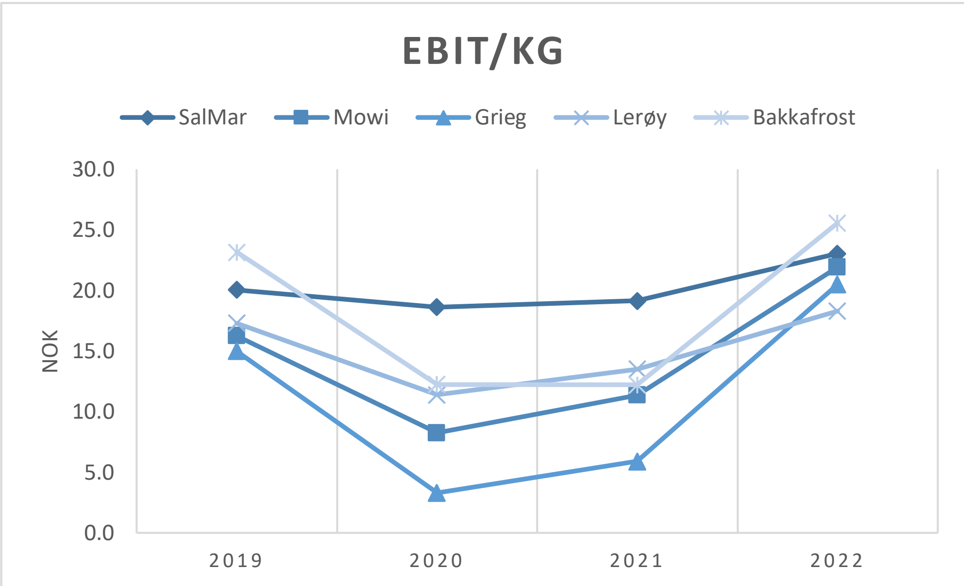


Figure 46: EBIT/KG SalMar vs. Peers

Moving on to the examination of other multiples, we begin with the P/E ratio. Price-earnings ratio is widely used and compares the market value versus the earnings per share (EPS). The results from this multiple will help us determine whether or not the firm is overvalued compared to its peer group (Fernando, 2023). Lastly, we include EV/EBIT and EV/EBITDA to account for some of the shortcomings of the P/E ratio and create a more precise image of the company's performance. Multiple input was collected by “DN Investor” (DN investor, 2023)

	Multiples		
	P/E	EV/EBIT	EV/EBITDA
Mowi	12,2	11,2	10,0
Grieg	12,7	8,1	6,1
Lerøy	14,4	8,4	8,0
Bakkakfrost	17,8	28,9	21,9
Average	14,3	14,1	11,5
SalMar stock price	**337,1**	**434,8**	**435,8**
Average	**402,6**		

Figure 47: Multiples SalMar vs. Peers

The resulting stock price indicates a stock price of 402.6 in the market on 01.01.2023, not far off from the actual market price. However, it is worth mentioning that the relative valuation approach is expected to yield different results from a DCF analysis. The variations are due to different assumptions in the two valuation methods. While the DCF analysis assumes market inefficiency that would be corrected over time, multiples assume that the market mistakes on individual stocks are corrected on average (Damodaran, 2006, p.254). Nevertheless, it should give us complementary information and strengthening our overall estimation.

8.3 Sensitivity analysis

In valuation, it is vital to always supplement the models with sensitivity analysis of key value drivers to provide valuable insight of uncertainties and risks (Petersen et al., 2017). SalMar key value drivers are based on previous analysis and will illustrate how sensitive our valuation is to change in these. Our analysis below shows how value fluctuates with changes in WACC, resource rent tax, operating margin, and investment level.

		WACC				
	403,5	**6 %**	**7 %**	**8,33 %**	**9 %**	**10 %**
Terminal Growth	**1,50 %**	572,4	452,2	346,3	307,1	259,8
	2 %	641,3	495,6	372,7	328,2	275,6
	2,50 %	729,9	548,7	**403,5**	352,7	293,5
	3 %	847,9	615,1	440,1	381,2	313,9
	3,50 %	1013,1	700,4	484,3	414,8	337,5

Terminal Growth	Resource tax rent				
403,5	25 %	30 %	35 %	40 %	45 %
1,50 %	398,8	372,5	346,3	320,1	293,9
2 %	428,1	400,4	372,7	344,9	317,2
2,50 %	462,5	433,0	403,5	374,0	344,5
3 %	503,4	471,8	440,1	408,5	376,9
3,50 %	552,6	518,5	484,3	450,2	416,0

Terminal Growth	Operating Margin				
403,5	24 %	26 %	28 %	30 %	32 %
1,50 %	241,2	300,8	346,3	420,0	479,6
2 %	261,3	324,5	372,7	450,8	513,9
2,50 %	284,8	352,1	403,5	486,8	554,1
3 %	312,7	385,0	440,1	529,5	601,8
3,50 %	346,4	424,6	484,3	581,1	659,3

Terminal Growth	Investment Level				
403,5	30 %	40 %	50 %	60 %	70 %
1,50 %	452,0	399,2	346,3	293,4	240,6
2 %	484,7	428,7	372,7	316,6	260,6
2,50 %	522,9	463,2	403,5	343,8	284,1
3 %	568,3	504,2	440,1	376,0	312,0
3,50 %	623,1	553,7	484,3	415,0	345,6

Figure 48: Sensitivity analysis

The results demonstrate our valuation's sensitivity to changes in key value drivers, emphasizing the importance of conducting thorough and realistic forecasts (Petersen et al., 2017, p.334). First, alterations in the WACC exhibit substantial changes in value, emphasizing the crucial role of accurate assessments. An increase in the cost of capital could drastically decrease the value of SalMar. Thus, it is important to recognize its influence in our DCF analysis and visualize other outcomes. Secondly, we can observe that an increase in the resource rent tax from 35% to 45% would result in a 14.63% decrease in value, assuming all other parameters remain constant. Thirdly, if the operating margin increased by four percentage points, the value would experience a substantial 37.3% increase.

Finally, an aspect of particular interest that we examine closely is the investment level. The table reveals that SalMar's share price tends to increase if investments are reduced, assuming other factors remain constant. Smaller investment level decreases deductions, and as a result, the resource rent tax increases. However, a smaller CAPEX amount is subtracted simultaneously, resulting in a higher free cash flow. Therefore, a potential reduction in investments would influence the FCF positively due to the asymmetric results of the two events.

Sensitivity analysis, while valuable, has certain limitations to consider. It allows us to focus on only a few parameters at a time and relies on underlying data. Additionally, its linear relationship between variables may result in an incomplete picture. Despite these limitations, sensitivity analysis provides valuable insights into the impact of changes.

8.4 Monte Carlo

In this section, we conducted a Monte Carlo simulation of our DCF model to increase the quality of our DCF analysis. The Monte Carlo simulation accounts for multiple scenarios by incorporating probabilistic distribution for the key-value parameters. In addition, it provides a more comprehensive assessment of the potential outcomes and each variable's impact. The chosen variables are terminal growth, the weighted average cost of capital (WACC), operating margin, and resource rent tax.

Our simulation assumes normal distribution due to its widespread application in financial modeling and statistical analysis. By assuming a normal distribution, we can effectively capture a wide range of possible outcomes. This approach allows us to leverage the well-established statistical techniques associated with this distribution, such as the mean and standard deviation.

The mean is based on the expected value calculated in the previous section. The selection of standard deviations for the Monte Carlo simulation considers each variable's inherent uncertainties and risks. For the resource rent tax, a standard deviation of 2.5% is chosen to reflect a relatively high degree of volatility, as the market has experienced in the last year. Furthermore, it reflects the uncertainty surrounding future taxation and its impact on SalMar. Secondly, the standard deviation for the WACC is 0.5%. This accounts for potential fluctuation in market conditions, interest rates, and risk premiums.

Regarding the operating margin, we incorporate a standard deviation of 1%, which captures potential variability in operational efficiency, salmon price, and cost management. Lastly, the terminal growth variable is assigned a standard deviation of 0.2%. This choice acknowledges the potential uncertainty in long-term growth projections. It takes into account factors such as market trends,

technological advancements, and industry dynamics that can influence growth rates over time. These selected standard deviations encompass a reasonable range of potential outcomes, allowing for a comprehensive assessment of the uncertainties impacting SalMar's valuation.
To ensure robust results, we conducted the simulation 10,000 times, generating a diverse distribution of outcomes.

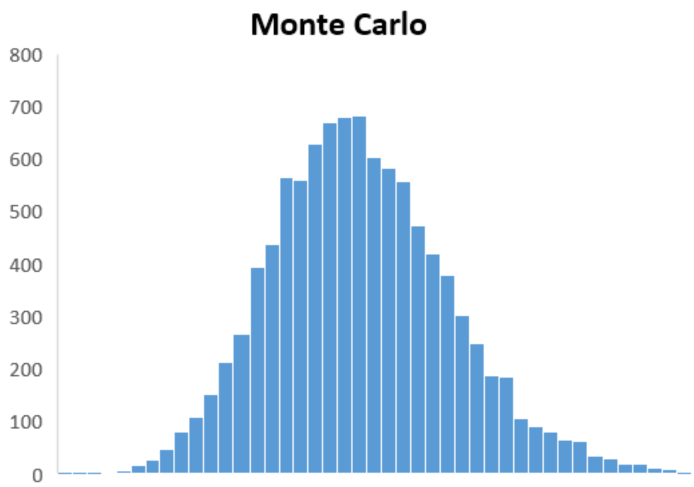


Figure 49: Monte Carlo simulation

To interpret our results from the simulation, we specifically investigated the frequency of observations falling within the interval of 350-450. By observing observations within a specific interval, we gain an understanding of the potential range of values. Furthermore, we look at the simulation's mean and standard deviation.

Monte Carlo Results	
Mean	**399,44**
Average	407,78
Std.dev	57,28
Intervall 350-450	62,39 %

Figure 50: Monte Carlo results

The Monte Carlo simulation provided valuable insights into the stock price estimation. With a mean stock price of NOK 399.44 and a standard deviation of 57.28, the simulation results align reasonably well with our DCF and multiple valuation approaches. This consistency strengthens our overall valuation and lends support to the underlying assumptions. The interval of NOK 350-450 with a probability of 62.39% signifies a relatively high likelihood for the stock price to fall within this range. This substantiates the importance of considering a range of possibilities rather than relying solely on a single-point estimate.

9.0 Conclusion

Our master thesis focused on addressing the following primary problem statement: *What effect does the resource rent tax have on the fundamental value of SalMar ASA as of December 31, 2022?*

After conducting a thorough financial and market analysis, we have made realistic assumptions for our future cash flows. As a result, we have observed the following impact from the new resource rent taxation:

Resource rent tax impact on stock price					
Estimated stock price w/o RRT	610	610	**610**	610	610
Resource rent tax	25 %	30 %	**35 %**	40 %	45 %
Impact on stock price	-24 %	-29 %	**-34 %**	-39 %	-44 %
New stock price	**462,5**	**433,0**	**403,5**	**374,0**	**344,5**

Figure 51: Resource rent tax impact on stock prices

Our primary valuation approach was the DCF analysis, which resulted in a valuation of SalMar's equity of NOK 58.57 billion, including resource rent taxation. This corresponds to a share price of 403.52, which is close to the actual share price of 406 on the final trading day of 2022. However, it is crucial to acknowledge that the resource rent taxation circumstances as of 12.31.2022 varied from the present. During that time, the government imposed more stringent taxation regulations, featuring a smaller basic allowance, and a higher tax rate of 40% instead of the current 35%. Our findings suggest that the market undervalued the influence of resource rent taxation on SalMar, despite having an even higher tax rate.

Furthermore, we derived a market value of equity of NOK 88.55 billion with a corresponding share price of NOK 610 in the scenario where we excluded the resource rent taxation. This indicates a reduction in the share price of 33.86% when including the resource rent tax.

In addition, we gain an interesting perspective when comparing the government's, the market's, and the author's calculations of the total resource rent taxation in Norwegian aquaculture. The government projects a total resource rent tax for the whole industry of NOK 3.65 - 3.8 billion for 2023. However, the industry estimates more than double the government's initial estimate, consisting of total taxation of NOK 8.8 billion (Ogre, 2023). Lastly, the authors derived that SalMar would need to pay NOK 2.55 billion in resource rent tax in 2023, approximately 71% of the government's total estimate, which is unrealistic. Hence, our findings are more aligned with the industry's calculations. Our estimation of the total taxation in the market provides additional support for the result. SalMar's contribution to the total resource rent tax in the industry is estimated at 29%. This aligns well with SalMar's total estimated export of 296,000 GWT in 2023, representing approximately 24% of the predicted overall export of Atlantic salmon during 2023. The 5% deviation can be attributed to the export of salmon from smaller companies, which do not exceed the basic allowance. As a result, SalMar is expected to contribute beyond its market share, reinforcing the alignment with our estimations.

We performed a sensitivity analysis, Monte Carlo simulation, and relative valuation to substantiate our results. We explored the implications of the estimated valuation by adjusting various main value drivers and looking at alternative valuation methods. In the sensitivity analysis, we found that even minor alterations to key value drivers yielded significant effects. For the Monte Carlo simulation, we derived an average stock price of 399.44, with a standard deviation of 57.28. This involves a deviation of approximately NOK 4 from our stock price calculated with the DCF approach.

Additionally, we observe that the share price falls between the interval of 350-450, a total of 6239 times, encompassing 62.39% of the data set. Finally, we strengthened our estimate with a valuation through multiples. Our market analysis enabled us to identify top-tier comparable companies, providing a robust basis for our valuation process. As a result, the stock price was determined to be 337, 435, and 436, further validating the accuracy and reliability of our DCF model.

	DCF	P/E	EV/EBIT	EV/EBITDA	Monte Carlo
Estimated Stock Price	403,5	337,1	434,8	435,8	399,4
Stock Price pr. 31.12.22	406	406	406	406	406
Deviation	-0,61 %	-16,97 %	7,09 %	7,34 %	-1,63 %
Recommondation	**Hold**				

Figure 52: Marginal investor recommendation: Hold

The analysis above, also gives us the foundation to answer the sub-problem statement: *Given the implementation of the resource rent tax, should the marginal investor buy, hold, or sell SalMar ASA as of December 31, 2022?*
If we account for transaction cost, the reasonable recommendation to the marginal investor is “Hold”. The DCF model estimates a share price of NOK 403.5 as of 12.31.2022. The result deviated only 0.61% from the actual market price.

During our master's thesis, we employed several well-established theories and made assumptions based mainly on historical data. However, it is essential to note that our results are based on subjective, qualified assumptions and are not definitive answers. Furthermore, our estimations regarding future demand, supply, salmon price, market conditions, and the evolution of the research rent tax are derived from present information and historical data from reliable sources. We have interpreted the relevance of the available information and provided a well-justified analysis and recommendation to the best of our ability.

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Formula list:

11.0 Appendix

Appendix 1: Analytical income statement

Analytical income statement								
Year	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	***2021***	***2022***
Sales revenue	7 303 506	8 963 239	10 755 452	11 301 338	12 202 197	12 856 778	14 971 988	20 070 115
Other operating income	22 696	66 575	61 786	41 216	35 392	55 563	71 957	88 164
Net revenue	**7 326 202**	**9 029 814**	**10 817 238**	**11 342 554**	**12 237 589**	**12 912 342**	**15 043 945**	**20 158 279**
COGS	3 809 523	4 396 689	4 722 474	4 585 491	5 770 027	5 870 577	7 327 973	9 599 414
Gross proft	**3 516 679**	**4 633 125**	**6 094 764**	**6 757 063**	**6 467 562**	**7 041 765**	**7 715 972**	**10 558 865**
Change in work in progress	- 246 712	- 395 871	-	-	-	-	-	- 283 398
Payroll cost	765 881	861 534	929 100	1 040 438	1 202 494	1 319 961	1 539 686	1 893 764
Other operating expenses	1 272 186	1 377 795	1 584 825	1 768 036	1 479 023	1 902 210	2 442 610	3 446 233
Revenue from associated companies	40 242	286 844	208 941	252 933	118 655	42 208	94 879	66 432
EBITDA	**1 765 566**	**3 076 511**	**3 789 780**	**4 201 522**	**3 904 700**	**3 861 802**	**3 828 555**	**5 568 698**
Ordinary depreciation	307 280	358 020	414 686	487 778	716 807	780 972	803 136	1 001 053
Write down of tangible and intangible fixed assets	14 169	-	3 926	-	1 642	31 121	3 544	36 642
EBIT	**1 444 117**	**2 718 491**	**3 371 168**	**3 713 744**	**3 186 251**	**3 049 709**	**3 021 875**	**4 531 003**
Corporation tax	254 891	691 090	558 403	873 343	613 877	563 355	718 822	953 996
Tax on non-operating assets	- 16 316	155 897	- 123 592	169 930	- 6 135	- 105 174	80 315	30 448
Tax on EBIT	271 207	535 193	681 995	703 413	620 012	668 529	638 507	923 548
NOPAT	**1 172 910**	**2 183 298**	**2 689 173**	**3 010 331**	**2 566 239**	**2 381 180**	**2 383 368**	**3 607 455**
Financial income	4 162	83 156	11 109	10 965	249 391	11 585	36 645	57 028
Financial expenses	104 524	113 522	156 061	117 972	244 283	310 115	195 550	475 612
Net financial items	- 100 362	- 30 366	- 144 952	- 107 007	5 108	- 298 530	- 158 905	- 418 584
Tax shield, net financial expenses	- 27 098	- 7 592	- 34 788	- 24 612	1 124	- 65 677	- 34 959	- 92 088
Net financial items, after tax	- 73 264	- 22 775	- 110 164	- 82 395	3 984	- 232 853	- 123 946	- 326 496
Fair value adjustment (biomas)	39 932	653 955	- 370 015	845 831	- 32 995	- 179 532	776 543	515 887
Production tax							- 71 601	- 85 232
Onerous contracts							- 180 970	126 330
Tax on special items	10 782	163 489	- 88 804	194 541	- 7 259	- 39 497	115 274	122 537
Special items, after tax	29 150	490 466	- 281 211	651 290	- 25 736	- 140 035	408 698	434 448
Net earning	**1 128 796**	**2 650 990**	**2 297 798**	**3 579 225**	**2 544 487**	**2 008 292**	**2 668 120**	**3 715 408**

Appendix 2: Analytical balance sheet:

Analytical balance sheet	2015	2016	2017	2018	2019	2020	2021	2022
Non-current assets								
Licenses, Patens, etc	2 466 171	2 464 332	2 478 510	2 957 486	4 295 467	6 385 101	7 778 407	15 291 193
Goodwill (Intangible asset)	447 372	446 464	446 465	446 465	446 465	441 130	752 063	2 999 859
Total PPE	2 411 959	3 137 522	3 604 770	3 591 490	4 939 621	6 402 795	8 010 049	12 517 825
Investments in associates (operational)	627 681	908 400	1 023 796	1 188 971	717 819	752 562	1 174 428	2 371 747
Other (non current) receivables	8 237	51 328	56 663	26 136	95 925	97 964	118 553	328 876
Total non-current assets	**5 961 420**	**7 008 046**	**7 610 204**	**8 210 548**	**10 495 297**	**14 079 552**	**17 833 500**	**33 509 500**
Current assets								
Inventories & Biological assets	3 634 268	5 221 784	4 394 573	5 765 550	6 189 538	6 669 789	7 928 044	12 684 598
Customer accounts receivables	815 540	595 773	501 112	630 061	739 429	588 989	934 934	1 414 135
Other receivables	258 288	302 079	242 866	289 416	330 331	435 947	479 617	662 978
Total current assets	**4 708 096**	**6 119 636**	**5 138 551**	**6 685 027**	**7 259 298**	**7 694 725**	**9 342 595**	**14 761 711**
Operating liabilities								
Deferred tax liabilities	1 230 815	1 495 301	1 362 222	1 541 431	1 757 557	1 828 109	2 258 689	1 927 804
Trade creditors	649 274	1 199 402	1 248 975	1 194 760	1 305 050	2 056 323	2 317 308	3 337 649
Special goverment taxes	153 262	189 136	170 716	300 591	218 923	110 839	263 887	350 512
Other short-term liability	488 996	775 621	404 125	500 917	613 258	428 433	773 884	1 269 954
Tax payable	292 320	423 223	672 448	690 717	588 455	537 833	543 307	2 612 569
Total operating liabilities	2 814 667	4 082 683	3 858 486	4 228 416	4 483 243	4 961 537	6 157 075	9 498 488
Invested capital (net operating assets)	**7 854 849**	**9 044 999**	**8 890 269**	**10 667 159**	**13 271 352**	**16 812 740**	**21 019 020**	**38 772 723**
Total equity	**5 227 040**	**6 680 833**	**7 668 128**	**9 139 843**	**9 740 101**	**10 986 902**	**15 483 176**	**24 154 763**
Net interest-bearing debt (NIBD)								
Liabilities to financial institutions	140 421	198 613	243 633	748 188	522 272	1 603 002	787 693	3 715 202
Liabilities directly associated with the assets held for sale								5 612 445
Mortgage debt/liabilities to financial institutions	2 371 338	2 079 001	811 027	689 927	2 751 570	3 677 627	4 906 560	18 349 972
Other long-term liabiltites	390 035	360 556	344 972	329 190	488 871	769 128	750 747	1 167 291
Interest-bearing debt	**2 901 794**	**2 638 170**	**1 399 632**	**1 767 305**	**3 762 713**	**6 049 757**	**6 445 000**	**28 844 910**
Investments in shares and securities	289	289	393	394	472	472	7 512	42 434
Assets hold for sale	-	-	-	-	-	-	-	11 471 809
Cash and cash equivalents	273 696	273 715	177 098	239 595	230 990	223 447	901 644	2 712 707
Interest bearing assets	**273 985**	**274 004**	**177 491**	**239 989**	**231 462**	**223 919**	**909 156**	**14 226 950**
Net-interest-bearing debt (NIBD)	**2 627 809**	**2 364 166**	**1 222 141**	**1 527 316**	**3 531 251**	**5 825 838**	**5 535 844**	**14 617 960**
Invested capital	**7 854 849**	**9 044 999**	**8 890 269**	**10 667 159**	**13 271 352**	**16 812 740**	**21 019 020**	**38 772 723**

Appendix 3: Capital structure

Capital Structure						
Salmar	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Debt	5 258 000 000	5 995 721 000	8 245 956 000	11 011 294 000	12 602 075 000	38 346 000 000
Shareprice	247	428	449	504	608	385
Shares	113 299 999	113 299 999	113 299 999	113 299 999	117 799 999	145 138 920
Equity	22 704 439 753	42 496 678 572	42 659 733 551	46 046 585 496	59 020 324 392	17 503 456 416
V	27 962 439 753	48 492 399 572	50 905 689 551	57 057 879 496	71 622 399 392	55 849 456 416
D/E	**0,23**	**0,14**	**0,19**	**0,24**	**0,21**	**2,19**
Equity Ratio	**0,81**	**0,88**	**0,84**	**0,81**	**0,82**	**0,31**
LSG	**2 017**	**2 018**	**2 019**	**2 020**	**2 021**	**2 022**
Debt	11 175 990 000	11 238 442 000	12 426 126 000	12 530 330 000	14 870 605 000	16 037 967 000
Shareprice	44	66	58	61	69	55
Shares	595 773 680	595 773 680	595 773 680	595 773 680	595 773 680	595 773 680
Equity	15 026 136 446	28 046 874 459	22 307 479 544	23 549 724 061	26 237 778 920	16 848 740 136
V	26 202 126 446	39 285 316 459	34 733 605 544	36 080 054 061	41 108 383 920	32 886 707 136
D/E	**0,74**	**0,40**	**0,56**	**0,53**	**0,57**	**0,95**
Equity Ratio	**0,57**	**0,71**	**0,64**	**0,65**	**0,64**	**0,51**
Greig Seafood	**2 017**	**2 018**	**2 019**	**2 020**	**2 021**	**2 022**
Debt	3 804 712 000	4 258 979 000	4 793 843 000	6 278 609 000	5 150 946 000	6 388 348 000
Shareprice	73	102	140	85	83	79
Shares	111 662 000	111 662 000	113 447 042	113 447 042	113 447 042	113 447 042
Equity	4 290 783 000	7 164 043 600	11 122 776 993	3 364 389 570	4 276 503 190	2 528 589 501
V	8 095 495 000	11 423 022 600	15 916 619 993	9 642 998 570	9 427 449 190	8 916 937 501
D/E	**0,89**	**0,59**	**0,43**	**1,87**	**1,20**	**2,53**
Equity Ratio	**0,53**	**0,63**	**0,70**	**0,35**	**0,45**	**0,28**
Mowi	**2 017**	**2 018**	**2 019**	**2 020**	**2 021**	**2 022**
Debt	19 849 765 000	22 660 000 000	29 224 590 000	32 638 380 000	31 749 200 000	41 277 945 800
Shareprice	139	183	228	191	209	167
Shares	490 200 000	516 000 000	517 100 000	517 100 000	517 100 000	517 111 091
Equity	48 288 035 000	71 613 200 000	88 777 630 000	66 127 720 000	76 169 570 000	45 183 028 615
V	68 137 800 000	94 273 200 000	118 002 220 000	98 766 100 000	107 918 770 000	86 460 974 415
D/E	**0,41**	**0,32**	**0,33**	**0,49**	**0,42**	**0,91**
Equity Ratio	**0,71**	**0,76**	**0,75**	**0,67**	**0,71**	**0,52**

Appendix 4: Cash flow

Forecasted cash flows	2023E	2024E	2025E	2026E	2027E	2028T
Total operating income	35 401 600	33 979 764	32 069 888	35 476 322	39 244 762	40 225 882
COGS	15 576 704	14 951 096	14 110 751	15 609 582	17 267 695	17 699 388
Other costs	8 319 933	7 985 779	7 536 928	8 337 494	9 223 136	9 453 715
Depreciation	1 760 226	1 689 530	1 594 568	1 763 942	1 951 315	2 000 097
EBIT	**9 744 737**	**9 353 359**	**8 827 641**	**9 765 305**	**10 802 616**	**11 072 681**
Resource rent	7 271 149	5 630 571	3 579 446	4 338 697	5 209 063	5 339 289
Resource rent tax (35%)	2 544 902	1 970 700	1 252 806	1 518 544	1 823 172	1 868 751
Ordinary corporate tax (22%)	2 143 842	2 057 739	1 942 081	2 148 367	2 376 576	2 435 990
NOPLAT	**5 055 993**	**5 324 920**	**5 632 754**	**6 098 394**	**6 602 868**	**6 767 940**
Depreciation	1 760 226	1 689 530	1 594 568	1 763 942	1 951 315	2 000 097
Capex	2 782 325	2 670 579	2 520 475	2 788 198	3 084 372	3 161 481
Δ net working capital	1 171 952	- 351 678	- 472 390	842 549	932 088	955 390
FCFF (with resource rent tax)	**2 861 942**	**4 695 549**	**5 179 236**	**4 231 589**	**4 537 724**	**4 651 167**
FCFF (without resource rent tax)	**5 406 844**	**6 666 249**	**6 432 042**	**5 750 133**	**6 360 896**	**6 519 918**
WACC	8,33 %	8,33 %	8,33 %	8,33 %	8,33 %	8,33 %
Discount factor	0,9231	0,8521	0,7866	0,7261	0,6703	0,6187
Present value of FCFF (with resource tax)	**2 641 874**	**4 001 187**	**4 073 986**	**3 072 617**	**3 041 546**	**2 877 859**
Present value of FCFF (without resource tax)	**4 991 086**	**5 680 467**	**5 059 443**	**4 175 254**	**4 263 581**	**4 034 128**

TV growth	**2,5%**
Wacc	**8,33 %**
RTR	**35 %**
Operating Margin	**28 %**