Valuation of Grieg Seafood

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Authors:

Anders Brun Birkeland, FIR

Fredrik W. Sandberg, FSM

Executive Summary

The purpose of this thesis is to find the fundamental value of the Norwegian fish farming company Grieg Seafood, trough a financial and strategic analysis.

The fish farming industry has experienced tremendous growth the last decade and has become a significant contributor to Norway's economy. Due to an overexploitation of the wild fish stock, the aquaculture industry is expected to grow also in the future. Hence, we consider it as both exciting and highly relevant to value a Norwegian fish farming company.

In the strategic analysis we observed that biological issues have limited the amount of licenses given to farm salmon. This is expected to lower the production growth rate in the years ahead. Demand on the other hand is expected to increase at its current rate, as continued focus on health is anticipated. As a consequence, we expect prices on salmon to increase in the long term. In the short term however, we expect prices to fall, due to a short term increased global production led by the production recovery in Chile.

The price on salmon and the price on raw materials used for feed are considered to be the most essential value drivers in the industry. The price on raw materials has been increasing by approximately 25 % per year the last 4-5 years. Technological improvements and productivity gains has however helped the industry offset this development.

The competitive rivalry in the industry is considered high. Increased consolidation and lower growth rates will intensify this competition in the future. Based on the findings from the financial analysis, we identified Grieg Seafood as the least cost efficient company in its peer group. As prices in the short term are expected to fall, Grieg Seafood margins are expected to drop. As a consequence, the company will struggle to pay its financial obligations in 2013 and 2014, solely with its earnings. The company is however in a good financial state, with a bankroll equaling NOKm 143 ultimo 2010. The company will thereby be able to rely on these funds in demanding years.

The valuation of Grieg Seafood was conducted using a DCF / EVA model, supported by a multiple analysis. A WACC of 7,5 % was used to discount the future cash flow. GSFs stock was estimated to be NOK 23,7 on January 1. 2011. The same day the stock was trading at NOK 19,40 indicating a NOK 4,3 or 22 % upside potential. Hence, the thesis concludes that it exist unrealized gain in the GSF share.

The stability of the estimated stock price was tested through a sensitivity and scenario analysis. The analysis stated that the share price is highly sensitive towards changes in both WACC and terminal value growth. The key take away from the cost-scenario analysis is that the GSF share has a great potential if the company manages to reach similar cost levels as SalMar.

As a final remark, it should be mentioned that the upside potential our fundamental valuation of GSF indicates, is due to our long term optimistic view on the industry, rather than Grieg Seafood's performance itself. On the basis of our analysis it is clear that the company has major cost issues that most likely will follow the company for the years to come.

Contents

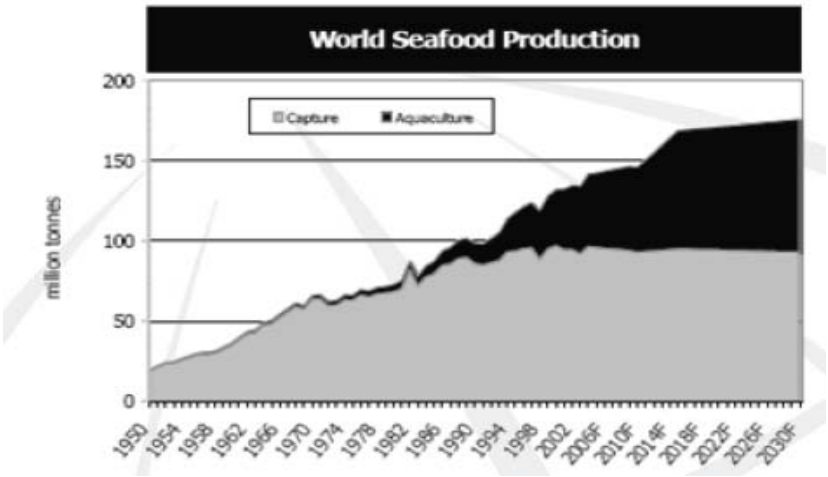
1. Introduction

For our master thesis we have chosen a strategic analysis and valuation of the Norwegian salmon fish farming company GSF (hereafter GSF). Several reasons make the fish farming industry and especially GSF a hot topic for a valuation.

In 2004 a report released by the UN Food and Agriculture Organization (FAO), concluded that one quarter of the main fish stocks, was overexploited, depleted or recovering from depletion and needed rebuilding. FAO estimate that within year 2030 the catch of wild fish will be reduced to 90 million tons from approximately 135 tons in 2010. During the same period, farmed seafood is expected to increase from 50 million tons to 85 million tons, then supplying more than 50% of all available seafood in the world. Combined with an increased focus on healthy eating, this has caused investors worldwide to open their eyes for the fish farming industry.

One company that is positioned to gain from this development is GSF. Since 1988 the company has carried out 28 acquisitions, transforming the company from a regional player to a global player in the seafood industry. This major growth has however been challenging on the company's profitability. In 2009 GSF costs before interests and taxes were more than 40 % higher than the industry's most cost efficient fish farmer.

Figure 1.1 – World Seafood Production



Source: Marine Harvest Industry Handbook 2010

Disease problems in Chile and a following decline in supply have however created a record high salmon price which has enabled GSF to make money even with its high costs. As Chiles supply recover, prices will most likely fall back to a more normal level. With a high operational leverage this leaves GSF in a challenging position.

1.1 Problem statement

In the following process, we as analysts must therefore consider several issues in relation to GSFs future; will demand continue to grow at its current speed, which impact will Chilean recovery have on prices, and how will GSF operating margins develop in the future?

Since we will behave as long time investors, we will be concerned in deterring the true share value. Based on this, we formulate the following overall problem statement:

What is a fair value of GSF given the company- and the industry's outlook?

1.2 Sub questions

In order to answer this question a number of sub questions must be answered. The sub questions have been divided up and categorized into the following sub-sections (which also outlines the structure of the thesis). Each sub question is of relevance and will be uncovered in the different parts of the thesis. At the end, the partial conclusions throughout the thesis are combined into a final conclusion, which answers the overall problem statement.

1.2.1 Introduction to the fish farming industry and GSF

In order to conduct a valuation of GSF it is important to comprehend the historical development of the company and the market in which it operates in. This will help us understand the current position and structure of GSF and give an understanding of how the company will respond to changes in the market. Sub questions:

- How is farmed salmon produced and which components are involved in the process?
- How has the fish farming industry developed during the years?
- What are the main characteristics of GSF and how has the company developed?
- Who are GSF's main competitors?

1.2.2 Strategic analysis

The strategic analysis serves to determine the non-financial drivers of the stock price and how GSF is affected by the external and internal environment. This implies analyzing both macro- and microeconomic factors.

- What factors from the macro environment can affect GSF and their earnings?
- How is the competitive environment in the industry?

1.2.3 Financial analysis

The financial analysis unravels the past and current financial performance of GSF's core operations.

GSF has in the recent annual report stated that they will in the coming years focus on cost cutting efforts. This part of the paper will therefore include a peer group / benchmark analysis of GSF's cost structure compared to the industry leader from the peer group. This will help us build a picture on how potential cost cuts can influence the company's future earnings. We will through this analysis also gain valuable information of GSF's historical ability to reach its financial goals. This will tell us a great deal of the management abilities to reach their future financial goals. Sub questions:

- How have costs from GSF's core operations developed compared to the industry leader?
- How does GSF perform on key financial ratios relative to its closest competitors?
- To what extent has management been successful in predicting the future?
- Does GSF have the financial health that enables them to conduct valuable investments in the future?

1.2.4 Forecasting

The strategic and financial analysis makes it possible to form realistic projections of the future financial outlook for GSF. As the stock price is sensitive to the accuracy of the forecasted performance, it is of great significance to evaluate the time horizon of the projections and the final terminal ratios. Sub questions:

- When is GSF and the fish farming industry likely to reach state of steady growth?
- How will GSF's key value drivers change in the future?

1.2.5 Valuation

The forecasting is the foundation of the valuation. A variety of valuation models exist and each has its own advantages and characteristics. Choosing the right model is therefore of great significant when the fair value is to be determined.

Since the forecasting is based on the strategic and financial analysis it remains subjective and it is therefore essential to perform a sensitivity analysis which will find out how changes in the input parameters affect the value of the company. Sub questions:

- What frameworks are appropriate for valuing a company of GSF nature?
- What WACC best reflects the opportunity cost of investing in GSF?
- What potential does GSF have in relation to improve its cost level?
- How sensitive is the share value of GSF to changes in essential inputs?

1.3 Methodology and models

This section gives a brief presentation of the data utilized, the research design and a delimitation of the thesis. Through the delimitates we argue why some elements are ignored from the thesis and at the same time we shed light on some areas we could have explored deeper if more time or resources were available.

As an introduction to each chapter trough out the thesis, we will present the models chosen for the chapter, and discuss their relevance. This will enable the reader to understand the connection between the chosen methodology and the analytical findings.

1.3.1 Data collection

This thesis is written from an investor's point of view. This implies that only publicly available information will be applied in the thesis. As the valuation of GSF consists of financial and strategic aspects the data used is both of quantitative and qualitative characteristic.

The primary sources of information are the annual reports of GSF, its competitors, suppliers and customers. Statistical data is gathered through Bloomberg, Datastream, SSB.no and industry interest groups like FHL.no. This information is supplemented with the company web sites, newspapers as well as professional market reports.

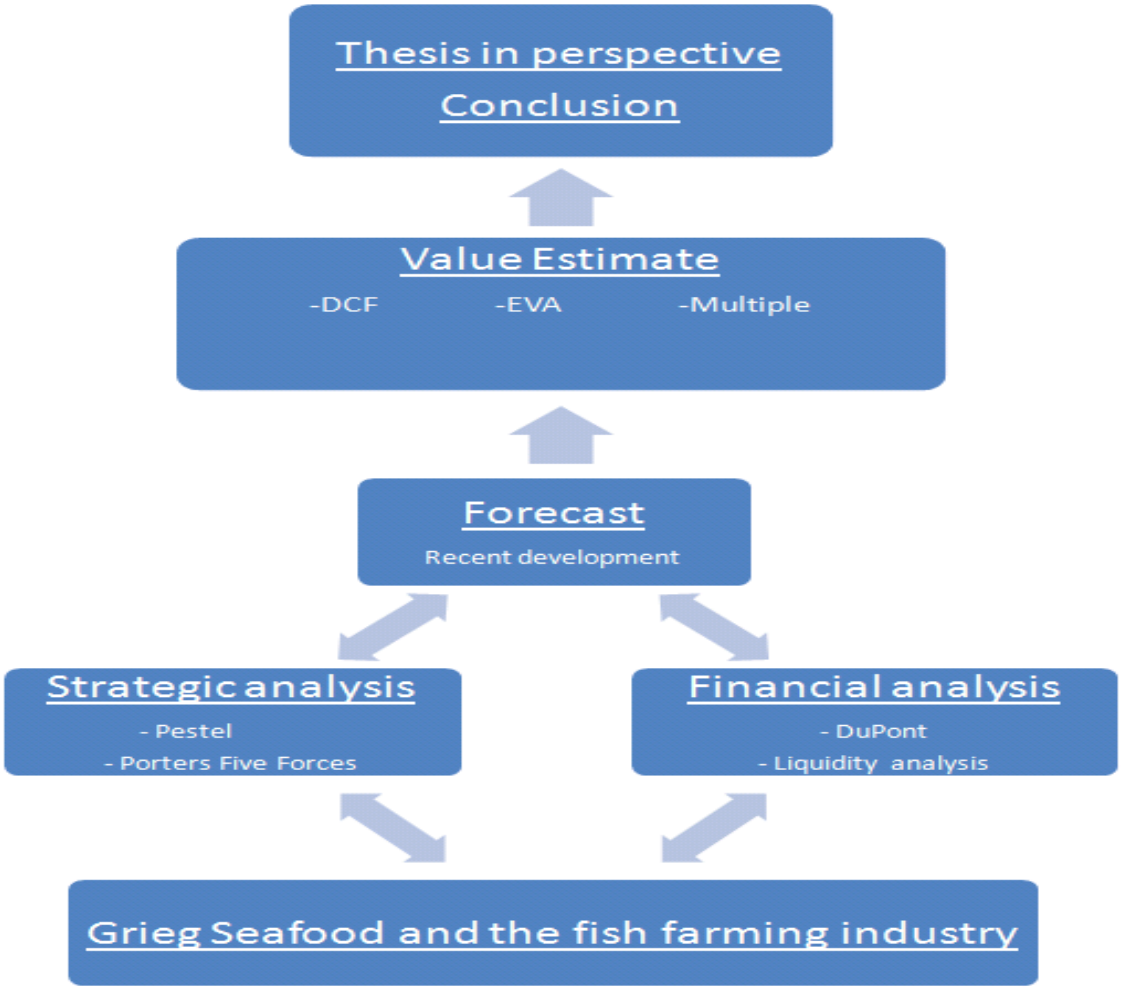
We will also perform interviews with Investor Relations (IR) representatives from Marine Harvest, Cermaq, Lerøy Seafood and the Chairman of the board of GSF (Per Grieg Jr). We believe these sources combined, create the foundation for a solid knowledge on GSF and the fish farm industry in general.

1.3.2 Research design

The thesis consists of five overall sections followed by a brief discussion on the future of GSF and the thesis in perspective. The essential issues and findings from each section are extracted and adapted in the respective sections of the thesis. By following this approach, a high degree of consistency is ensured, allowing a continuous analysis of important discoveries.

Our thesis is structured as figure 1.2 illustrates.

Figure 1.2 – Thesis Structure



Source: Own creation

1.4 Delimitation

To answer our problem statement in a thorough manner, and due to limitations on the size of the thesis, some limitations are necessary. This will also enable us to center our analysis on key issues.

- As the thesis is written from an external point of view, we will only use public information in the analysis.
- Our analysis will be based on developments in the main markets. In specific this means that we have used the EU as an indicator on changes in world demand. As the EU stand for 51% of the total demand, we consider this a reasonable assumption.
- To estimate global supply we have used numbers from Kontali Research. Kontali is considered to be the leading researcher within its field, and is often cited by analysts in the industry.
- In the analysis we assume one global price, for all salmon products. We find this a reasonable assumption as the market for salmon has developed in to a global market and the difference in price for different salmon products is small. GSF has also not historically segmented between different products in respect to sales and costs.
- Six years of historical data are used for the financial analysis. We believe this is sufficient to show one cycle in the industry. Furthermore historical numbers beyond that point is not available, since some of the companies in the peer group, was not publicly traded before this period.
- A breakdown of the financial figures into business area level is not possible due to lack of information from the annual reports of GSF and its peers. This may affect the analysis, as companies like Lerøy Seafood and Marine Harvest have earnings stemming from other sources than sale of salmon, like for instance pelagic fish etc.
- The focus of the thesis is at GSF's core continuing operations. Therefore income from associated companies, discontinued operations and financial assets are excluded from the valuation.
- In the regression analysis we have to delimit the analysis to two explanatory variables. More variables would have increased the validity of the model. However, this is too time demanding and complex task for a master thesis of our nature.

2. The fish farming industry and GSF

In order to develop a detailed strategic and financial analysis of GSF, deep knowledge on the company and the fish farming industry is required. This section serves the purpose of gaining knowledge on the fish farm industry to better understand the position that GSF has in a larger context. Further, GSF as a company will be presented in detail. In specific, the section contains: industry characteristics, company presentation, ownership structure, financial performance and a presentation of the peer group.

2.1 The fish farming industry

Fish farming involves raising fish and other organisms commercially in tanks or enclosures. Fish farming is a substitute to wild fish from the nature. The concept has been around for more than 2000 years and was first introduced in China. However, modern fish farming only goes back a few decades. In other words, the industry is still fairly young.

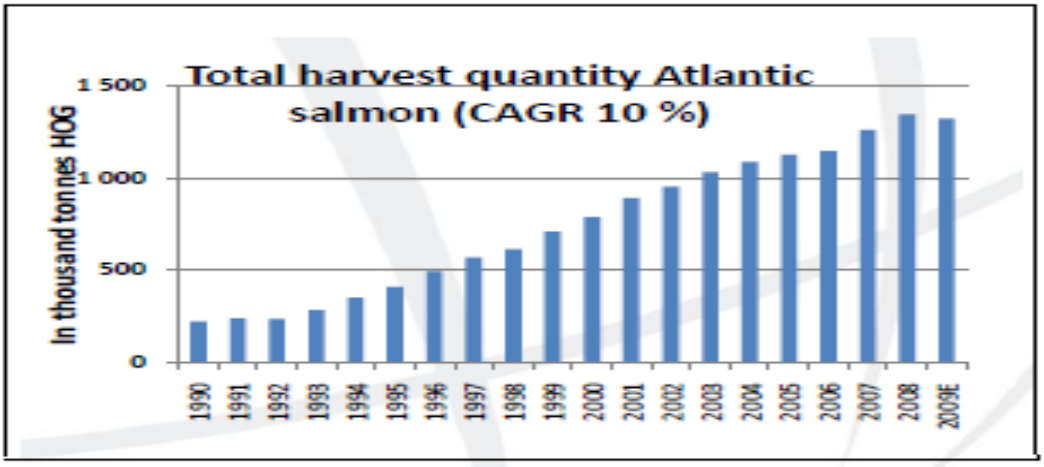
Today, aquaculture in general is the fastest growing animal food-producing sector on a global scale. The industry outpaces population growth, with supply per capita increasing from 0.7 kg in 1970 to 7.8 kg in 2006, an average annual growth rate of 6.9 percent. From a production of less than 1 million tons per year in the early 1950s, production in 2006 was reported to be 51.7 million tons with a value of USD 78.8 billion, representing an annual growth rate of nearly 7 percent[1].

Fish farming comes in different forms and involves a wide range of fish species. We will focus on Salmonids and the Atlantic salmon in specific, which is by far the most important product for GSF. All commercially available Atlantic salmon in the world is farmed.

The production of Atlantic salmon increased more than 600% in the period 1990-2008. The chart below illustrates how the harvest of farmed Atlantic salmon has developed since 1990.

1 Marine harvest Industry Handbook 2010, p.8

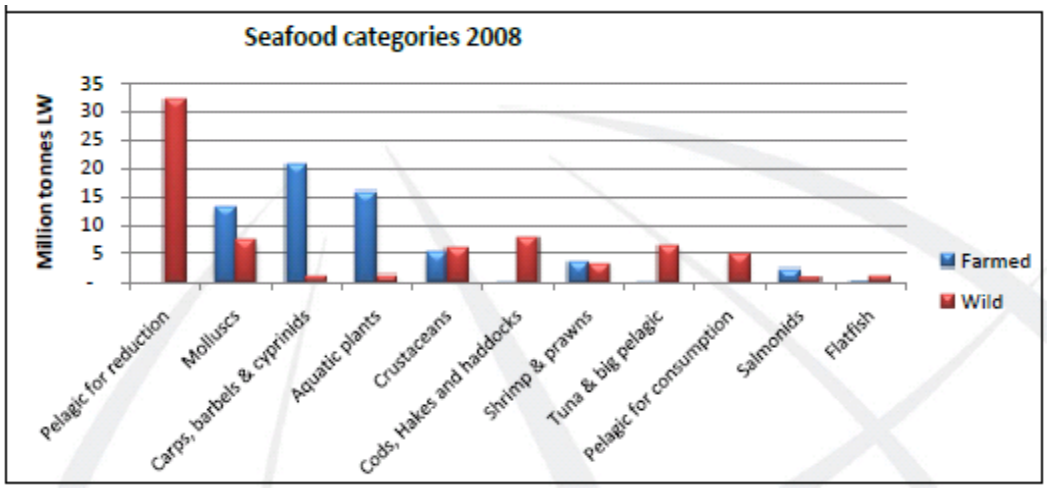
Figure 2.1 – Harvest Quantity



Source: Marine Harvest Industry Handbook 2010, p.13

Despite this impressive and rapid development, the global production of salmonids is still marginal compared to other seafood categories. In total, salmonids only make up 2.3% of global seafood supply .The supply of whitefish is approximately ten times larger and consist of a larger number of species. The figure below illustrates the size of each seafood category measured in tons.

Figure 2.2 – Seafood Categories



Source: Marine Harvest Industry Handbook 2010, p.4

2.1.1 Location

Fish farming in general requires that factors like sea temperature, water quality and other location specifics creates optimal conditions for the fish to develop. There are relatively few

locations that hold these standards. The main areas and most optimal locations for producing Atlantic salmon today are Norway, Chile, Canada and UK. Historically, Norway and Chile has been the largest producers measured in volume. In 2009, approximately half of all Atlantic salmon was produced in Norway equaling, 750 thousand tons.

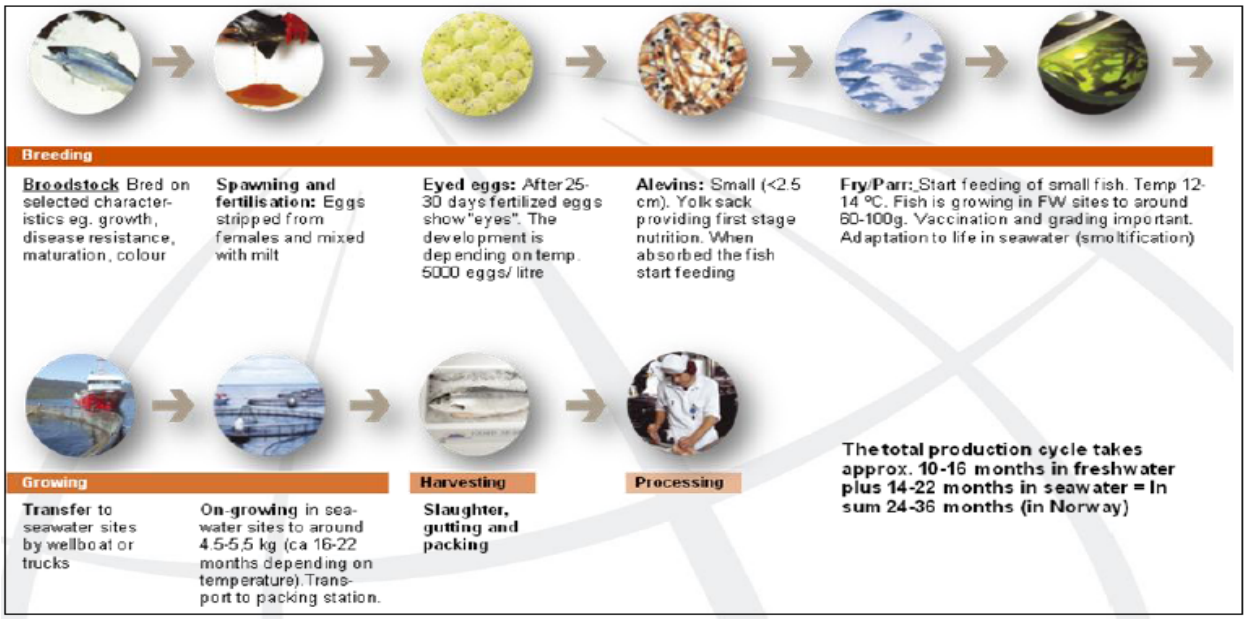
Location specifics are very important and essential for fish farming of several reasons. The water temperature affects how much the fish eats and thus the feed cost for the company. Further, the biological conditions on the locations influence factors like how fast the fish grows and the potential risk of diseases.

The production in Canada, UK and to some extent the Faroe Islands has been more or less stable the last five years. Future growth is expected to come from Chile and Norway. The growth is expected to be modest in the long term, due to the lack of new locations suited for fish farming.

2.1.2 Production of salmon

In order to breed fish, three fundamental ingredients is required, licenses, suitable locations and equipment. Licenses and location are considered to be significant entry barriers. This will be discussed in more detail in the strategic analysis. The process of producing Atlantic salmons is complex and time demanding.

Figure 2.3 – Production Process



Source: Marine Harvest Industry Handbook 2010, p.34

The first stage in production involves stripping eggs from spawning females. There are several suppliers of eggs to the industry and the production can easily be scaled to meet changing demand. These eggs are then developed in to smolt. The majority of smolt is produced"in-house" by vertically integrated salmon farmers.

Control over smolt production enables fish farmers to optimize the size and timing of smolt releases, which can lead to major improvements in turnover ratio. Also it impacts on the biological risks, as vertically integrated companies have a better control of the quality of the smolt.

A smolt is produced over a 6-12 months period from the eggs are fertilized to a mature smolt with weight of 60-100 grams. The smolt is then transferred with well boats to seawater fish farming facilities. Here they get fed until they are big enough to get slaughtered (normally around 4,5 – 5,5 kg). Further information about the value chain can be found in appendix 1.

The total production cycle takes 10-14 months in freshwater plus another 14-22 months in sea water. In total, this equals 24-36 months. This is about the same in all regions except for Chile where sea temperatures are better adapted and average harvest time is less, resulting in fewer months needed in sea water before harvested.

The figures below illustrate the main cost components and their relative importance in the farming of salmon in the three biggest regions.

Figure 2.4 - Production Costs per Kg

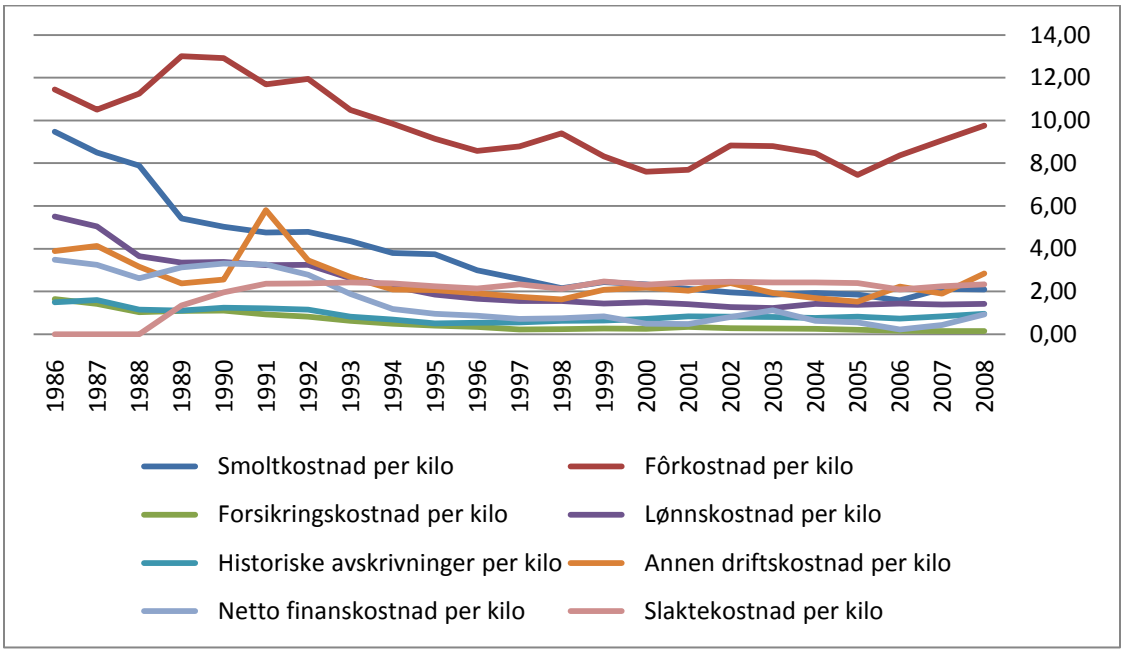
	Norway (NOK)	Canada (CAD)	Scotland (GBP)
Feed	10,60	1,80	0,99
Primary processing	2,29	0,53	0,25
Smolt	1,79	0,46	0,26
Salary	1,42	0,33	0,18
Maintenance	0,87	0,13	0,06
Well boat	0,72	0,14	0,13
Depreciation	0,79	0,26	0,12
Sales & Marketing	0,31	0,04	0,04
Mortality	0,27	0,05	0,05
Other	1,95	0,75	0,41
Total*	21,00	4,50	2,50

Source: Marine Harvest Industry Handbook, p.43

Most interesting to notice from the table is the feed cost. This cost component is by far the most significant in all the three regions. In Norway the feed cost equals approximately 50 % of the total production costs, while it stands for about 40 % in Canada and Scotland.

Figure 2.5 illustrates the cost development since 1986. Total costs, including slaughtering costs have on averaged decreased 2,4% per year, showing the industry's productivity gains. Costs for smolt and feed have decreased by roughly 2 % per year.

Figure 2.5 - Cost Development Norwegian Aquaculture Industry



Source: Norwegian Fish directory – fiskedir.no – statistics - timeseries[2]

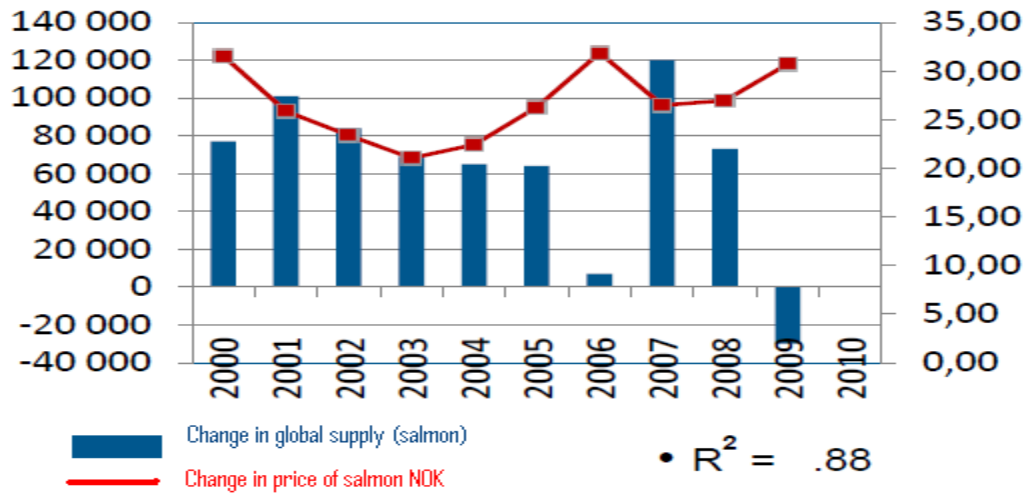
2.1.3 Supply and demand for Atlantic salmon

Most of the farmed salmon is marketed as fresh products. Therefore, all salmon produced in one period has to be consumed in the same period as the product is perishable. In short term, the production level is difficult and expensive to adjust as the production cycle is three year long. Hence, the supplied volume is very inelastic in the short term, while also demand is shifting with the season. The consequence of these dynamics is that salmon farmers are price takers in the market from week to week.

2 Fiskeridirektivet- http://www.fiskeridir.no/statistikk/akvakultur/loennsomhet/matfiskproduksjon-laks-og-regnbueoerret/tidsserier-matfiskproduksjon-samfunnsoekonomisk-perspektiv-avsluttet

In the long run however, fish farmers have had the habit of releasing more smolt when the price of Salmon is high and less when the price is low. As shown in figure 2.6 and appendix 2, this has caused a cyclical trend to emerge. It takes about three years from the time the price reaches its peak until it bottoms out and starts rising again. On average the cycle is six years. Figure 2.6 shows that the supply of salmon and the price of salmon has high correlation.

Figure 2.6 - Global supply of salmon compared to price of salmon



Source: Jan Trollvik - Global production of Salmon / What's happening in Chile, p.12

2.1.4 Main markets

Historically the four main trade flows have been Norway to EU, Chile to USA, Canada to USA and Scotland to EU. In recent years however, the market for salmon has developed more and more into a global market. This has happened as a result of mainly two factors: Rapid growth of volumes in Chile and consolidation in the industry, creating more companies producing and selling salmon from several regions. Salmon spot prices in the US and EU are therefore expected to be close to identical in the future.

Figure 2.7 – Main trade flows 2009

2009 Thousand tonnes HOG	Norway	Chile	Scotland	North America	Other	Total	%
EU	533	36	99	0	22	690	51 %
North America	39	110	25	116	15	305	22 %
Russia	63	5	1	0	2	71	5 %
Asia	77	27	3	2	17	126	9 %
South America	1	64	0	0	0	65	5 %
Other markets	57	6	2	1	33	99	7 %
Total	770	248	130	119	89	1356	
%	57 %	18 %	10 %	9 %	7 %		

Source: Marine Harvest Industry Handbook 2010 and Kontali Analysis

2.1.5 Outlooks

This section intends to give a brief overview of the outlooks within the fish farming industry. A more detailed analysis will be presented in later sections of the thesis.

The Chilean market had serious problems with a salmon virus in 2006-2007. As a result production volumes fell significantly in 2009-2010, which created the record high prices experienced the last two years. According to market experts, total production is expected to recover to normal levels in 2014. Here on out, the production is expected to grow at a more moderate speed.

The expected recovery of Chile's production, combined with a normal growth in Norway and the Faroe Islands, will probably put an end to the super cycle in the salmon market in the second half of 2011. The salmon prices will come under pressure and is likely to move towards lower levels[3].

2.2 Grieg Seafood

GSF is among the largest salmon producers in the world accounting for about 5 % of the total production. The company has operations in salmon farming, processing and sales of salmon products. GSF has operations in Norway, Canada and the UK with a total production capacity of more than 84,000 tons gutted weight (gwe). The company is established and registered in

3 Prospectus of GSF 2009, p.13 and SEB Enskilda 2011

Norway, with approximately 485 employees. GSF is not yet a fully vertically integrated production company, but is moving towards this with its current investment programme to become self sufficient in smolt.

In 2010 GSF is believed to reach a harvest volume of around 64,000 gwt and a turnover of NOKm 2,418, up from 48,747 gwt, and NOKm 1,622 in 2009. Sales and production are both well geographically distributed with about 54% of sales in the EU, 18% in the UK, 27% in the US and Canada and 1% in other markets[4]. In terms of harvested volumes, GSF is the fifth largest company in the Norwegian market, and is no.6 in terms of market cap among the listed salmon farmers on the OSE[5].

2.2.1 The history of GSF and important events

Since the Company's establishment in 1988, more than 28 acquisitions have been carried out to establish the current group structure. Since 1992, GSF has developed from being a medium-sized regional fish farmer to a global player in the seafood industry. Historically, GSF has focused on expansion as an essential part of their strategy. Today however, the company is entering a new phase of the group's development, with attention turning to efficiency of operations. GSF is currently ideally placed and has access to the world's largest and most demanding fish markets being Europe, US and Russia.

The following shade lights on some of the most important events in GSF's history in order to give insight in how the company has developed and emerged[6].

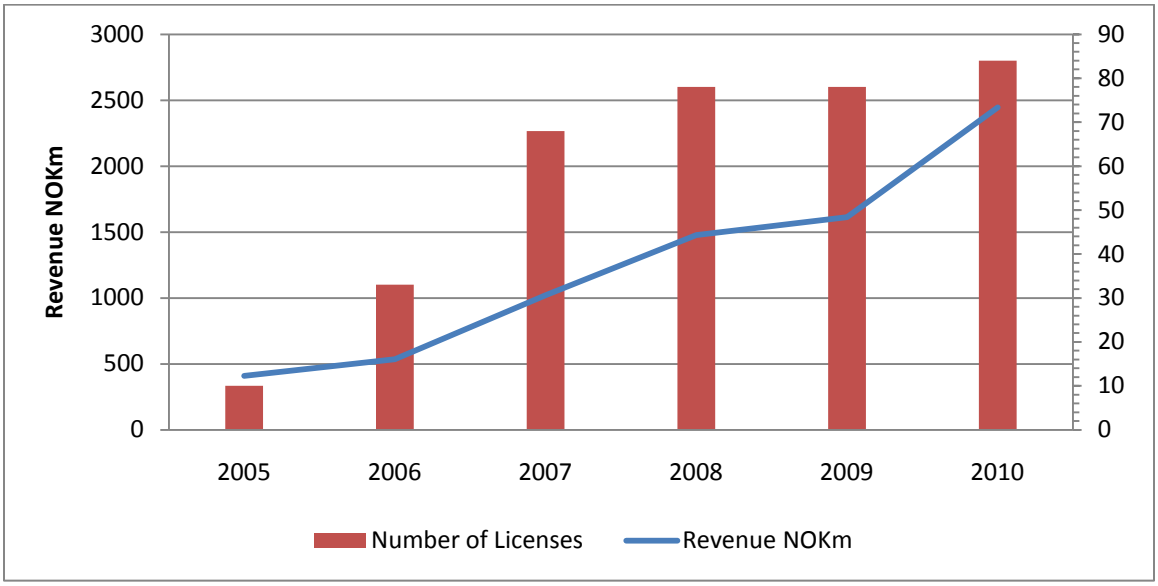
- GSF was established in 1988
- In 1992, the company started its salmon production in Norway as the Grieg family acquires several smaller farms in Rogaland.
- In 2000 the company centralized their business location and operations to Rogaland, southwest in Norway.
- The following year, GSF performed an acquisition of the company Scandic Ltd, today known as GSF BC, located in Canada.
- In 2006, GSF bought the fish farming company Volden Group AS with 23 licenses.

4 Appendix 3
5 SEB Enskilda Company Update, 2011
6 Prospectus GSF, 2009, page 2

- A year later, GSF performance another acquisition of a smaller Canadian company with 8 licenses.
- In April 2007, the company bought the stocks in Hjaltland Seafarms AS, located in Scotland with 23 licenses.
- In 2007, GSF raised NOKm 598 through issuing 26m new shares.
- Later in June 2007, three new companies were bought on the Shetland Islands with 4 licenses in total.
- The same year, GSF ASA was listed on the OBX. The stocks were traded with the ticker GSF. The size of the IPO equaled NOKm 697.
- In 2008, the company bought ten new licenses on Shetland.
- In 2009, GSF entered the year with a financial position under pressure. The company solved this by renegotiating its debt and through an equity issue, raising NOKm 136. ISA problems in one area in the Shetlands, led to forced harvest and fallow periods hampering results. The problem was solved during 2009.
- In 2010 GSF Acquires Northern Aquaculture Ltd with 4 sites on the Shetlands, with production capacity of 2,900 tons. Further, the company acquires two new licenses in Scotland, increasing the annual production capacity by 3,000 tons.

2.2.2 Performance and Growth of GSF

Figure 2.8 – GSF Historical Revenue and Growth



Source: Own creation and GSF annual reports 2005-2010

Figure 2.8 illustrates how acquisitions of licenses have impacted on the growth in revenue of GSF. As seen from the figure, GSF has experienced enormous growth since 2005, both in revenue and number of licenses. The revenue has grown from approximately NOKm 400 to NOKm 2,4 equaling a 500% growth in just five years. The number of licenses has grown from 10 in 2005 to 84 in 2010. Most of the revenue growth is due to various acquisitions, the most significant being the acquisition of Volden Group AS in Finnmark 2006 as one can see from the figure. GSF's revenue almost doubled in size from 2006-2007 and so did the number of licenses. From 2008-2009 the company did not acquire any new licenses, hence we identify the weak growth in revenue in this period.

2.2.3 GSF vision and strategy

Vision

GSFs vision is to be one of the world's leading salmon companies, produce high quality seafood for discerning customers and to generate value for the shareholders.[7]

Strategy

GSF's core expertise is on the farming of fish and the processes linked to the harvesting, primary and secondary processing, and packing of fresh fish. GSF wants to be in command of the whole production chain.

An essential part of GSF's strategy is to improve efficiency in operations and profitability. The company focuses on implementing processes and projects to improve productivity, realize synergies and to transfer the best practices across regions.

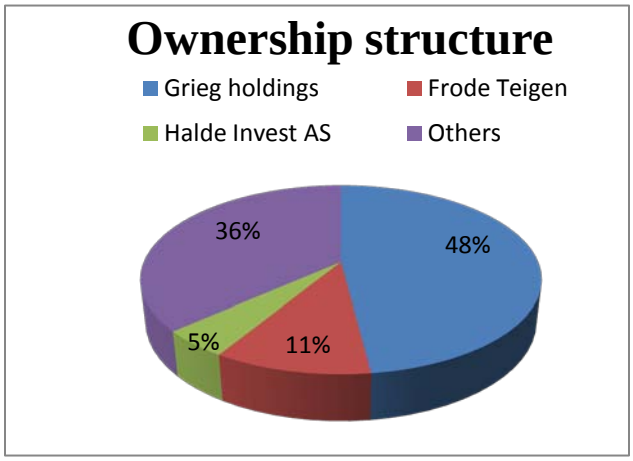
Hence, GSF priorities are investments which support the work to improve productivity and reduce production costs, as well as acquisitions which will increase operational synergies[8].

7 Prospectus of GSF, published 16 th July 2009, p.35
8 GSF annual report 2009,p.3

2.2.4 Ownership and management

This section presents the constellation of the ownership, supervisory board and management board.

Figure 2.9 - Ownership Structure



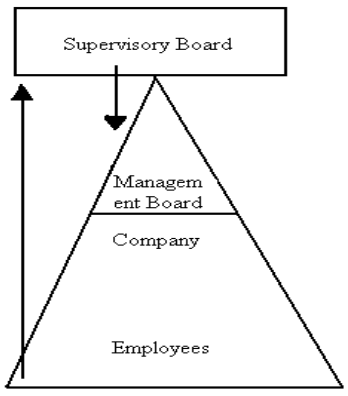
Source: Own creation and GSF annual report 2009

Ownership constellation

GSFs largest shareholder is GSF Holdings with 48 % of the outstanding shares. The second largest shareholder is the private investor Frode Teigen with a market share equalling 10,7 %, followed by Halde Invest AS with 4,7 % of the shares[9]. The top twenty owners combined holds approximately 87 % of the outstanding shares. Of the outstanding shares, 35 % is believed to be available for trading[10]. This small amount can contribute to volatility in the stock price when large blocks of shares are traded.

There is only one class of shares, and all shares are freely transferable. Each share equals one vote and every shareholder has the right to attend the shareholders' meeting. In general, decisions are made by simple majority, with important matters requiring a varying voting percentage and acceptance.

Figure 2.10 – Two Tired Board



Source: Own creation and Thomsen, S. P.67

GSF has adopted the Norwegian code of practice for corporate governance and follows the two-tier board system set by law in the Scandinavian countries[11]. The system requires that in addition to the executive board, the company has a supervisory board who serves as a way of governing and protecting the shareholders interests. Figure 2.10 illustrates the particular board system.

Supervisory board composition

The board is responsible of deciding the overall objectives and strategy of GSF as well as appointing the CEO that will carry out

9 Appendix 4 – Ownership table
10 SEB Enskilda Company Update, January 6th 2011
11 GSF annual report 2010,p.8 and Thomsen, S. (2008). An Introduction to Corporate Governance, p.66

the strategies. The board has also established two sub-committees: an audit committee and a compensations committee[12].

The board of directors consists of five members – one of them being the founder of the company and former CEO, Per Grieg jr. Together with Wenche Kjølås, Grieg Jr., protects the interest of the Grieg family's ownership.

Kjølås is currently the Executive Director of Grieg Maturitas, the holding company for the Grieg Group. Kjøsos has held several high ranking finance positions in Norwegian food production companies, and holds a minor stock position of 2000 shares in GSF. Kjølås is also member of two other publicly traded companies from the Bergen area and has a large professional network in Hordaland[13].

Harald Ingebrikt Volden has extensive experience in the Norwegian fish farming industry trough his former job as managing director and later on chairman in Volden Group. Volden is currently holding 34% of GSFs through his 64% owned company Halde Invest.
Terje Ramm, former deputy manager of Norgesmøllene, now holds a series of board positions, and a law degree from the University of Bergen.

Anne-Grete Ellingsen holds more than 20 years of experience from administrative board work within several sectors such as finance, trade, IT, fish farming and the oil sector, both from listed and unlisted companies.

Both Terje Ramm and Anne-Grete Ellingsen are independent of the company as well as of the company's largest shareholders.

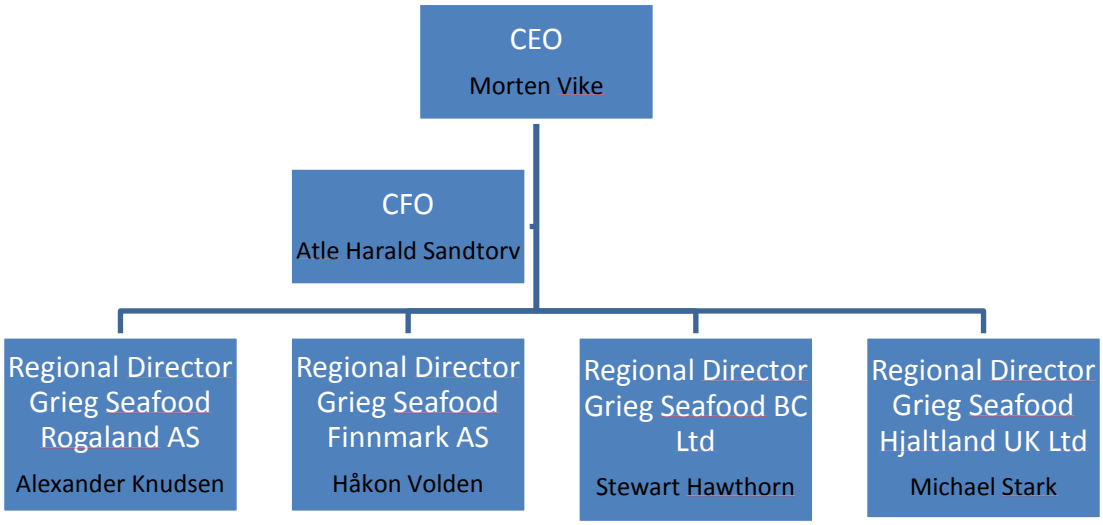
Overall the company's board of directors has a good balance between members with considerable ownership stakes and independent board members that is believed to have professional integrity to protect minority interest. The board is however lacking in their experience toward the retail industry and capital markets.

12 GSF annual report 2010, p.9
13 http://www.proff.no/rolle///508045/

Management composition

The management is in charge of the daily management of GSF and consists of six persons with Morten Vike in Charge as CEO. Figure 2.11 illustrates the management structure.

Figure 2.11 – Management Structure



Source: Own creation and GSF webpage

In the following we briefly present each of the managers and shed light on some of their respective strengths and weaknesses. We consider this to be important in order to evaluate the capabilities and credibility of GSFs management.

Morten Vike is the former executive vice president of Rieber & Søn and has since 1994 worked in the food industry. Vike has considerable experience from international operations and leadership. However, he is lacking in experience from the fish farming industry, compared to the CEO's in GSFs peer group.

Atle Harald Sandtorv is the CFO and has prior CFO experience from several publicly traded companies. Amongst others, he was a central person in Tide, when the company was in a time of strong growth and structural changes, mergers and acquisitions that formed what today is one of Norway's leading transport companies.

Alexander Knudsen has been working in GSF since 1997 and has prior to that been in the fish farming industry for several years. Håkon Volden started his career in GSF in 2006 and has been in the fish farming industry since 1993. Volden also holds several board seats due to his

expertise within the industry. Stewart Hawthorn was employed as the Managing Director in BC in 2010. Hawthorn has worked his way up in the industry since he held the position as site manager for Marine Harvest in the early 1990s. Michael Stark has also long experience from the industry and has worked with product development and processing technology within different companies. Stark holds several Chairman positions.

As a partial conclusion, GSF's regional directors are professionals with extensive experience from the fish farming industry, and their respective geographical business areas. This is in line with the opinion to industry analysts, who characterize the regional directors as highly competent people[14].

Management compensation scheme

Management compensation is divided in to a fixed and a variable part. The fixed part is their annual salary. The variable part is a stock option program which is part of GSF's incentive system. While stock option gives management incentives to increase the stock price, one should consider whether this is done trough short term measures like cutting investments or manipulating numbers to prop up earnings, or long term measures that actually creates value for investors. These issues are important to consider as badly-designed incentives may help transfer money from shareholders to managers[15].

The stock options in GSF are structured such that the first payout is three years later than when the stock option was initiated. This corresponds well with the nature of the fish farming industry, where it should be possible to realize results from investments after three years. Payout dates are also spread out over a period of two years, which makes it harder to manipulate numbers. By introducing stock options at a fixed yearly rate, the incentives for manipulating numbers would have further decreased[16].

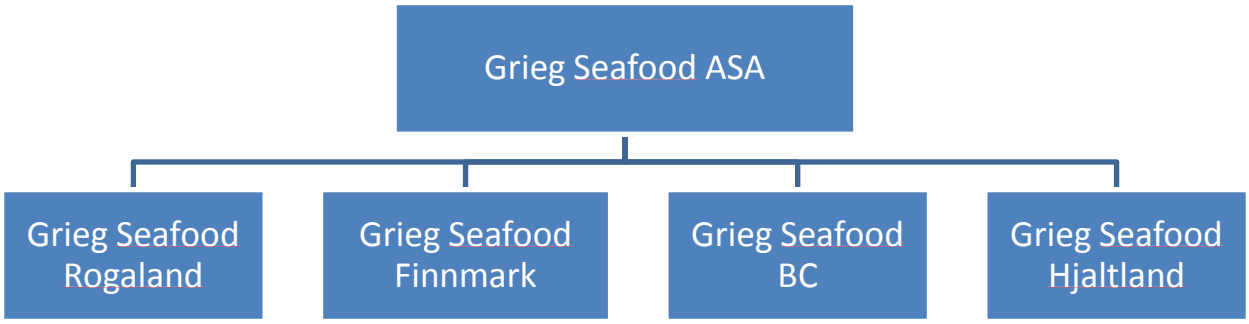
In our opinion, GSF's option program seems reasonable and is in accordance with proper corporate governance which is to ensure that the managers act in shareholders' interest.

14 Interview Henning Steffenrud, analyst First Securuties
15 Thomsen,S. (2008). An Introduction to Corporate Governance: Mechanisms and Systems, page 53.
16 Are Dragesund – Consultant – Cardo Partners

2.2.5 Organizational Structure

GSF is organized in four main divisions or subsidiaries, as the figure below illustrates.

Figure 2.12 – Company Structure



Source: GSF – North Atlantic Seafood Conference, March 2010, p.4

All four divisions are organized as limited companies with its own management. In the following, each division and its business activities will be presented.

GSF Rogaland

GSF Rogaland has been a part of GSF since 1998. The business ventures in Rogaland, are a result of mergers and acquisitions of smaller fish farming companies in the region. In 2009 operations from Rogaland contributed with 7 % of the company's total revenue.

- The fish farmed in Rogaland is sold to the European markets.
- The company controls 16 licenses in Rogaland.
- Total capacity in Rogaland is 16,000 gwt of which 12,000 gwt was utilized in 2009.
- GSF Rogaland has made substantial investments in both smolt production and farming facilities. The division runs its salmon hatchery based on three smolt licenses[17].

GSF Finnmark

Operations in the Finnmark region were established in 1978. Volden Group as one of the most profitable fish farming companies in the region was in November 2006 merged with GSF. In 2009 operations from Finnmark contributed with 44 % of the company's total revenue.

- The facilities in Finnmark enjoy the shortest export route to Russia in Norwegian fish farming. Almost all of the production in Finnmark is exported, and the most important markets are the EU and Russia.
- The company controls 24 licenses in Finnmark.

17 GSF Rogaland,webpage- http://www.GSFseafood.com/english.aspx?pageId=18

- Total capacity in Finnmark is 28,000 gwt of which 14,218 gwt was utilized in 2009.
- GSF Finnmark has complete harvesting and freezing facilities, in addition to 1 smolt production facility[18].

GSF BC

GSF started fish farming in Canada in 2001 on the West Coast of Vancouver Island, British Columbia. Operations from BC contributed with 24 % of the company's total revenue.

- 80 % of the Salmon is exported to the US while the rest is consumed in Canada.
- GSF holds 21 licenses in British Columbia.
- Total capacity in BC is 20,000 gwt of which 10,134 gwt was utilized in 2009.
- The company has its own hatchery located in Gold River, and owns a small processing plant[19].

GSF Hjaltland

GSF is the largest salmon producer on Shetland with activities on 23 sites divided between five clusters. Operations from Shetland contributed with 25 % of the company's total revenue.

- 70 % of the sales are to the UK market while the rest is divided between the US and EU.
- GSF Hjaltland operates 31 licenses, of which 23 are active.
- Total capacity in Shetland is 20,000 gwt of which 12,395 gwt was utilized in 2009.
- The subsidiary also manages its own sales department, a modernized harvesting and processing plant, in addition to a smokehouse[20].

2.3 Peer Group

In this section we determine a relevant peer group for GSF. The peer group will serve as a benchmark in the strategic and financial analysis.

The peer group should consist of companies that are similar and comparable to GSF in scope and scale. Our chosen peer group consists of companies operating in the same markets as GSF and holds similar business characteristic. In relation to using multiples in the valuation process, the peer group should also have the same prospects for ROIC and growth[21].

18 GSF Finnmark,webpage - http://www.GSFseafood.com/english.aspx?pageId=55
19 GSF BC, webpage - http://www.GSFseafood.com/english.aspx?pageId=20
20 GSF Hjaltland, webpage- http://www.GSFseafood.com/english.aspx?pageId=55
21 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p.366.

Three companies are chosen for the peer group analysis; Marine Harvest, Lerøy Seafood, and SalMar. These companies are direct competitors to GSF and operate in the same markets and in similar geographical areas. We have chosen to exclude Cermaq and Bakkafrost from the peer group. Cermaq is excluded because 65 % of their turnover comes from sale of fish feed. Bakkafrost is excluded, due to a short history, and lack of comparable financials.

2.3.1 Marine Harvest

Marine Harvest is the world's largest producer of farmed salmon with a total market share of approximately 20 %. The Norwegian based company has operations in all the main farming areas of the world with market shares of 25% Norway, 30% in both North America and UK. Marine Harvest has it's headquarter in Oslo and is listed on the Oslo Stock Exchange.

The company is fully vertically integrated with both smolt production, fish farming facilities, packaging facilities and a unit which prepares and distributes a variety of seafood products. The company also has a sales division which purchases salmon from smaller fish farming companies, and uses its global distribution and sales network to resell the salmon.

In 2009, Marine Harvest produced about 310.000 tons of farmed salmon, had a NOKbn 14,5 turnover and employed 5000 people[22]. The company currently holds 216 production licenses in Norway.

2.3.2 Lerøy Seafood Group

Lerøy Seafood Group is a Norwegian seafood production and distribution company. Lerøy is the world's second largest producer of farmed salmon with its main production located in Norway where it holds a market share of 13%.

The fully vertically integrated company also has a significant sales division. The company is headquartered in Bergen and has been listed on the Oslo Stock Exchange since 2002.

In 2009, Lerøy produced 121.700 tons of farmed salmon, had a revenue of NOKbn 7,5 and employed 1550 people[23]. The company currently holds 105 production licenses in Norway.

22 RS Platou- Seafood Quarterly Sector Report, January 2011, p. 36
23 RS Platou- Seafood Quarterly Sector Report, January 2011, p. 41

2.3.3 SalMar

SalMar produces its fish in Norway where it has a market share of approximately 8 %. Its main production areas are located in Mid Norway and North Norway the company also owns 50% of Norskott Havbruk AS, which owns 100% of Scottish Sea Farms Ltd, Great Britain's second-largest salmon farmer.

The company is known as one of the world's most efficient producers of farmed salmon.
SalMar has established a fully integrated system for smolt, farming, processing and packaging of salmon and is thus in control of the total value chain.

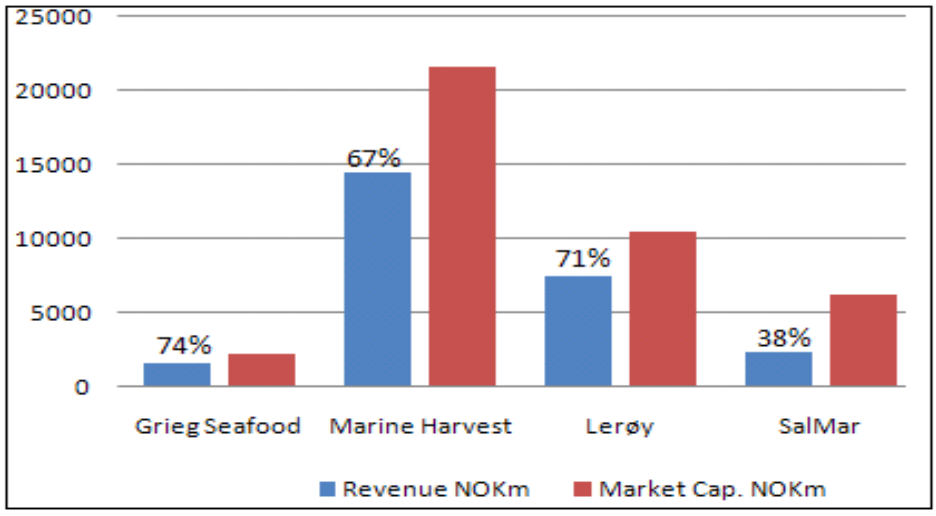
In 2009, SalMar produced 77,550 tons of salmon, had revenue of NOKbn 2,4 and employed 570 people[24]. The company currently holds 67 production licenses in Norway.

2.4 Comparison and ratio analysis

The following section serves to give insight in the peer group's potential and historical performance. In order to shade light on the peer group's growth potential, cost effectiveness and historical attractiveness, some relevant ratios will now be presented and interpreted.

Figure 2.13 illustrates the revenue in % of market capitalization of GSF and its peer group.

Figure 2.13 - Revenue in % of Market Cap



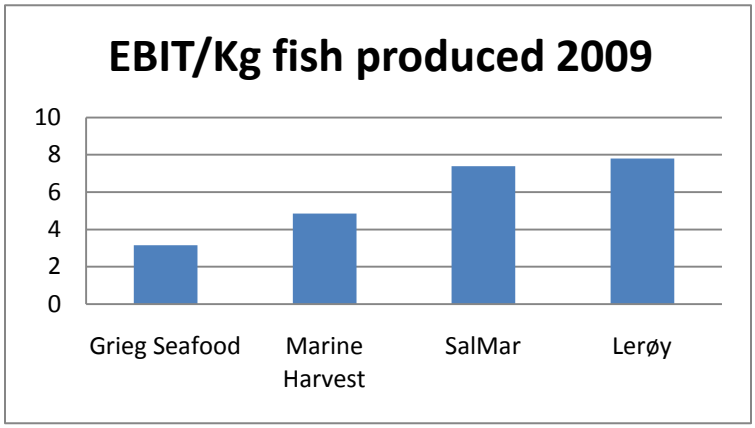
Source: Own creation and Annual Reports 2009

24 RS Platou- Seafood Quarterly Sector Report, January 2011

Marine Harvest is by far the largest company in terms of both revenue and market cap. Lerøy is the second largest company in our peer group with revenues and market cap equaling about 50 % of Marine Harvest. Then follows SalMar and GSF..

Due to the importance of keeping production costs as low as possible, it is interesting to examine the cost effectiveness of the companies. This issue is especially relevant for the fish farming industry were companies basically sell homogenous products at the same price. We therefore choose to look at the ratio EBIT / Kg produced fish. This gives a picture of the cost effectiveness of GSF in relation to its competitors.

Figure 2.14 – Cost Effectiveness



Source: Own creation and annual reports 2009

Figure 2.14 illustrates that GSF is the least efficient company in its peer group, earning only NOK 3 per kilo. It indicates that GSF has the biggest cost challenges compared to its competitors. The most cost effective companies are Lerøy and SalMar with ratios of respectively 7,8 and 7,4. In other words, these companies is more than twice as cost efficient as GSF according to the EBIT/Kg ratio. As each company holds a limited number of licenses and are getting closer to their maximum capacity, we characterize cost effectiveness as a very important internal factor companies can influence in order to be competitive. In relation to this issue, GSF has room for improvement.

To assess how attractive fish farming has been for investors it is interesting to look closer at the Return on Capital Employed (ROCE)[25]. The figure below illustrates ROCE for GSF and its peer group in the period 2006-2009.

25 ROCE is calculated as: EBIT/ (Total assets – Current Liabilities)

Table 2.1 – Return on Capital Employed [26]

ROCE, %	2006	2007	2008	2009	Average 2006-2009
Grieg Seafood	9,73%	5,35%	1,37%	5,83%	6%
Marine Harvest	3,66%	3,09%	3,56%	12,66%	6%
Lerøy	15,62%	6,29%	5,51%	14,28%	10%
SalMar	21,70%	13,45%	12,50%	18,99%	17%
Average GSF + Peer Group	12,68%	7,05%	5,73%	12,94%	9,6%

Source: Annual Reports 2006-2009

The ROCE has been volatile in the period 2006-2009. The average ROCE for GSF and its peer group is 9,6 %. With an average ROCE of 6 %, GSF's and Marine Harvest's return on capital employed has been below the peer group average. The strong performance in 2009 should be seen in relation to the disease outbreak in Chile and the subsequent high prices.

3. Strategic analysis

Our strategic analysis is structured in two levels; macro environment and industry environment. The analysis starts by employing the PESTEL framework to analyze GSF's external macro environment. The focus will then be narrowed down to the industry level where we will apply the Porter's Five Forces framework that determines the degree of competition in the fish farming industry. These parts combined give a good indication of GSF's growth potential and how their margins will change in the future.

3.1 Macro level – PESTEL

The macro analysis is based on the PESTEL model. It is a widely used framework that identifies and analyzes the external environment and its impact on companies[27].

3.1.1 Political factors

"No increases in Norwegian fish farming licenses in the short term"

The two main political factors influencing the fish farming industry is politicians influence on the number of licenses granted and risk of trade restrictions.

Licenses

To start aquaculture operations in Norway you need a license. Licenses are awarded by the Ministry of Fisheries and are administered by the Directorate of Fisheries. Since 1982, new licenses have been awarded only in limited numbers in 1985, 1988, 1999, 2001, 2002 and 2009.

26 (Numbers not corrected for transitory items)
27 Andersson,J.,Hedegaard, O. and Lauritsen,H. (2002). Grund Læggende Erhvervs Økonomi, 2nd Edition, p. 24

The present Norwegian government has stated that its main goal for the aquaculture industry is to secure that it is operated in a sustainable fashion. To ensure this, the Government has prepared the report, "Strategy for an environmentally sustainable aquaculture industry", in which the challenges of sea lice, fish escapes and the consideration of both wild salmon and sea trout are central. The government states that no more licenses will be granted without this being considered environmentally sustainable[28]. The report can be summarized in these three main objectives:

- the level of lice must be within the limits the government accepts
- the development in vaccine resistance must be under control
- the other measures taken to reduce the sea lice issues must have proven efficacy

These goals will be important to track to evaluate whether continued growth in the industry is likely.

Trade restrictions

The fish farming industry lives with uncertainty about trading conditions in key markets like the EU and the U.S. The main products also compete at an international food market dominated by subsidies and sector interests. We will in the following highlight a few earlier events to describe the industries vulnerability to political events.

On January 1, 2006, Russia banned imports of fresh fish from Norway after Russian veterinary authorities reported findings of lead and cadium in Norwegian farmed salmon. Investors reacted by sending Marine Harvest stock down 5,3% on OBX, showing the major impact such an event could have on the company's earnings[29]. Before these restrictions Russia was the number one destination for Norwegian salmon[30]. Many have later on believed that a quarrel regarding Russian illegal fishing in Norwegian territory was the reason for the restriction.

Norwegian fish exporters have earlier been accused dumping prices in attempts to squeeze out smaller fisheries from the UK. This has led to anti-dumping and countervailing duties,

28 Ministry of Fisheries and Costal Affairs - "Strategy for an environmentally sustainable aquaculture industry", published in 2010.
29 E24.no - Stock development – Marine Harvest – 01.01.2006
30 Thefishsite.com - Norway Fishery Products Annual Report 2007

amounting to about 25% in the US markets (still standing[31]). In the EU, Norwegian salmon exports have been hurt by provisional import tariffs and later on a minimum import price (abolished in 2008)[32].

Also several FTA meetings with China were canceled after Liu Xiaobo a political prisoner in China was awarded Nobel's Peace Price. For Norwegian fish export companies, such a tariff reduction could mean 380 million increase per year[33].

72 % of GSF's sales are to the EU and 21 % are to the US[34]. The government has earlier stated that even though they give high priority to the work of removing trade barriers, the marine potential will only be fully exploited when the seafood industry has satisfactorily access to the European market[35]. There are only two ways to accomplish this: either Norway must become an EU member, or fish must be integrated into the internal market through a change in the EEA Agreement.

3.1.2 Economic factors *"Diversification of locations leads to relatively low exchange rate risk"*

The main economic factors affecting the fish farming industry is GDP growth, exchange rate, interest rates and commodity prices.

GDP

Gross domestic product (GDP) refers to the market value of all goods and services produced within a country in a given period. One should expect that a GDP growth will lead to higher demand for goods like salmon and vice versa. With increasing living standards, one can imagine that people will substitute the cheaper protein food alternatives for more expensive ones, in this case salmon.

The relationship between GDP in GSF's main market and the salmon price will be elaborated in more detail in our forecast later in the thesis.

31 Aftenposten - "Norway lost the salmon dispute with the United States"
32 Thefishsite.com - Norway Fishery Products Annual Report 2007
33 Nrk.no – "Fears for free trade agreement"
34 GSF annual report 2009, p.21
35 Ministry of Fisheries and Costal Affairs –" Marine industry development"

Interest rates

GSF's debt equals NOKbn 1,2. The interest payments are floating and have been quite stable around 5 % throughout the years. Interest rate set by the Norwegian Central Bank (NCB) affect the interest GSF pays on its outstanding debt. NCB has kept the interest rate at low levels since the financial crisis in 2008 in order to stimulate the economy.

GSF monitors its interest rate exposure on a dynamic basis. In GSF's annual report the company presents the impact on profit and loss of a defined interest rate shift. For each simulation, the same change in interest rate is used for all currencies. The result of the calculation on sensitivities returns the following expected values: If interest is increased by 1.0 % on the interest-bearing debt as of 31.12.2010, the effect will be an increase in financing costs of NOKm 13[36].

Exchange rates

GSF operates internationally and is therefore exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the Canadian dollar, US dollar, Pound sterling and Euro. Foreign exchange risk arises from future commercial transactions, assets and liabilities, and net investments in foreign operations. Foreign exchange risk arises when future commercial transactions or recognized assets or liabilities are denominated in a currency that is not the entity's functional currency[37].

In relation to the two primary trade routes; Norway / UK to EU and Chile / BC - to the United States, exchange rate will affect GSF's profits in the following matter:

- If the CAD appreciates in relation to Chile's currency, the sale from BC to the U.S. weakens.
- Similarly, a rise of NOK vs. sterling weakens Norwegian exports compared to the UK exports to the EU.

As GSF has diversified its operations over several geographical areas, they are less exposed to currency fluctuations than competitors like SalMar and Lerøy. The following table illustrates how currency fluctuations will influence on the value of GSF's balance sheet in scenarios where the NOK is strengthened by 10% against US dollar, Canadian dollar, Euro and UK pound.

36 GSF annual report 2010, p.23
37 GSF annual report 2010, p.23

Table 3.1 – Exchange Rates Exposure

10 % Against US Dollar	
Long term debt	-
Cash	-6,15
Net effect on profit before tax, NOKm	**-6,15**
10% Against Euro	
Cash	-1,19
Net effect on profit before tax, NOKm	**-1,19**
10% Against UK Pound	
Long term debt	34,46
Cash	-0,03
Net effect on profit before tax	34,43
Equity effect when consolidating foreign subsidiaries, NOKm	**-13,2**
10% Against Canadian Dollar	
Long term debt	19,96
Cash	0,08
Net effect on profit before tax	20,04
Equity effect when consolidating foreign subsidiaries, NOKm	**-18,6**

Source: Own creation and GSF annual report 2010

As we can see from the table, fluctuations in exchange rates have some impacts on GSF's profit and equity. At the same time we identify that fluctuation in the Canadian dollar results in the most significant impact on GSF compared to the other currencies. The opposite effect as illustrated above will be achieved if NOK weakens by 10%.

Commodity prices

The feed GSF use in its production consists of different raw materials. The feed costs are affected by fluctuations in global commodity prices which in itself are affected by the global economic condition. Further, feed cost is the largest single cost component in salmon farming and constitutes to 50 % of the total production costs. We therefore consider it to be an essential value driver which also requires a deeper analysis. This will be done in the forecast.

3.1.3 Socio-cultural factors

"Food scandals may impact on demand

Changes in social trends can impact the demand for a firm's products. Subjects like media views, public attitudes and lifestyle patterns are therefore important to examine when trying to say something about the future demand for salmon.

Food scandals – food quality

In the past, various perceived health concerns, amongst others in relation to farmed salmon containing organic contaminants or cancer-causing PCB levels, have attracted negative attention in the media. Such media attention raised consumer scares, which resulted in temporary declines in the demand for farmed salmon[38].

Scandals in other food production industries will also have an effect on the demand for salmon. Recent food scandals like the spread of the salmonella bacteria, the E. coli bacteria and the mad cow disease has led to increased requirements for documentation on the food sold in the European markets. This has led to higher costs for the industry, GSF included[39]. For Norwegian salmon, the EEA agreement regulates these affairs and the requirements for hygiene and cleanliness is controlled by the Food Safety Authority in Norway[40].

Lifestyle patterns

"Health concerns leads to increased demand"

One of the biggest health challenges in the Western world today is poor diet and too little physical activity. World Health Organization (WHO) is concerned about the developments and has focused on the increase in the incidence of lifestyle diseases. The authorities advise people to eat more seafood, because seafood is a significant part in a varied diet. Seafood contains a unique combination of nutrients, proteins, vitamins, minerals and omega-3 fatty acids, which are all important components of a healthy and proper diet. This has led to an increase in the demand for sophisticated and healthy ready meals[41].

Media views – public attitudes

"Media views may put restriction on growth"

Farmed salmon has in some instances been subject to critical journalism based on statements and publications from various research communities and Non-Governmental Organizations (NGOs). The attacks have in most cases related to three subjects; fish escapes, fish diseases and sustainability.

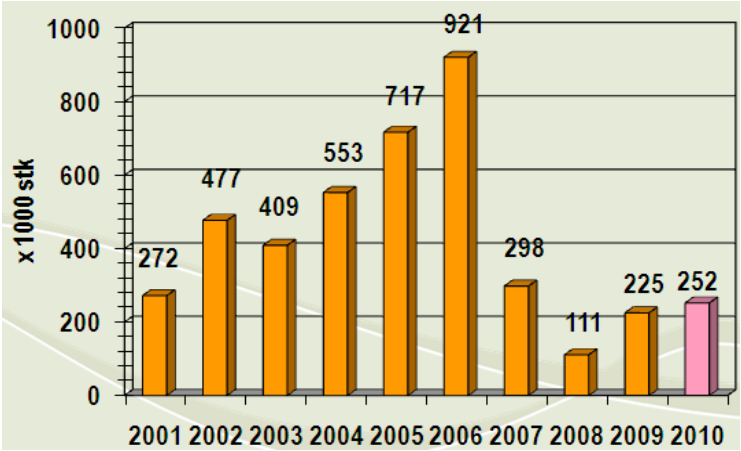
These types of attacks have had and may potentially result in temporary damage to the industry and its reputation. When for instance the U.S. newspaper New York Times wrote about salmon disease situation in Chile it was an important signal. It was a signal that the newspaper believed

38 Prospectus GSF 2009, p.17
39 Prospectus GSF 2009, p.17
40 Ministry of Fisheries and Costal Affairs –" Marine industry development"
41 Foodanddrinkeurope.com – "Health is key in ready meal growth, report"

that the consumers cared. When the Chilean aquaculture industry responded by placing ads in the same paper to correct the miss representation they thought the articles gave the industry, it shows that New York Times were right[42].

Incidents of fish escapes and a weakened wild salmon stock will also put pressure on the government to discourage growth in the industry and sharpen the environmental requirements for granting licenses. Incidents of fish escapes have however fallen the last decade.

Figure 3.1– Fish Escapes Norway



Source: www.Fdir.no – Statistics –Escaped Salmon

3.1.4 Technological factors

"Innovation offsets the impact from increasing feed prices"

The production process in fish farming industry is influenced primarily by three factors: physical, biological and environmental factors. The production costs thus consist of factors the company are able to affect and costs that are affected by circumstances beyond their control. We will in this part of the paper, only discuss the physical and biological costs.

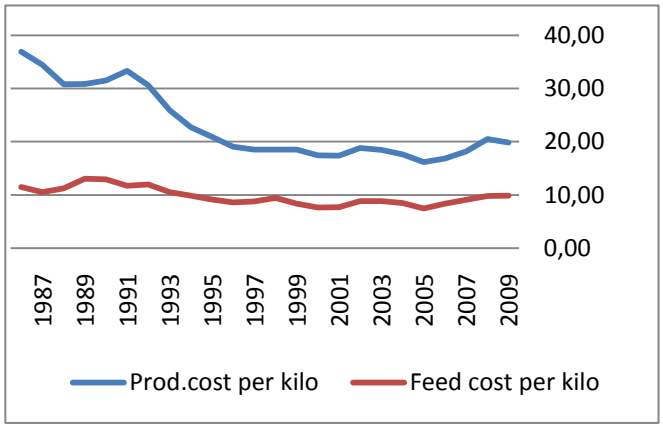
Physical factors

Since the beginning of the 1980s, the salmon industry has been characterized by a high degree of technological innovation. This has led to productivity gains, measured by average production per worker, and substantial decreases in production cost such that the costs in 2009 was about 50 % lower than in 1986[43]. Due to the high degree of competition in the business, large parts of the efficiency gains have been transferred to the consumers[44].

42 Frank Asche – *"Sick fish - a market barrier and a production challenge"*
43 Appendix 5
44 Asche and Tveteras 1999, Guttormsen 2002, Kumbhakar 2002 ,Tveteras and Battese 2006, Asche 2008

The fall in world commodity market in late 2008 led to lower prices for feed in the first half of 2009. Commodity prices have however risen steadily over the past year and the raw meal was quoted at a record price of over USD 1500 per metric ton at the end of 2009[45]. Due to heavy constraints on availability of fish meal and fish oil the prices of these products are expected to increase along with the rest of the commodity market. The feed producers have however, come a long way in their efforts to replace some of the marine-based input factors with vegetable raw materials. Hence, the industry sensitivity to shortage of marine feed stuff is significantly reduced since 2001[46]. This can be viewed by looking at figure 3.2 where you see that feed costs have been held at a steady level since 1987.

Figure 3.2 – Production and feed cost per kilo



Source: Fdir.no – timeseries - foodproduction

Other technological improvements include mass vaccine facilities that scan each fish separately to decide what medicine the fish needs. The machine is expected to cut vaccine costs and contribute to suppress diseases outbreaks. Another innovation has emerged through collaboration between Aqua Life, United Foods, Novozymes and Maersk Line enabling transportation of large quantities of live fish from one destination to another. This will likely make a globalized market for farmed salmon even more globalized as fish farmers now are able to reach destinations much further away than earlier with fresh fish[47].

Biological factors

"Mortality rate declining the coming years"

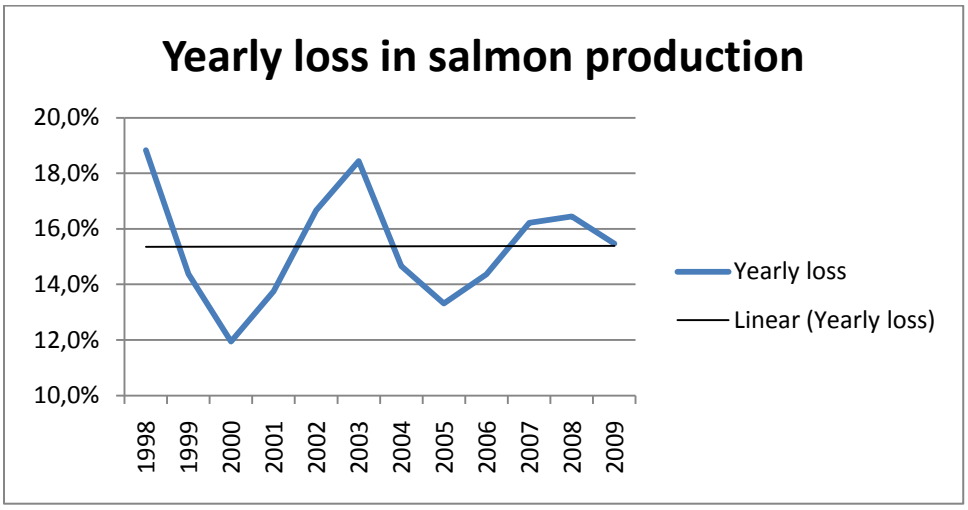
The salmon farming industry is associated with a high level of biological risk, especially in regards to diseases. The industry has historically, as any other intensive animal production, been through several periods with extensive disease problems. Common for all of these are that a solution has been found through breeding, better operating routines, increased know-how regarding the fish's biological requirements, and the development of effective vaccines.

45 Cermaq annual report 2009, page 10
46 GSF Prospectus 2009, p.17
47 Børsen – " Major caviar factory will open in the desert

During the 1990s the health situation in salmon farming improved dramatically. For example, the development of effective vaccines against the most important diseases, as well as generally better operating routines, have led to a reduction in antibiotic use of over 99 % in Norway [48].

The economic importance of diseases is measured in the form of mortality percentages (waste), reduced growth or reduced quality for the end product. The percentage of waste per generation varies; both between generations and producing countries/regions. In Norway the mortality rate has averaged on 15 % the last decade, with large variations from period to period. This shows that fish disease outbreaks affects regions rather than specific companies. Figure 3.3 indicates that mortality may be in a downward sloping trend. This will be considered in the subsequent forecast.

Figure 3.3 – Mortality in Percent of Total Production (Norway)



Source: Fdir.no – timeseries - mortality

3.1.5 Environmental factors *"Considerable biological risk – affects costs and industry reputation"*

The salmon farming industry is associated with a high level of biological risk. Among the risks are diseases, algae, sea lice, fish escapes and discharge of organic waste. We will in the following outline how these factors can affect the industry.

Diseases

Disease outbreaks have several affects on both the industry and companies. A large fish disease outbreak like the one Chile experienced in 2006-2007 will affect the industry as a whole. After the industry lost control over the ISA virus in 2006-2007, world total production (2009-2010)

48 GSF Prospectus 2009, p.19

fell 2%, creating record high prices, gaining companies not operating in this part of the world[49]. Minor disease outbreaks however only affect the specific fish farmer. In addition to a direct loss of fish, the fish farmer incur substantial costs in the form of lost growth on biomass, accelerated harvesting, loss of quality of harvested fish and subsequent periodic reduced production capacity.

The most notorious diseases are Infectious Salmon Anaemia (ISA), Heart and skeletal muscle inflammation (HSMI) and Pancreas disease (PD). In appendix 19 one can find a detailed description of each disease and how it has affected the fish farming industry.

Algae

Of the approximately 4,000 described types of algae in the world, approximately 75 have been identified as harmful for living marine organisms. Algae represent a risk in fish farming because the fish in the cages cannot swim away as they would normally do in the wild. Blooms of noxious algae are largely dependent on local marine and weather conditions. Algae have in particular led to losses at GSF sites in Canada (BC).

Sea lice

Sea lice are free flowing lice that affect many fish types, also salmon. They infect the skin and if not controlled they can cause lesions, secondary infection and mortality. Sea lice are controlled through good husbandry and management practices and the use of pharmaceutical products, wrasse (small farmed fish eating parasites on the site) and hydrogen peroxide in well boats.

The industry is working hard to solve this issue. A solution to the problem is however not expected in the first couple of years[50].

Fish Escapes

Due to fish escapes, sea lice and fish diseases that normally are contained at the fish farming facilities have spread to wild fish. This helps to weaken and reduce the wild fish stocks and has also damaged the industry's reputation. Regulators have therefore imposed regulations on the fish farmers to combat sea lice, and requirements for technical standards on farms to prevent fish escapes[51] [52].

49 Jan Trollvik - Global production of Salmon / What's happening in Chile? p.11
50 Henrik Heiberg - Investor Relations Marine Harvest
51 Government.no – "*Regulations for the Suppression of sea lice"*
52 NYTEK-forskriften 2003, NS 9415- standarder for design, installasjon, drift og vedlikehold av oppdretssanlegg.

Sustainability

From a global perspective, the three largest sustainability challenges related to food production are emissions of climate gases, use of scarce freshwater resources and the use of feed for animal protein production. These global challenges are mainly seen as opportunities for the salmon farming industry. While one need no fresh water to produce fish, the production of 1 kg beef needs 14,000 liters of fresh water. Fish farming has also much lower CO2 emissions compared to the other substitutes[53]. This can potentially be factors that motivate policymakers prompting the fish farming industry.

3.1.6 Legal factors / regulations

"780 - 900 tons biomass per license in Norway"

When commenting on the legal issues that influence the fish farming industry the most relevant subject to discuss is the licenses to farm fish.

Norway

As already mentioned, to start aquaculture operations in Norway you need a license. There are currently 981 licenses available each allowing you to produce a biomass of 780 tons (900 tons in regions Troms and Finnmark). In general maximum production capacity is 1.5 times MAB on the site. It is legal to trade licenses in Norway. However, if the buyer holds more than 15 % of the total licensed biomass in the country, he has to apply at the Ministry of Fisheries and Coastal Affairs to acquire more. One fish farmer are also not allowed to hold more than 25 % of the countries licenses or control 50 % of the standing biomass in one region[54].

Scotland/Shetland

In Scotland/Shetland the licensing system is very different. Instead of a license, there are several institutions that have to give permission before it is allowed to make use of an area.

Individual site biomass is governed by environmental concerns, like the capacity of the local marine environment. As a consequence individual site biomass is not uniform, but varies between 100 and 2,500 tons, depending on individual site characteristics[55].

Canada / British Columbia (BC)

In Canada several specific licenses must be approved by Provincial and Federal Ministries before you can start operating a facility. All parameters of production are regulated and provisions are

53 Marine Harvest Industry Handbook 2010, p. 11 - 12
54 Marine Harvest Industry Handbook 2010, p.38
55 Marine Harvest Industry Handbook 2010, p.39

incorporated within the licensing system to formulate amendments. A typical facility will range in size from 700 tons to 5,000 tons of biomass produced on site, per cycle of fish.
Leases are awarded by the Provincial Government and are issued for a period of five to ten years. In general licenses are renewed on request.

Chile

In Chile licensing is based in 2 authorizations; Fishery Sub Secretary and a Sub secretary of the Navy. The first gives and authorization to operate a fish farming facility and the second determines the location. The use of the license is restricted to a specific geographic area, to defined species and to a specified limit of production or stocking density. The production and stocking density limit are specified in the Environmental and Sanitary Resolution involved for any issued license. As in Norway these licenses are also tradable.

Due to the high biological risks fish farming entails, there are risks that the authorities will introduce further regulations for the operations of aquaculture facilities. In Scotland for instance the authorities have introduced a law that enables them to force companies to harvest the fish stock, in regions where the ILA viruses have been detected[56]. Other regulations can be new applications for licenses, capacity requirements, feed quotas, fish density, site allocation conditions or other parameters for production.

3.2 Micro level - Porter's Five Forces

Through the PESTEL analysis we determined the key macro-environmental elements facing the fish farming industry and how they can affect GSF's earnings. In order to analyze GSF's micro environment, the Porter's Five Forces model is applied. By applying the framework of Michael E. Porter, it is possible to analyze the attractiveness of the industry GSF is operating in. The framework is widely used in order to analyze whether the companies in a particular industry will be able to generate economic rents in the future[57].

56 GSF Shipping Annual Report 2010, p.3
57 Grant, RM.(2010). Contemporary Strategy Analysis, 7th edition, page 69.

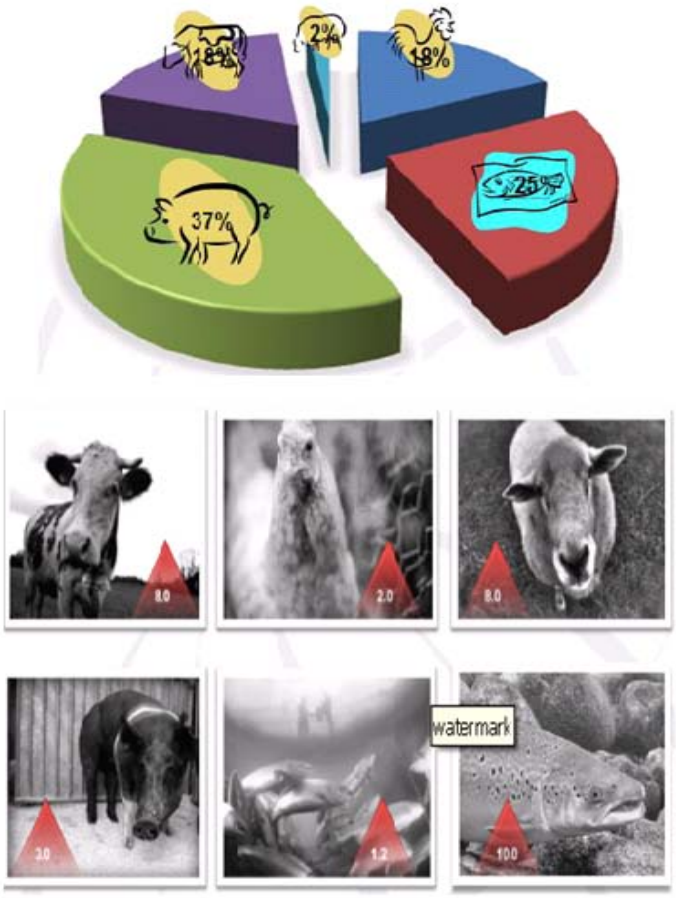
3.2.1 Substitute products

"More competitive prices - increased price elasticity"

Substitute products pose a threat to the industry as they can steal market share by offering alternative products that serve the same means. According to Porter the threat of a substitute exists when a product's demand is affected by the price change of the substitute product. As more substitutes become available, the demand becomes more elastic since customers have more alternatives[58].

The following analysis will be based on the measures price and sustainability. We consider these factors as important elements when consumers choose a source of protein. There are five sources for animal protein: cattle, poultry, sheep, pork and fish. These are also the closest substitutes for farmed fish. The first four are farmed, while more and more of the available seafood is also farmed. Pork is the definite largest source for animal protein in Europe, while seafood is the first runner up. Salmon is estimated to make up about 4% of the seafood consumption in Europe.

Figure 3.4 – Market shares and feed factor



Source: Marine Harvest Industry Handbook

Price

Compared to beef and chicken, salmon has become relatively much cheaper during the last decades. Especially compared to chicken, salmon has gone from being ten times as expensive to being only twice as expensive. Compared to pork, the relative price has varied between 2-4 times as expensive[59].Even though salmon still is considered an expensive commodity, the market for smoked salmon in Europe showed good

58 http://www.quickmba.com/strategy/porter.shtml
59 Marine harvest Industry Handbook 2010, p.24

growth midst in the financial crisis. In 2009 the growth in France, Germany, UK and Spain was 9-26%, showing that the price elasticity for salmon is getting steeper[60].

Sustainability

Sustainability is measured through the feed conversion ratio (FCR). In short this means how many kilo feed is needed to produce one kilo live animal. When comparing farmed salmon with the main substitutes we find a variation in the FCR between 1.2 and 8.0, where the salmon scores best and cattle scores worst. Salmon has a very low feed factor compared to other sources of meat, like chicken, pork and sheep[61]. While most of the fish is edible meat the other sources of protein have a higher level of waste or non edible meat. Following an increased concern for the world's food supply this gives farmed salmon a competitive advantage.

The fish farming industry has however, been criticized for using pelagic ingredients like fish oil and fish meal in the feed. Considering a feed factor over 1 the industry is in fact using more fish as input than it create in output. This is in direct conflict with the argument that fish farming is the solution to the stagnating wild fish catch. Over time the share of marine ingredients in fish feed has been replaced more and more with vegetable ingredients.

A final matter to consider regarding substitutes is wild catch of fish. As mentioned in the introduction, it is expected that wild harvesting will stagnate in the next years. This will increase the demand for fish farming products in general.

3.2.2 Barriers to entry *"Low availability of licenses and locations creates high entry barriers"*

Entry of new competitors will create fiercer competition in the industry, which can have a negative impact on GSF's profitability.

Location

Farming of Atlantic salmon has always been dominated by a few producing countries as there are several natural conditions that have to be in place for optimal production. As salmon is a cold-blooded animal, the temperature plays an important role for its growth rate. With high seawater temperatures, disease risk increases. Temperatures below zero degrees Celsius, causes mass mortality. The optimal temperature range for Atlantic salmon is 8-14 degrees Celsius. Due

60 Marine Harvest Industry Handbook 2010, p.30
61 Marine Harvest Industry Handbook 2010, p. 11

to these constraints most salmon fish farming is preformed in Norway, Chile, UK, Faroe Islands and Canada. These countries represent approximately 95 % of the total harvest. Hence, the specific location conditions required is considered to be a major entry barrier.

Licenses Norway and Chile

The limited number of licenses is a major entry barrier to the industry. Companies with GSF size may have a competitive advantage compared to smaller market participants due to the high prices of licenses. Also the 25 % market share- limit, prevent Marine Harvest to grow any further, as the company has already reached this limit in Norway. In the rest of the world there are no limitations on the number of licenses.

Economies of scale

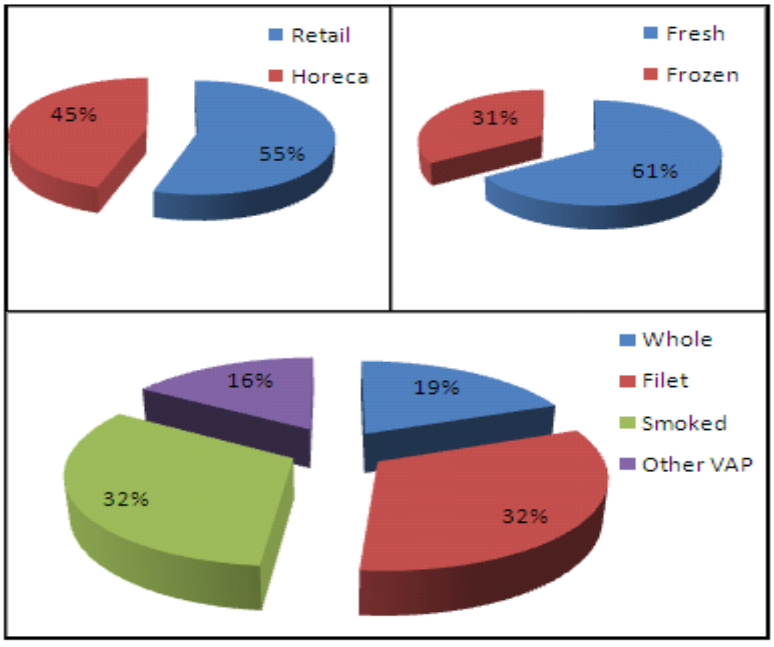
The salmon farming industry is a capital intensive and volatile business. This is a result of a long production cycle, a fragmented industry and expensive licenses and equipment. Major companies in the industry, like Marine Harvest, have therefore stated that there are substantial potential for consolidation in the industry, which they believe will secure increased operational efficiency in the value chain[62].

3.2.3 Bargaining power of customers

"Customers - moderate bargaining power "

The bargaining power of the customers relates to the customers possibility to influence on the pricing of the farmed fish. Countries from the European Union consume about 50% of the world's farmed salmon, where France and Germany are the biggest importers. In EU (2009) over half of the Atlantic salmon goes to retailers, while 45% goes to hotels, restaurants and catering (HORECA). Of whole salmon and salmon fillets almost two third are sold

Figure 3.5 – Customers and condition of sold salmon



Source: Own creation and Marine Harvest Industry Handbook

62 Marine Harvest Annual report 2008, p.13

as fresh fish and about one third as frozen. In EU salmon fillets and smoked salmon have an equal market share of 32% each, while whole fish has about 19%[63].

The seafood industry in Europe is extremely fragmented with more than 4,000 players. Most of the companies are fairly small. There are also a few companies of significant size involved in the processing industry including Marine Harvest, Icelandic Group, Royal Greenland and Morpol. The ten largest producers of smoked salmon in Europe have a market share of about 55-60% together[64].

Some retailers like Carrefour, Wall Mart and Lidl are big enough to have some bargaining power. Since salmon is a homogenous product with only small possibilities for differentiation both retailers and processing companies have the possibility to enter into special agreements with the different salmon farmers. The most important countermeasure to this is size. The larger fish farming companies are able to offer continuity in the shipments, and this gives a value for the buyers that they have to pay for. We consider GSF as one of the larger companies. Hence, GSF is more attractive among customers as they are able to enter agreements concerning stable shipments etc.

3.2.4 Bargaining power of suppliers

"Homogeneous product – low switching costs"

The bargaining power of the suppliers to the fish farming industry should be seen in relation to GSF's switching costs as a consequence of changing suppliers. The cost of changing suppliers is again related to the number of capable suppliers available. In the following we will analyze the relationship between GSF and their suppliers in order to evaluate whether the costs in their production is likely to rise in the future.

As in all protein production, feed makes up the largest share of the total cost. The price of feed has therefore a high influence on the companies' profitability. Historically the two most important ingredients in fish feed have been fish meal and fish oil. Due to the constraints on availability of fish meal and fish oil, the use of these two marine raw materials in feed production has been reduced and partly replaced by vegetable ingredients. This has increased GSF negotiating position against its suppliers.

63 Marine Harvest Industry Handbook 2010, p.29
64 Marine Harvest Industry Handbook 2010, p.32

The salmonid feed industry has during the last decade become more and more consolidated, and in 2008 there were essentially three large producers controlling the majority of the output. These companies, BioMar, Ewos (Cermaq) and Skretting (Nutreco) can be characterized as global players as they are present in most of the regions with the highest production of farmed salmonids. Combined they control 90 % of the total supply of fish feed[65]. Due to the homogeneity of fish feed, the costs of switching supplier are small. However, companies in the industry, like Lerøy has stated that they focuses on having a close relationship to suppliers in order to secure economy of scale rebates and a healthy long term business relationship[66].

3.2.5 Intensity of competitive rivalry *"Lower growth rate expected – increased competition"*

To analyze how GSF's profitability will change in the future, and how the company will grow compared to their competitors, one has to analyze the intensity of the competitive rivalry in the industry. In this part of the paper the following factors will be analyzed; growth rates, market shares and levels of product differentiation.

Historically, the salmon industry was represented by many small firms. In 1997, a total of 117 companies in Norway, Chile and Scotland produced 80% of the total volume. In 2009 this number was reduced to 51 companies, showing that the industry has entered a more mature stage. It is estimated that in the UK more than 80% and in North America about 95% of the volume is produced by five companies in each region. The major disease outbreak in Chile 2008, have caused this tendency to lag in Chile[67]. Table 3.6 illustrates the largest producers in the main fish farming regions in 2009.

65 Marine Harvest Industry Handbook 2010, p.46
66 LSG Annual Report, p.26
67 Marine Harvest Industry Handbook 2010, p. 28

Figure 3.6 – Largest Producers in Main Markets

	Top 10 Norway	H.Q.	Top 10 UK	H.Q.	Top 10 North America	H.Q.	Top 10 Chile	H.Q.
1	Marine Harvest	201 700	Marine Harvest	37 700	Cooke Aquaculture	42 300	Empresas Aquachile	56 700
2	Lerøy Seafood	108 500	Scottish Seafarms	26 500	Marine Harvest	36 500	Mainstream	44 000
3	Salmar	64 400	Lighthouse Cal.	20 100	Mainstream	22 400	Los Fiordos	36 900
4	Mainstream	30 700	Grieg Seafood	12 400	Grieg Seafood	10 200	Marine Harvest	31 700
5	Nova Sea	29 300	Marine Farms	11 700	Icicle	5 400	Multiexport	22 500
6	Nordlaks	27 000	*		*		Salmones Antarctica	20 700
7	Grieg Seafood	26 300					Pesquera Camanchaca	19 800
8	Sjøtroll	25 200					Salmones Cupquelan	17 100
9	Alsaker Fjordbruk	20 300					Trusal	16 200
10	Bremnes Seashore	15 300					G.M. Tornagaleones	15 300
	Top 10	548 700	Top 10	108 400	Top 10	116 800	Top 10	280 900
	Others	294 300	Others	23 600	Others	5 900	Others	161 700
	Total	843 000	Total	132 000	Total	122 700	Total	442 600

Source: Marine Harvest Industry Handbook 2010, p.26

As seen from the overview, Marine Harvest, the biggest producer of farmed fish in the world, have a market share of approximately 20 % of the total market. GSF, on the other hand only holds 3,1 % of the market.

The fish farming industry has experienced tremendous growth the last decades. Due to constraints on good locations and licenses, this growth is believed to be more moderate in the coming years. This has, and will continue to lead to consolidation in the industry.

The high degree of homogeneity of the product sold makes it harder to compete on differentiation and brand identity. This has forced the companies in the industry to compete head on, on being the most cost effective. Economy of scale has made the bigger firms more cost effective, as well as they have more money for marketing and R&D. Increased consolidation is therefore likely to put more pressure on companies to be cost effective.

3.3 Conclusion strategic analysis

In the following we highlight the key findings from the macro- and micro- environment analysis.

Demand recent years have been driven by increased focus on health and sustainability. Salmon has increased its competitiveness compared to its substitutes, as the price on salmon has fallen dramatically the last decade.

Concern over the industries many biological issues have reduced politicians willingness to offer new licenses to farm salmon. Combined with few available new locations to farm fish, this has limited the industry's potential for growth in the future. Combined with the high cost of licenses,

these three factors also serve as significant entry barriers. Due to a slowdown in growth rates, and possibilities of economies of scale, consolidation in the industry has also intensified. This has put pressure on companies to become more cost efficient.

Commodity prices have increased the last few years. Technological innovations has however offset this development and in general made the industry more efficient. Increased productivity, lower prices and an increased focus on health, has lowered salmon price elasticity. The demand is expected to remain strong in the future.

Previous food scandals show how sensitive the industry is towards negative media attention. The industry has also been affected greatly by different fish diseases. These diseases impacts directly on companies cost, and consequently profits. This remains a significant risk factor for the industry.

The competitive rivalry in the industry GSF is operating in is considered high. Increased consolidation and lower growth rates will intensify this competition in the future. The bigger firms in the industry will most likely gain from this development, while the smaller firms can be subject to acquisition attempts. Due to the homogenous nature of the product sold, a cost leadership strategy looks like a good approach to follow. GSF's goal to become among the world's 5 largest producers of farmed salmon and their focus on cost cutting shows that they are following this strategy.

4 Financial analysis

Understanding a company's past is essential for forecasting its future. The following financial analysis is based on annual reports from GSF and its competitors and will cover a period of 6 years (2005-2010). As earlier mentioned, a six year time frame is suitable for assessing historical performance in the fish farming industry, as this is the length of the typical business cycle. This time frame also ensures continuity between the analyzed companies.

4.1 Accounting policies

When valuing a company we have to carefully consider the quality of the financial data that form the basis for the financial analysis. Taking data for granted and basing investment decisions on earlier results without questioning its reliability, can lead to significant bias.

Several measures are taken to limit these kinds of bias in our analysis. We will in our analysis not only reorganize GSF's financial statements, but also its competitors'. By doing this we secure the comparability of the reported numbers, and make it easier to look for trends.
The companies chosen for the analysis are listed on Oslo Stock Exchange and therefore prepare their financial statements according to International Financial Reporting Standards (IFRS) standards. This increases the reliability between the analyzed companies.

4.2 Differences between the analyzed companies

As analysts we realize that there may be differences in business related risk between the companies. Both Lerøy Seafood and Marine Harvest for instance, have a VAP business which in years with low salmon prices, increases profitability and vice versa. This helps smoothen their profitability. GSFs peer group also have integrated sales organizations that purchase salmon from smaller farmers and use their global sales force and distribution network to resell the salmon at a higher price. The companies are thereby able to increase their earnings without having to make any major investments in licenses, equipment and biomass. ROIC and other measures are therefore not directly comparable.

GSF has entered the industry later than its competitors. Due to consolidation, increased competition and increased profitability in the industry, GSF has had to pay more for its licenses and equipment. This will affect both operating margins due to higher depreciations cost per kilo, and it will cause the turnover ratio to be lower.

4.3 Corrections to financial statements

Financial statements and commonly used accounting measures, like ROA, ROE, and cash flow from operations, are biased by non operating items and capital structure. Financial statements can therefore not be used directly for valuation purposes.

To properly evaluate a company's performance, it is necessary to rearrange the financial statements to separate the operational performance from the non-operating performance, remove nonrecurring items and make informed assumptions when additional information is not available in the notes.

In our analysis we will make the following corrections and adjustments:

- Reorganize both income statement and balance sheet statement to reflect economic, instead of accounting performance. This means removing items that are not considered to be core business and items that is not expected to reoccur in the future.
- Measure and analyze return on invested capital (ROIC) to evaluate the company's ability to turn investments in to profit.

We will also assess the company's financial health to determine if the company has financial resources to conduct short and long term investments. Further we assess the company's historical ability to reach its goals. We will also compare GSF financial performances with its competitors' to get an indication of results are attributable solely to GSF or to the broader market.

4.3.1 Shareholders' equity and dirty surplus

A reorganization of shareholders' equity could be one way to identify dirty surplus items. Dirty surplus items can be expressed as sources for revenue and costs not included in the income statement that instead are shown as changes in shareholders' equity. GSF and its competitors have however chosen to express its dirty surplus as other comprehensive income in its income statement. For GSF other comprehensive income mainly relates to currency translation differences. We assume that these effects are related to financing activities. They are therefore excluded in subsequent analysis.

However, the company uses share based compensation for their management. This cost should be reflected in the item *salaries and personal expenses* in the income statement. The following numbers are therefore added to the costs:

Table 4.1 – Dirty surplus

NOK 1000	2005	2006	2007	2008	2009	2010
Share based compensation	N/A	N/A	-3615	-2178	-621	-409

Source: Own creation and GSF annual reports

4.3.2 Income statement

To build ROIC and FCF we need to reorganize the income statement to only reflect items from the companies' core business. Items not expected to reoccur in the future should be removed from the analysis.

Items removed:

- *Other income* is rental income and other income that is not directly related to the sale of salmon. Ideally, these items should have been reclassified as financing activities. However, it is not stated in the annual report what corresponding balance sheet items that enable these earnings. They are therefore classified as operating.
- The item *other gains and losses*, reflect sales of parts of the company. Since trading business entities is not GSF's core business and since it is a non-recurring item, we have chosen to remove it.
- The items *impairment of fixed assets and goodwill/licenses* are nonrecurring charges taken to write down assets with an overstated book value. These items are transitory by nature and are therefore removed.
- *Fair value adjustments*: even though increased inventory value increases the value of a company, this value should be accounted for when it is realized (sold). By that time the value could have dropped due to factors like biological risks etc. In the valuation case one can also not expect earnings to continue rising due to higher prices forever. High prices last year doesn't have to mean high prices next year. The item is therefore not included when EBIT is forecasted.
- *Income from associated companies* should be included if the activities are considered part of the company's core business[68]. Income from Erfjord Stamfisk AS and Bokn Sjøservice can be considered as core business. The business units produce salmon eggs which is the first step of salmon production. The unit's income is therefore included as operational activities and as part of the invested capital.
- *Loans to associated companies* is interest bearing and is therefore considered a financial item.
- *Financial income and costs* is accounted for by the WACC.

In appendix 6 one can find the reformulated income statement for GSF and its peer group.

Tax issues

Since non-operating and non-recurring items also affect reported taxes, they must be adjusted to an all-equity, operating level. This means eliminating the tax effects of each non-operating / nonrecurring item. This is done by multiplying all the removed items net value by the company's

68 Plenborg-Regnskabsanalyse for Beslutningstagere, p. 128.

marginal tax rate. GSF reports the marginal tax rate to be 28 %[69]. By subtracting the tax shield from the company's reported tax, tax from core operations is left.

Since investments are considered to create value for a society, authorities have made tax incentives to increase investments. One incentive is the difference in the way a company and the authorities measure depreciations. Because there are differences between what a company can deduct for tax and accounting purposes, there will be a difference between a company's taxable income and income before tax. A deferred tax liability records the fact that the company will, in the future, pay more income tax. If the company continues to invest, the deferred tax will never have to be paid, and can therefore be considered an equity equivalent.

To use cash tax in the valuation, one assume that investments, increases from year to year[70]. We find this unlikely. Also, measuring the amount of deferred tax liability that will fall due the coming year also complicates the analysis. We will therefore use marginal tax from core operating activities in the preceding analysis. Deferred tax liabilities are held constant in the future.

Tax on core operations = reported tax - tax shield (non-core/recurring items)

Table 4.2 – Tax Adjustment

Tax adjustment, NOKm	2005	2006	2007	2008	2009	2010E
Reported Tax	-16.694	-44.179	16.165	97.461	-86.640	-226.727
Tax on operating items (Tax Shield)	-2.358	-3.760	23.353	129.196	-45.383	-81.311
Tax on core operations	-14.336	-40.419	-7.188	-31.735	-41.257	-145.416

Source: Own creation and GSF annual reports

4.3.3 Balance Sheet

After reorganizing the income statement to reflect EBIT from core operations, we must also re organize the balance sheet to isolate the assets and liabilities that generate these earnings. The aim of the reorganization is to derive the measure Invested Capital which is operating assets minus operating liabilities. Invested capital can be further separated in to operating working capital, fixed assets, intangible assets, and net other long term operating assets.

69 GSF annual report 2009, note 26, p. 34.
70 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p.177.

In the following a discussion of items, where it is doubts whether they are part of the operations or financing activity, is presented.

- *Investments in associated companies* is as part of core operations and is therefore included in the invested capital.

- *Cash and cash equivalents* should preferably be divided into operating cash and excess cash[71]. Due to lack of decomposition in the annual report and uncertainty related to rules of thumb, we categorize all cash and cash equivalents as excess cash.

- *Derivatives and other financial instruments* are considered financial items. We realize that in relation to GSF, where financial instruments are partly used to hedge price variations of raw materials and salmon, it could be considered an operating item. Subdividing hedges in to operating and financing related hedges are however not recommended[72]. All operating and financing related hedges is considered to be financial decisions. Thus should also gains / losses on hedges be considered financing activities. Also *changes in fair value of derivatives* don't differ between gains from operational hedges and financial hedges.

- The item *Loans to associated companies* is not explained by a specific note in the financial accounts. The item is however subtracted when the company settles the net interest bearing debt. We therefore consider it a financial item.

- *Available-for-sale financial assets* will not contribute to any earnings for GSF in the future and is therefore removed from invested capital.

- *Other current and non-current receivables* relate to items like insurance claims and prepaid expenditures all of which must be expected to stem from core operations.

- *Other current liabilities* relates to loans from customers and other short term liabilities. These items are considered non financial.

71 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005.
72 Plenborg – Regnskapsanalyse for Beslutningstagere, p. 131.

- *Deferred tax* – There are several arguments both for and against including deferred tax in invested capital depending on which recommendation one follows[73]. Since we believe GSF will continue its investments we consider deferred tax and equity equivalent, not an operating liability, so it should not be subtracted from operating assets.

- *Goodwill* – As the new accounting standards were implemented in 2005, companies can now do impairment tests to goodwill rather than amortizing it[74]. We therefore do not forecast amortization.

In the balance sheet all accounts are reported as closing accounts. We believe this gives a wrong impression since investments have been made trough out the year and not at the end. To improve this bias we have chosen to use annual averages, when computing invested capital. In appendix 7 one can find the reformulated balance sheet for GSF and its peer group.

4.4 Decomposition of ROE

We have now reorganized both the income statement and balance sheet to reflect operational EBIT and Invested Capital. We have removed all items not considered to be core business and items we do not believe will reoccur in the future. We are now left with numbers that reflects GSF's historical profitability and numbers that can be used to forecast future profitability.

The foundation for the historical financial analysis is Return on Equity (ROE). Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. We will use the DuPont model to further decompose ROE in to ROIC, which measure how profitably a company utilizes its resources, and Financial Gearing (FGEAR), which measures how gearing affects the ROE[75].

ROIC does not explain whether profitability is driven by an improved revenue/cost ratio, or a better use of capital (invested capital). ROIC will therefore be further decomposed in to EBIT margin and turnover ratio. At each step of the decomposition of ROIC the financial ratios of GSF will be compared with its peer group. This will give a much clearer image of the company's

73 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p.173
74 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005.
75 Plenborg – Regnskapsanalyse for Beslutningstagere.

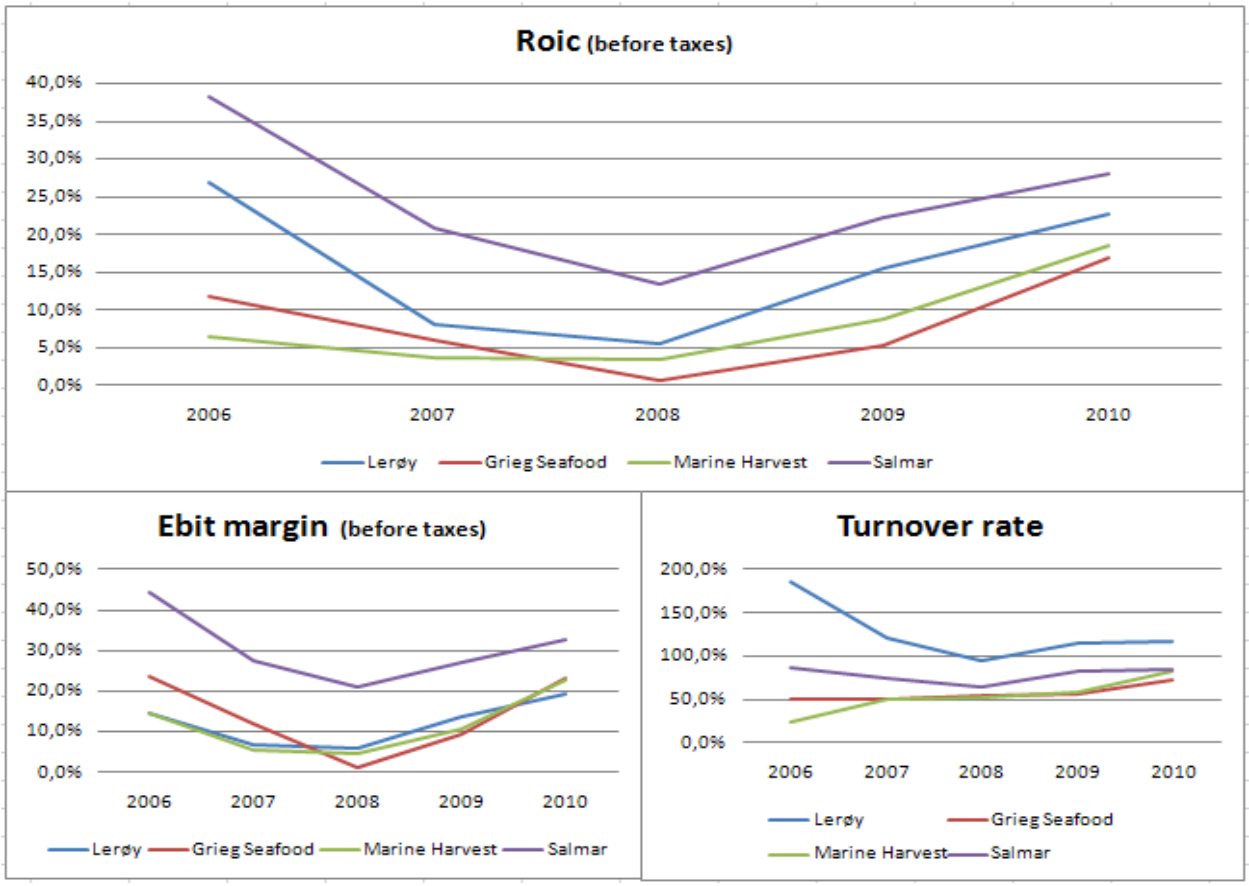
historical performance. Furthermore, it assists in the subsequent forecasts, as comparisons exemplify the context in which GSF operates in, and how it changes over time.

To increase our understanding of these ratios we will perform a common size analysis and a trend analysis. We will also perform a benchmark analysis of GSF and SalMar which is the most cost efficient and comparable competitor. This analysis will help us explain the development in different operational drivers and enable us to see the potential different cost cuts can have on GSF's margins.

In our analysis we have chosen to show pre tax numbers. This is because we want to analyze how the companies perform on what we consider operational drivers. While tax is a value driver which should be incorporated in management decision making to optimize value creation for investors, the company's in GSF peer group operate in different countries with different tax schemes. An after tax comparison, will therefore create a skewed picture of the managements' ability to create value. In appendix 8 the decomposition of ROE for GSF and its peer group is presented through a DuPont analysis.

4.5 Decomposition of ROIC

Figure 4.1 – ROIC, EBIT margin and turnover ratio



Source: Own creation and annual reports

GSF

Considering a WACC of 7,5 %, GSF has only been able to create abnormal returns for its investors in 2006 and 2010[76]. While achieving a return on invested capital of 12% in 2006, this number dropped to 1 % in 2008 before it started rising again, reaching 17% in 2010. GSF has grown extensively during the period, on average 103 % per year (invested capital). Most of this growth is due to several acquisitions, the most important being Volden Group (Finmark 2006), Target Aquaculture Ltd (BC, Canada 2007) and Hjaltland Seafarms (Shetland 2007). These acquisitions have had a direct affected on GSF short term sales. In the long term they affected GSF's growth potential by strengthening its total capacity.

76 WACC is derived in the valuation section

Peer Group

As seen from figure 4.1 GSF's peer group have followed the same pattern. While achieving a relatively high ROIC in 2006, ROIC fell steadily for all of the companies, before it turned in 2008 and started rising again. All of the companies in the peer group have increased investments heavily during this period. On average investments has increased 100 % per year. The companies' EBIT have evidently not followed the same pattern.

GSF and Marine Harvest have clearly been underperformers in its peer group during this period. While SalMar, managed a 15 % ROIC in 2008, GSF and Marine Harvest respectively got a return on invest capital of 1 % and 3 %.

4.5.1 EBIT Margin

GSF

In 2006 and in 2010 the company's had an EBIT margin of 23 %. The EBIT margin has however been volatile. In 2008 for instance GSF only managed an EBIT margin of 1%. Costs per kilo have been quite stable the last years, with a yearly growth of about 4,5 % for GSF, just the same as for SalMar. The price of salmon is therefore considered to be the main reason for the volatile EBIT margin.

In the period 2006-2009 the item *raw materials and consumables used* increased considerable compared to 2005. This development was mainly due to the disease problems GSF experienced in Rogaland and Shetland, which caused mortality and forced the company to harvest fish early[77]. This development led to lower turnover and higher costs. As seen from figure 6.3, higher feed prices probably also impacted on the costs.

The item *other operating expenses* have also increased considerably through the period. The rise in the cost is attributable to increased requirements on documentation on products sold in the EU and US. Chairman of the board of GSF, Per GSF Jr. also point to several unsuccessful attempts of launching a new sales organization to explain the development. GSF are now making a second attempt, by starting up a new sales organization called Ocean Quality, in cooperation with Bremnes Seashore AS. Cost of this venture is expected to be in the same range as in 2009-2010.

77 Annual report GSF 2008

Peer Group

As for GSF, the other companies' have also experienced a rather volatile EBIT margin. The volatility has however been less for Marine Harvest and SalMar. This can partly be explained by their VAP business and their more extensive use of forward contracts to hedge price risk. GSF have a larger exposure to the salmon spot price.

From the graph you can see that SalMar has the best operating margins in the peer group. On average, SalMar's operating margin is 17 % better than GSF's. Comparing SalMar's cost with GSF's, GSF has had higher *raw material* costs, *other operating* costs and higher *depreciations* than SalMar. Higher costs for raw materials can to some extent be explained by GSF extensive disease problem. However, even in years without disease problems, GSF have had cost NOK 1,5 higher than SalMar. The higher depreciations are explained by GSF entering the market later than SalMar, thereby investing at a higher cost.

Table 4.3 – Cost per kilo GSF vs. SalMar

Average	2005	2006	2007	2008	2009	2010		2005	2006	2007	2008	2009	2010	Average
-16,9	-14,6	-18,1	-18,4	-17,5	-18,5	-14,5	Raw materials and consumables	-13,1	-14,6	-13,1	-14,2	-15,0	-15,9	-14,3
-3,3	-2,5	-3,2	-3,4	-3,2	-4,0	-3,7	Salaries and personnel expenses	-3,4	-3,0	-3,4	-3,7	-3,4	-3,0	-3,3
-6,0	-4,1	-3,2	-4,9	-6,4	-8,4	-9,2	Other operating expenses	-2,4	-2,5	-3,0	-3,9	-4,0	-3,9	-3,3
1,9	0,1	2,4	5,1	1,0	3,2	-0,2	Changes in inventories	0,8	3,0	0,7	1,6	0,3	0,0	1,1
-24,3	-21,1	-22,0	-21,6	-26,1	-27,6	-27,6	Sum costs before ebitda	-18,2	-17,1	-18,7	-20,2	-22,1	-22,8	-19,9
-2,1	-2,2	-2,3	-1,8	-2,1	-2,4	-1,8	Depreciations	-0,8	-0,9	-0,8	-0,8	-0,9	-0,9	-0,8

Source: Own creation and annual Reports

Fish disease outbreaks have a major affect on the companies' earnings. As seen from figure, in years without any major diseases issues, like 2010, GSF manages to hold raw material cost fixed at around NOK 15 per kilo, which is NOK 2, higher than SalMar[78]. When fish disease breaks out, this number rises to NOK 18 for GSF and 16 for SalMar. Especially for *other operating expenses* it is obvious that GSF costs have risen faster than SalMar's.

78 GSF annual report 2010, p 4

4.5.2 Turnover ratio

Everything else being equal, it is attractive with a high turnover rate for invested capital. According to our calculations, the fish farming industry has low turnover rates, which is typical for companies with a capacity limit of production and hence turnover rate. In other words, GSF and its peer group require a relatively high level of investment to create the same revenue as in other industries with higher turnover rates[79].

GSF

GSF has had a steady turnover rate of about 50 % through the period. The growth in the turnover ratio 2009-2010 is caused by a higher growth in revenue than invested capital, showing that the company is running more efficiently.

Peer Group

Lerøy Seafood has the highest turnover ratio in the industry, approximately 130 %. This can be explained by Lerøy's sales division, a division that purchase raw salmon from other producers, and then uses its global sales force and distribution network to resell the salmon, without having to make any major investments in licenses, production facilities and biomass. This has a positive impact on the turnover ratio. SalMar is second with an average of 80%, while Marine Harvest and GSF ones again underperform with about +- 50 %.

Table 4.4 – Common size GSF vs. SalMar, production in % of items

Grieg Seafood								Salmar						
Avg.	2005	2006	2007	2008	2009	2010		2005	2006	2007	2008	2009	2010	Avg.
	15516	16955	40461	51731	48747	64214	Production	34800	44.100	64.000	65.100	77.500	103.500	
4%	5%	3%	4%	5%	4%	4%	Biological assets	10%	6%	7%	7%	8%	6%	7%
7%	8%	6%	6%	7%	6%	7%	Propert, plant and equipment	21%	14%	18%	16%	15%	12%	16%
6%	8%	4%	5%	6%	6%	7%	Licenses	15%	6%	8%	7%	8%	6%	8%

Source: Own creation and Annual Reports

The main difference between GSF and SalMar are the items *biological assets, property plant and equipment* and *licenses.* While production on average equals 4 % of biological assets for GSF revenues, it equals 7 % for SalMar. For PP&E the difference is even clearer. SalMar obviously manages to produce more salmon with less investment than GSF manages.

79 Plenborg – Regnskapsanalyse for Beslutningstagere 2007, p. 165

There are several explanations to this. GSF's earlier investments in licenses, biomass and production facilities have not been fully utilized yet, meaning that they are not producing up to its production capacity. Furthermore GSF is not self-sufficient in smolt. Companies like SalMar, that produces their own smolt, are able to improve utilization of MAB by optimizing the timing and size of the smolt released. By starting with larger smolts, the seawater phase is reduced and the MAB is reached faster. Also by transferring different smolt groups with different timing, the harvest pattern can be optimized enabling a longer period at the MAB limit with fish at harvest size.

When this happens, one can expect these numbers to improve which again will lead to an improved turnover ratio. However if GSF is not able to make these improvements, for a certain increase in production, GSF will have to invest relatively more than SalMar to achieve an increase in production. In appendix 9 one can find the more detailed common size analysis.

Table 4.5 – Operating Working Capital

Operating working capital	2005	2006	2007	2008	2009	2010	Average
GSF	72%	108%	104%	73%	83%	66%	84%
SalMar	27%	52%	54%	58%	43%	46%	47%

Source: Own creation and GSF / SalMar Annual Report

Compared to SalMar, GSF has a higher operating working capital than SalMar. This means that more of the money invested in the companies is tied up in items like inventory etc for GSF than SalMar. The larger part of the difference is how much money is tied up in biological assets.

By excluding biological assets GSF has a operating working capital in % of revenue of 0,3% compared to SalMar's -3,6%.

4.6 FGEAR

The measure Financial Gearing (FGEAR) is an expression demonstrating the degree to which a firm's activities are funded by owner's funds versus creditor's funds.

FGREAR: Net Interest Bearing Debt / Equity

When calculating net interest bearing debt, one subtracts financial assets, assets that require a return, or is interest bearing[80]. For GSF this means that *available for sale financial assets,*

80 Plenborg – Regnskapsanalyse for Beslutningstagere, p.175

derivatives and other financial instruments, cash and cash equivalents. As seen from appendix 8 GSF has managed to decrease its financial gearing the lasts few years. From having a financial gearing of 161 % in 2008, the company managed to pay down and refinance its debt trough a successful stock issue. Combined with a positive cash flow, which has increased *cash and cash equivalents* in 2009 and 2010, GSF are now operating with a FGEAR of 54 %.

4.7 Spread

Whether financial gearing is beneficial to a company's investors, depends on the spread. Whenever return on invested capital is greater than the net borrowing rate, financial gearing is beneficial, and vice versa.

Spread: ROIC – Net borrowing rate

Net borrowing rate: net financial costs after tax / net interest bearing debt

Net borrowing rate rarely corresponds to a company's actual borrowing rate. It should therefore be looked upon with caution[81]. In our case the net borrowing rate looks reasonable. When the company has larger financial costs than income, the net borrowing rate is in the range of 2-3 %. When financial income is larger than financial expenses it is in the range of 1-2 %. In 2008 it was 11 % which can be explained by GSF breach of its debt covenants which lead the bank to demand repayment of the loan within the year.

The spread for GSF was 20 % in 2006 and 19 % in 2010, indicating the significant benefits with financial gearing. In 2008 however, the spread equaled – 13 %.

81 Plenborg – Regnskapsanalyse for Beslutningstagere, p.175

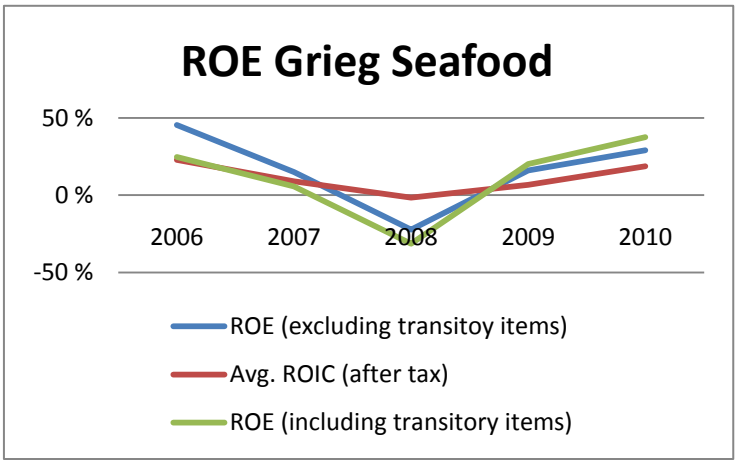
4.8 Conclusion ROE

Return on equity measures profitability taking both operations and financial gearing in to consideration.

*ROE: ROIC + Spread * FGEAR*

As seen from figure 4.2, financial gearing in GSF makes the years with positive ROIC more profitable for its investors. On the other hand the gearing also make years like 2008 worse. An average ROE of 17 % is probably satisfactory for GSF's investors.

Figure 4.2 – ROE GSF



Source: Own creation and annual report

4.9 Financial risk

Liquidity is crucial for any business. Liquidity ensures that a company can pay its bills and carry out profitable investments. A lack of liquidity on the other hand can limit management's freedom of action, reduce the potential for profitable investment opportunities and force managers to divest profitable business at a discount[82]. All of these events affects the value of a company and is therefore important to investigate.

The following analysis will be divided into short term liquidity risk and long term solvency risk.

4.9.1 Short term liquidity risk

Liquidity cycle

Liquidity cycle shows the number of days it takes to convert working capital to cash. The fewer days it takes to convert working capital into cash, the smaller liquidity risk. Liquidity cycle can be measured as 365 / (revenue /(current assets – current liabilities))[83].

Table 4.6 – Liquidity cycle

Liquidity cycle:	2005	2006	2007	2008	2009	2010
GSF	265	395	378	265	304	240
SalMar	98	189	197	213	158	166

Source: Own creation

82 Plenborg – Regnskabsanalyse for Beslutningstagere, p.192.
83 Plenborg – Regnskabsanalyse for Beslutningstagere,p.195.

The table above shows how companies in the fish farming industry have considerable risk related to the long production time in the industry. Compared to SalMar, GSF has had a small improvement trough the period. GSF still underperforms SalMar.

Current ratio

The ratio is mainly used to give an idea of the company's ability to pay back its short-term liabilities with its short-term assets. Current ratio: Current assets / Current liabilities. Numbers above 2 can be viewed as healthy.

Table 4.7– Current Ratio

Current ratio	2005	2006	2007	2008	2009	2010
GSF	1,78	2,22	1,87	0,82	1,95	2,95
SalMar	1,51	2,19	3,50	2,88	2,99	3,22

Source: Own creation

As viewed by the table, both companies have improved its current ratio through the period. GSF current ratio of 2,95 is decent. However the number should be looked upon with caution, due to the long production cycle in the industry. A better measure is therefore Quick ratio.

Quick ratio

The quick ratio only includes the most liquid current assets, and is therefore a more conservative measure of liquidity risk. The ratio is therefore probably more suited for the fish farming industry.

Table 4.8– Quick Ratio

Quick ratio	2005	2006	2007	2008	2009	2010
GSF	0,18	0,24	0,19	0,14	0,37	0,58
SalMar	0,25	0,28	0,57	0,39	0,75	0,70

Source: Own creation

As viewed by the table, neither of the companies would have been able to service their short term financial commitments. The companies must therefore rely on operational income to service its continuing obligations. This is a weakness for the industry as a whole and not these companies in particular.

4.9.2 Long term solvency risk

Interest coverage ratio

The interest coverage ratio illustrates a company's ability to pay interest on its outstanding debt. The ratio is measured as EBIT / Net financial expenses.

Table 4.9 – Interest Coverage Ratio

Interest coverage ratio	2005	2006	2007	2008	2009	2010
GSF	3,57	4,34	3,04	0,08	3,33	204,03
SalMar	56,71	21,49	8,23	4,38	229,03	27,73

Source: Own creation

As viewed by the table, neither of the companies has any problems meeting their financial commitments. In 2008 however, GSF breached its covenants, showing that thing turns quickly in the industry.

Solvency ratio

Generally, a low solvency ratio indicates long term liquidity risk. This is especially the case in industries with high operational risk, like the fish farming industry where the earnings are very fluctuating. Solvency ratio: Equity / (total liabilities + equity)

Table 4.10 – Solvency Ratio

Solvency ratio	2005	2006	2007	2008	2009	2010
GSF	0,22	0,36	0,43	0,30	0,39	0,49
SalMar	0,34	0,39	0,45	0,43	0,48	0,42

Source: Own creation

Both GSF and SalMar have a good balance between equity and liabilities.

In the future, we are less optimistic. As viewed by table 4.11 GSF will run in to financial difficulties in 2013 and 2014 as the company is not able to pay its financial obligations by using its own generated earnings.

Table 4.11 Future financial risk

Future financial risk	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Interest coverage	8	3	-1	0	2	4	6	7	8	8
Solvency ratio	0,49	0,52	0,53	0,52	0,49	0,47	0,47	0,46	0,46	0,46

Source: Own creation

GSF's bankroll of NOKm 143 is however large enough to cover the financial expenses in these years.

4.9.3 Partial conclusion financial risk

GSF's financial health has improved considerably trough the years. One may argue that this is caused by the good market condition. By looking at the different ratios it becomes clear that they worsen when the market worsens, and vice versa. Despite this, financial gearing in 2010 was lower than 2006 and current ratio was also more solid in 2010 compared to 2006.

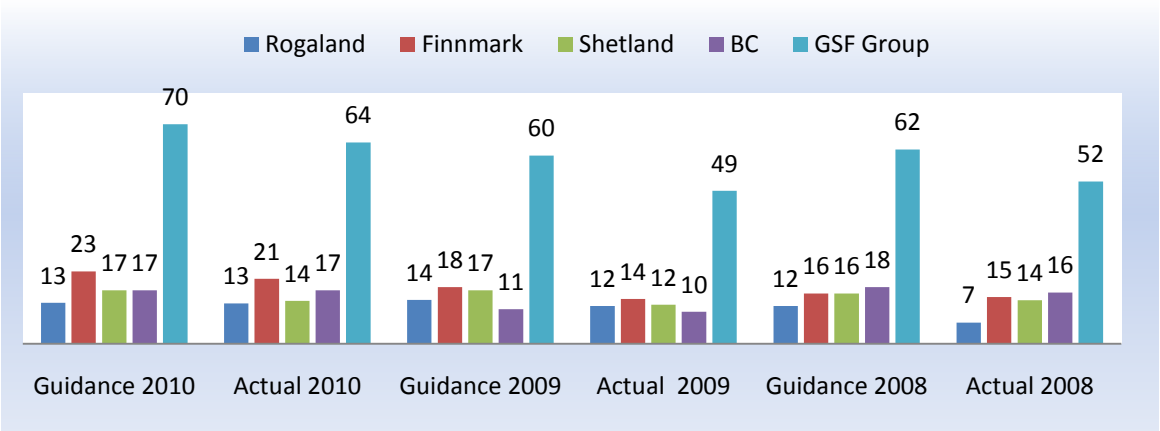
In 2010 GSF has cash and cash equivalents totaling of NOKm 144. With a sound financial gearing and the company's listing on Oslo Stock Exchange, it should be possible for the company to raise capital both debt and equity, for short and long term investments. Considering that last major acquisition performed by GSF (Volden Group in 2006), which had a total cost of NOKm 400, a 100 % debt financed acquisitions of that size would only cause GSF debt/equity ratio to increase to 74 %. This would still leave GSF in a fairly healthy financial position.

4.10 Management projections

4.10.1 Production guidance

There are several ways to estimate a company's future production. One way is to use the company's production guidance. To do this, one needs to be confident in the management's ability to forecast the future. By looking at figure 4.3 one can see that GSF's management historically has been overly optimistic when estimating future production.

Figure 4.3 Guidance vs actual production



Source: Own creation and Annual Reports

In their 2010 guidance, their forecast for the company as a whole, were 8 % off. In their 2009- and 2008 forecast, management missed their estimate by 18 % and 17 % respectively, both times overestimating production.

In the following we have tried to look for reasons why GSF missed their production projections.

- In 2008 the GSF had several problems that combined caused a lower than expected production. In Rogaland the company had problems with PD, in BC the company struggled with algae bloom, in Finmark low water temperatures caused fish to grow slower and in Shetland, a severe ISA outbreak hit production hard and caused write downs of 43NOKm[84].
- 2009: In Rogaland previous problems with PD still affected production. ISA virus identified at two locations in Shetland. Ordered by Scottish authorities to carry out culling. Postponed harvest in Finmark due to market prices.
- 2010: Temporarily weak performance in Canada due to re organization of one production area. Earlier ISA problems in Shetland, causes reduction in harvest. Water colder than expected causes lower production in both Finmark and Shetland.

84 GSF Quarterly reports 2008

While it is hard to conclude whether the management should incorporate unforeseen biological events in the forecasting, one should definitely be careful of basing production estimates solely on management expectations.

It is also interesting to notice that GSF's peer group has been much more accurate in their production guidance. As one can see from the table in appendix 10, Marine Harvest and Lerøy have historically been accurate in their guidance. Based on this finding, one should be extra skeptic to GSF's future production when looking at their guidance. This is an issue we consider more carefully in the forecast section.

4.10.2 CAPEX guidance

Management in GSF has not been any better at forecasting CAPEX. For their 1 year estimates on they have underestimated CAPEX with 12% on average. The same number for their 2 year guidance is 28 %. Appendix 11 illustrates the underestimation errors.

4.11 Customer profitability

As earlier mentioned, the demand for salmon has remained strong trough 2009-2010 despite the high spot prices of salmon. This may indicate that the demand elasticity for salmon is low. However it is important to investigate whether the high spot prices have been fully passed on to the end customer, or if intermediary processing and value adding companies have taken the hit.

In the following, a profitability analysis on a secondary processing-value adding company is therefore performed. The analysis will focus on the publicly traded company Morpol, as this is the largest fish processing and value adding company in the world, and the only publicly listed company.

Table 4.12 – EBITDA margin Morpol

Morpol	Q1 2011	2010	2009
Revenue	127.094	411.122	350.585
Cost of sold goods	-117.246	-352.103	-283.075
EBITDA	9.848	59.019	67.510
EBITDA margin	8%	14%	19%

Source: Own creation and Morpol annual report

Table 4.12 shows that processors like Morpol have been struggling to increase prices to the end-customer (retail / horeca) the last two years. This is illustrated by the decreasing EBITDA margin. As Morpol expressed:

"We made every effort to offset the increased purchase price of salmon by increasing prices to our retail customer base; however it was not possible to mitigate completely for an overall 40 % increase year on year in the raw material price[85]*"*

We believe it is a chance that the current situation where processors are subsidizing the end consumer will change in 2011-2012. As spot prices remained high in 2010, processors are now able to make contracts with retailers and horeca at more favorable terms, meaning that the end customer will have to suffer higher prices. This may lead to a lower demand for salmon.

Table 4.13 Year on year change in volume and price Jan-Oct 2010 vs. 2009

	Fresh		Frozen		Smoked	
	Change vol.	Change p.	Change vol.	Change p.	Change vol.	Change p.
France	-13,80%	18%	12,30%	-0,90%	11%	4,10%
Germany	-3,50%	9,10%	10,10%	4,70%	8,10%	8,30%
UK	-11,90%	14,50%	-5,80%	9,30%	-0,80%	12,10%
Spain	-11,10%	8,10%	39,60%	6,10%	-4,30%	-0,60%

Source: Norwegian Seafood Export Council, SEB Enskilda

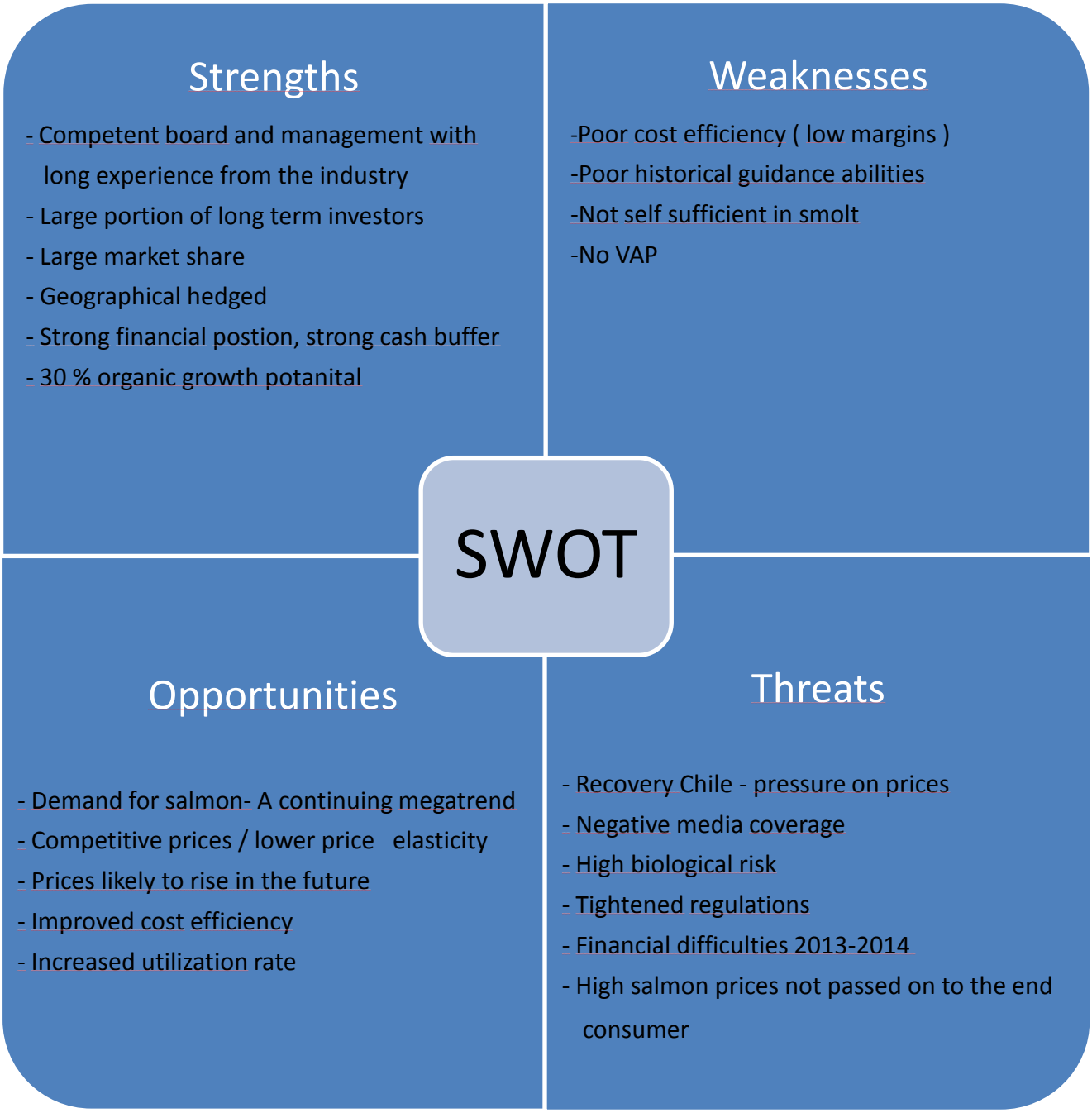
Table 4.13 illustrates that our suspicion may be correct. From the table one can see that for fresh salmon, price increases has led to lower demand. For frozen fish, prices have increased less than for fresh fish. From the figure it looks like customers have substituted fresh salmon for frozen as the prices of fresh fish has outpaced the price for frozen.

In appendix 12 an illustration from Morpol is presented, showing a lagging trend between salmon spot price and the price realized by the end user.

85 Morpol annual report 2010

5 SWOT

As a partial conclusion, the key issues from the strategic and financial analysis are summarized in a SWOT analysis. The model emphasizes the strengths and weaknesses of GSF and its position in the industry. Further, the opportunities and threats facing the company are identified.



6 Forecasting

The financial analysis has illustrated the historical performance of GSF and its main competitors and highlighted the main value drivers behind this performance. Combined with the findings from the strategic analysis, we will in the following use this information to forecast how the company's main value drivers will develop in the coming years.

As no one can predict the future, the art of forecasting is by no means a trivial discipline. Forecasting is a highly subjective matter that reflects the views of the individual analyst. Nevertheless, forecasting is of great importance. A thoroughly thought budget, based on critically evaluated information with both a strategic and financial character, in combination with sensitivity analysis, will enable us to make a qualified estimation of the value of GSF.

6.1 Recent developments

6.1.1 Investment in smolt facility

GSF is planning to invest about NOKm 200 (mainly in 2011 and 2012) in smolt capacity. This investment is to make GSF self sufficient in Norway and Canada and to reach a share of 60% of own smolt in the UK. The facilities will be based on recirculation (of fresh water) technology and will increase the in house production by about 8.5 million individuals to a total of about 30 million.

The investment is expected to be an important step toward being able to utilize the production capacity, improving the biological performance and reducing production costs. We believe the investment program can have the following consequences for GSF:

- Reduce cost per smolt: According to the company, the potential savings from the investments can have a direct impact on smolt cost in the range of 0,5 – 1,5 NOK per kilo.
- Improved smolt quality: The company will have better control of the quality compared to using external suppliers. High quality smolt has better growth qualities and is more resistant to diseases leading to lower mortality. Although the biological challenges GSF has experienced in recent years, are related to more general/natural challenges, higher smolt quality would have probably improved performance.

- Improved utilization: By controlling smolt production, GSF is better positioned with regards to planning the size and timing of smolt releases. By transferring different smolt groups with different timing, the harvest pattern can be optimized[86].

As mentioned earlier, the production cycle in the fish farming industry is in the range of 2-3 years. While the investment in new smolt capacity will mainly be done over the next two years, the investment will not materialize before 2015.

6.2 Budget period

The length of the forecasting period is important to reflect upon, as a too short explicit forecasting period often results in an undervaluation of the company or requires high growth rates in the terminal period, whereas a too long explicit forecasting makes the estimations highly unreliable[87]. As any considerable future growth for GSF depends on acquisitions or new license rounds initiated by the governments, and due to the volatility in the fish farming industry and the insecure biological environment, a short budget period would have been appropriate. However the budget period finally chosen should reflect the period in which one believes the industry or the company will approach the long term growth of the economy.

We have therefore concluded on a budget period of 9 years. Figure in appendix 2 illustrates that the industry is currently at a top of a cycle. If the history repeats itself, the salmon price will bottom out in three years, before it starts rising again. As a normal cycle in the industry is 6 years, this corresponds well with our chosen budget period.

6.3 Income statement forecasting

The following value drivers from the income statement has such an important affect on GSF's value, that we have chosen to analyze them explicitly; price, total production and feed cost. The other income statement items will be measured at historical averages or levels from 2010. Depreciations will be analyzed along with CAPEX under the balance sheet forecasting.

86 Per GSF Jr.

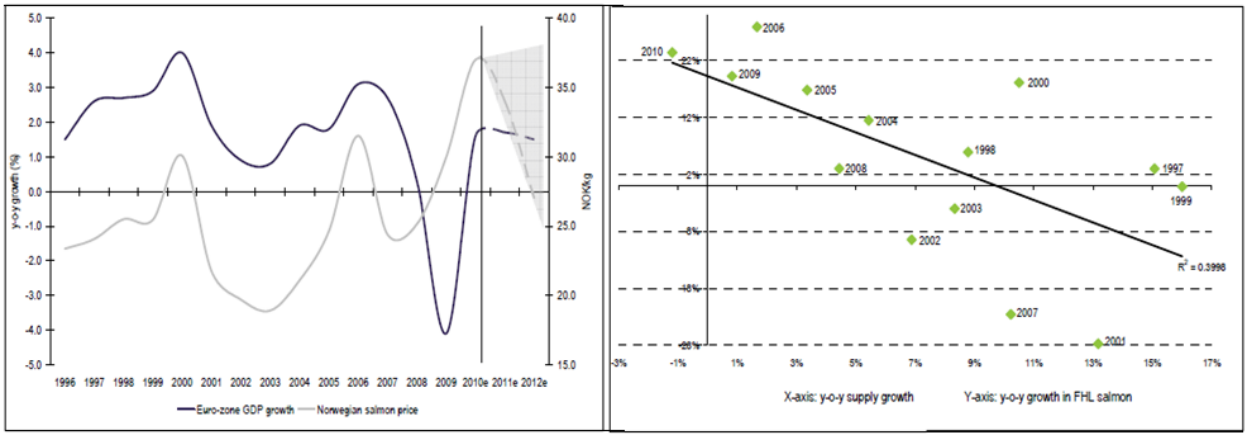
87 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 230.

6.3.1 Salmon Price Forecast

As illustrated in the financial analysis, GSF's performance is highly dependent on the price of salmon. The price of salmon is determined by global supply of salmon and demand[88]. Hence we need to analyze how supply and demand will evolve in the future.

As supportive arguments to why we consider demand and supply to be the main drivers of the salmon price, we illustrate the correlation between the respective variables and the salmon price in the figure below. The analysis is done by SEB Enskilda. We have also performed our own correlation analysis with the historical data we hold, but could unfortunately not find similar correlations as SEB Enskilda. Possible reasons for this are argued on later in this section.

Figure 6.1 – Correlation salmon prices, demand and supply



Source: SEB Enskilda

Figure 6.1 illustrates a clear positive correlation between demand growth (Europe GDP growth) and growth in salmon prices, and a negative correlation between supply growth and growth in salmon prices.

In order to estimate future salmon prices we will apply a linear regression model. The linear regression will identify the relationship between historical salmon prices, supply and demand. The results from the linear regression give us the necessary output we need to establish a mathematical model or equation, explaining how the salmon price will develop on the basis of our future supply and demand estimates.

Before we move on to the linear regression, we have to derive estimates on supply and demand.

88 Frank Asche, Professor at the University of Stavanger (UIS)

Global supply

Due to the industry's production conditions and limited available information, it is difficult to estimate the quantity of fish under production. Further, it is hard to estimate how quickly production in Chile is back to normal levels. Projections are in the interval 100.000 - 600.000 tons showing the large insecurities among analysts[89]. In other words, the gap is very large and the influence from Chile's production on the salmon price is therefore uncertain.

Due to the complexity of the matter, we have decided to use forecasts from Kontali Research, which is a leading market analyst[90]. The table below illustrates Kontalis 2011-2015 global supply estimates.

Table 6.1 – Global supply estimates

	2011E	2012E	2013E	2014E	2015E
Total global supply (1000 tons WFE)	1481	1720	1855	1910	1970
Annual growth	*2,78%*	*16,14%*	*7,85%*	*2,96%*	*3,14%*

Source: Kontali

The solid growth rates in 2012 and 2013 are mainly attributed to Chiles return. The other years with "normal" industry conditions we identify quite modest growth rates of about 3 %.

Demand

Among analysts and market participants, it is believed that the demand of salmon will continue to increase in the coming years. The last years demand for salmon should be characterized as a megatrend and it is difficult to evaluate how this trend will evolve in the future. As analyzed in our strategic analysis, the world population is growing at a rapid pace and the need for proteins is expected to increase. In our opinion, healthy food has become a trend for the future. Further, the wild catch has stagnated and the gap between increasing demand for seafood and supply will be filled by aquaculture[91].

Several factors influence the demand for salmon. Among these are GDP growth, prices on substitute products and megatrends. Due to uncertainties relating to the development in these factors and uncertainties of their multi correlation we have decided to use European GDP as the

89 Frank Asche, Professor at the University of Stavanger (UIS)
90 Kontali Analyse AS is an independent world leading provider of analyses for aquaculture and fishing industry- www.kontali.no
91 First Securities- GSF Company Update 08. April 2011

only indicator of the gross demand for Salmon. We have chosen European GDP contra World GDP, since Europe is by far the most important marked for farmed salmon.

In table 6.2, GDP estimates for 2011-2013 are presented.

Table 6.2 – European GDP estimates

Europe GDP Estimates, EURBn	2011E	2012E	2013E
Growth Rate %	1,7	1,7	2,1
Annual Europe GDP Estimates	9173	9329	9525

Source: Bloomberg and Datastream

As we can see, it is expected a rather moderate growth in Europe's GDP which illustrates the relatively slow recovery after the financial crisis in 2008. Our forecaste is based on Bloomberg estimates which is also in line with IMFs estimates[92].

The next section presents the linear regression analysis in detail.

Regression Analysis

In order to forecast the salmon price with highest possible precession, we chose to use econometrics. In specific, our intention is to develop a mathematical model that is based on statistical relationships global supply and demand (Europe's GDP) and salmon prices. The model consists of the dependent variable salmon price, and two explanatory variables; global supply of atlantic salmon and European GDP.

All the historical time series are based on annual measures from the period 1995-2007. We consider this time period to be sufficient in order to shed light on the connection between salmon prices and global supply and Europe's GDP. We have chosen to ignore the last three years data due to the situation in Chile which caused higher than normal salmon prices despite a decreasing GDP, illustrated in figure 6.1. We consider this an extraordinary situation which is not representative for normal market conditions.

Our time series are in different measures; NOK per kg, Euro Billions and 000`tons respectively. In order to use the data in the same model we have to make the measures comparable. We do this by transforming each time series to logarithmic numbers.

92 IMF- Economic Newspaper Article June 06 2011, http://economicsnewspaper.com/world-economics/the-imf-raised-its-forecast-for-growth-in-the-euro-area-7039.html

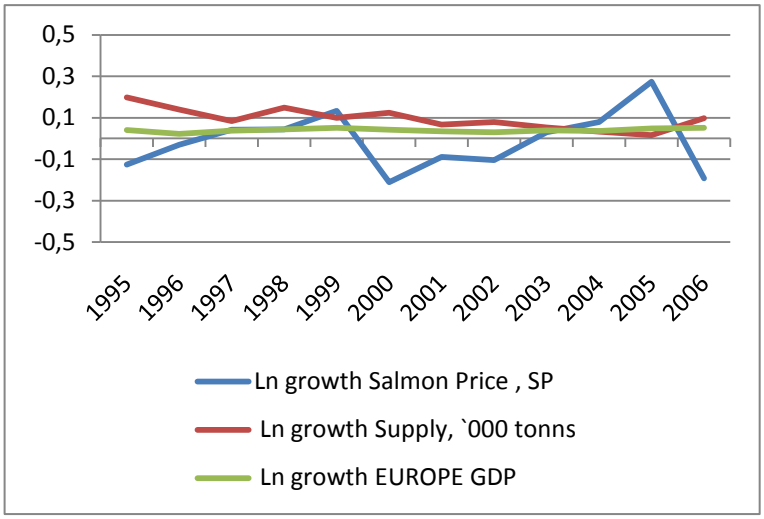
When using historical data we have to be aware that the samples may be from a period with a particular trend pointing upward or downward. As we can see from appendix 13, our supply and GDP time series follows some upward pointing trends, suggesting that the mean of the log of X has been changing. It indicates that the time series are not stationary.i.e. the time series have a time-varying mean or a time-variance or both.

Our findings are based on a geographical analysis which is one of several ways to decide whether a time series is stationary or not[93]. Stationary is when the mean and variance are constant over time and the value of the covariance between the two time periods depends only on the distance between the two time periods and not the actual time at which the covariance is computed[94].

When the time series are non-stationary we can study its behavior only for the time period under consideration. It is not possible to generalize the time series to other time periods; hence for the purpose of forecasting such time series are of little practical value[95].

We therefore have to convert the time series into stationary time series. One way to achieve stationary is to calculate the Ln growth between each year in our initial time series. Figure 6.2 illustrates the time series when transformed into growth measures.

Figure 6.2 - Stationary Time Series



Source: Own creation

As one can see from the figure, the time series now move with constant variances and mean. We have also tested the time series for stationarity in SAS which concludes that the series now are stationary[96]. Our time series are now appropriate to function as inputs for the linear regression. We have used SAS

93 Basic Econometrics 2009, ch.21 p. 749
94 Basic Econometrics 2009, ch.21 p. 740
95 Basic Econometrics 2009, ch.21 p. 741
96 Appendix 14

Enterprise Guide as a tool when performing the linear regression.

Results and discussion

Table 6.3 illustrates the relevant result of the regression analysis. The three parameters are the foundation of our salmon price-equation. The total output can be found in appendix 15.

Table 6.3 – Result Regression Analysis

R-Square	0,3063	
Variable	**Parameter**	**P Values**
Intercept	0,00611	
Ln growth Europe GDP	2,82896	0,5466
Ln growth Supply,000`tons	-1,39085	0,1007

Source: Own creation and SAS Enterprise Guide

The linear regression model calculates estimates for the real β_1 values from the data, and in order to determine if these are good approximations one usually test them with reference to the zero hypotheses and the alternative hypothesis on a 90% or 95 % confidence level[97]. The P-Values are the result of the zero and alternative hypothesis tests. In the language of significance tests, a statistic is said to be statistically significant if the value of the test statistics lies in the critical region[98]. At a 90% confidence level the P-values must be 0,1 or below to reject the zero hypothesis. Not being able to reject the zero-hypothesis $\beta = 0$, indicates that β can be zero and that no linear relationship can be found between the explanatory variable and the salmon price.

In the case of our two explanatory variables, the P values for GDP and supply is respectively 0,54 and 0,1. Hence, according to statistical theory we should reject a linear relationship between GDP and salmon prices. When it comes to supply, the P value equals 0,1 and we therefore accept a linear relationship between supply and salmon prices. Further, R squared equaling 0,30 is the explanation factor. It indicates how big the proportion of the variation in the salmon price is jointly explained by the supply and GDP.

The parameters in table 6.3 represent the slope of the relationship between the explanatory variables and the salmon price. A positive value indicates a positive impact of the explanatory variable on salmon prices and vice versa. As expected, the supply parameter estimate is negative at -1,39085, indicating that increase in global supply has negative impact on salmon prices. The

97 Damodar N. Gujarati and Dawn C. Porter ,Basic Econometrics, Ch. 5, p. 113., published by McGrawHill.
98 Damodar N. Gujarati and Dawn C. Porter ,Basic Econometrics, Ch. 5, published by McGrawHill,p.117.

GDP parameter estimate is positive at 2,82896 indicating a positive relationship between increase in Europe GDP and salmon prices. The interception at 0,00611 is the constant in our equation. This leads us to the following equation which explains the salmon price:

Salmon Price t = -1, 39085 * Supply + 2, 82896 * GDP + 0, 00611

However, according to the guidelines of statistical theory our analysis is not valid and the explanatory factor should ideally have been higher than 0,3. Regardless, we consider the output from the model to be relevant for forecasting the salmon price due to the following reasons:

- Our model and its inputs are in line with the methods used by recognized analysts when forecasting salmon prices[99].
- Our regression analysis is probably not valid due to lack of observations. We have only 12 years of information available which in statistics is very little number of observations.. We have however not been able to obtain monthly or quarterly global production numbers. More data available would probably have increased the validity
- The P values are likely to have been smaller if we used more explanatory variables. However, this is too time demanding and complex task for a master thesis of our nature.
- The parameters we get from the regression analysis are reasonable with a positive value for demand and a negative value for supply.
- The future salmon prices we get by using our equation seem reasonable compared to analyst consensus.

Based on the arguments above, we consider the results from the regression analysis as relevant to use for the purpose of forecasting salmon prices.

The forecast

We now move on to the forecast where we will use the model in practice to determine the salmon price estimates. The forecasted salmon prices at the particular period are found by implementing our global supply and European GDP forecasts into the model.

Since the inputs to the regression analysis is in Ln growth measures, we have to translate our forecast into Ln growth measures as well. We then solve the equation, and the answer (salmon

99 Frank Asche, Professor at the University of Stavanger

price) we get is also in an Ln growth measure. Further, we translate the Ln growth salmon price estimate back to the original salmon price measure, which is in NOK. The formula for translating the ln growth salmon price into NOK is:

Ln(SP/ SP t-1) = Ln SP growth, which equals: SP = SP t-1 *(exp (Ln SP growth))

Where SP in the equation is the unknown salmon price in NOK and SP t-1 is the salmon price measured last period in NOK.

Table 6.4 illustrates our salmon price forecast for the period 2011-2013. In appendix 16, the time series data used in the SAS program is presented.

Table 6.4 – Salmon price estimates 2011-2013

	2011E	2012E	2013E
Salmon Price in NOK	35,7	30,6	29,4

Source: Own creation

In 2011, we forecast that the price will decrease from 37 - 35,7 equaling a reduction of 3,5 %. In 2012 we expect a more significant reduction in the salmon price due to the expected return of Chile. Our model forecast that the salmon price in 2012 will decrease from 35,7 - 30,6 equaling a reduction of 14,3 %. This is in line with the expected supply growth of 16 % and a moderate demand growth of 1,7 % in 2012. In 2013 we forecast a moderate decrease in salmon prices from 30,6 - 29,4 equaling a reduction of 3,9 %. In the same period, we expect a significant reduction in the supply growth from 16 % to approximately 8 % in 2013. Hence the change in price is less dramatic than from 2011-2012.

In our opinion, based on the strategically and financial analysis, the forecasted salmon prices seems realistic. However, as a brief sanity check, we find it relevant to compare our forecast with some market analysts:

Table 6.5 Price estimates market analysts

Salmon Price in NOK	2011E	2012E	2013 E
Pareto Securuties	36	32	NA
RS Platou Markets	34	30	NA
SEB Enskilda	33	27	27

Source: SEB Enskilda,Platou Markets and Own creation

As we can see from table 6.5, our own price forecast is a bit higher than Platou and SEB, but lower than Pareto's estimate. We conclude that our salmon price forecast is reasonable and in line with market expectations.

There is still one adjustment we have to take in consideration before we conclude on the final forecasted prices. Companies in the fish farming industry sell a significant part of their production through forward contracts. This enables salmon producers to secure the price they will receive on their future production. Financial contracts on salmon is traded trough Fish Pool and directly between large retailers and the fish farmers.

GSF does not offer any information on the percentage of their sales which is sold through forward contracts. In the forecast we assume that GSF is in line with its peer group where approximately 35 % of the fish is sold on forward contracts[100]. The average forward prices for 2011-2012 are available from Fish Pool and is respectively NOK 38,7 and NOK 34,4[101]. Forward prices beyond 2012 are not available. Hence we adjust our 2011 and 2012 prices while we ignore the effect from future contracts on prices beyond 2012 due to lack of information.

Table 6.6 Price estimates 2014 -2019

	2014	2015	2016	2017	2018	2019
Salmon Price in NOK	30,0	30,6	31,3	32,0	32,6	33,3

Source: Own creation

Our estimates beyond 2013 are based on a constant growth in Europe GDP of 2% and a supply growth equaling 3 %. The GDP estimate is based on average annual EU GDP growth rate between 1982 and 2009. Our production estimate is based on estimates from Kontali and Frank Asche.

100 Marine Harvest Annual Report 2010, p.8 and 12.
101 Fish Pool is a regulated marketplace for the trading of derivates within the fish industry.

According to our price estimates illustrated in the table above, we expect increasing prices in the years after Chiles return. This is in line with our findings from the strategic analysis were we point at a

- modest long term supply growth; limited production locations and licenses availability and government restrictions due to biological concerns, and
- strong forward going demand driven by increased focus on health and sustainability, and more competitive prices compared to substitutes.

6.3.2 Production

Besides management projections, the three most important indicators on future harvest volumes are standing biomass, feed sales and smolt release. In GSF's case, management has decided not to release information about smolt releases. Therefore, in order to estimate the future production of GSF, we will use the management's own estimates and adjust for management projection error.

Management expectations

GSF expects to harvest 64 800 tons in 2011 according to the existing production plans. In Q1 2011, GSF expects a harvest of 11 600 tons. This is in line with previous guidance[102].

Adjustments

As seen from chapter 4.15.1 GSF has historically been overly optimistic in their production guidance. On average their estimates have been 14 % to high. While producing 8 % more than guidance in 2010, GSF management missed their projections with 18 % and 17 % respectively in 2009-2008.

We believe these high numbers are partly caused by uncertainty concerning GSF many acquisitions, and how quickly they have been able to optimize production from new facilities. As GSF now moves toward a period where costs cuts are prioritized over growth, we believe production will be more in line with their guidance. We conclude that management in the future will overstate their production guidance with 5 %.

102 GSF Q4 2010 Interim Results Presentation

Future production

For 2011, GSF has a production guiding of 11.400 tons Q1, and 17.800 tons on average for the rest of the quarters. Due to management's earlier projection errors, we have revised these numbers 5 % downward, giving a total production of 61.560 tons. This equals 72 % of total capacity.

For 2012, management projects a total production of 72.000 tons. This equals 85 % of the company's total capacity. Due to historical management projection errors this number has therefore been revised 5 % downwards to 68.400

From 2013-2019 we have made an assumption that GSF will manage to grow its production by 6 % per year. This is 4 % below the historical growth in the industry. Due to limitations on high-quality fish farming locations, we believe the growth rate in the industry will fall to 3 % per year in the future. Grieg has on average increased their production by 40% per year, which is 4 times the industry growth. Since the company now is focusing on more efficient production rather than growth, we believe the company's production will only grow twice as fast as the industry (6 % per year) in the future.

The growth will be a mixture of organic growth and acquisitions of production licenses. With its current capacity GSF is able to grow organically until 2016. We therefore do not expect any major investments in licenses before that time.

Table 6.7 –Production estimate

	2011	2012	2013	2014	2015	2016	2017	2018	2019	Terminal
Capacity	85.000	85.000	85.000	85.000	85.000	85.000	86.501	91.903	97.100	102.102
Production	61.560	68.400	72.504	76.854	81.465	86.353	91.535	97.027	102.848	105.420
Utilization	72%	80%	85%	90%	96%	102%	106%	106%	106%	103%

Source: Own creation

Table 6.7 illustrates that GSF from 2016 and onwards will produce more than its capacity. The word capacity in this sense should be looked upon as a theoretical capacity based on management perception of capacity in 2010[103]. As SalMar managed to produce 1317 tons per license in 2010, the actual capacity is higher than GSF's management perception.

103 Management perception of capacity per license (2010): 85.000 / 84

6.3.3 Income from associated companies

In 2010 GSF received income from associated companies of NOKm 7,6. We have taken an assumption that this income will not change in the future.

6.3.4 Other income

In 2010 GSF received *other income*, mainly rental income of NOKm 9,4. As we do not expect GSF to invest in housing in the future we do not expect any major increases for this item in the near future. We will therefore use the last year amount as a future guide.

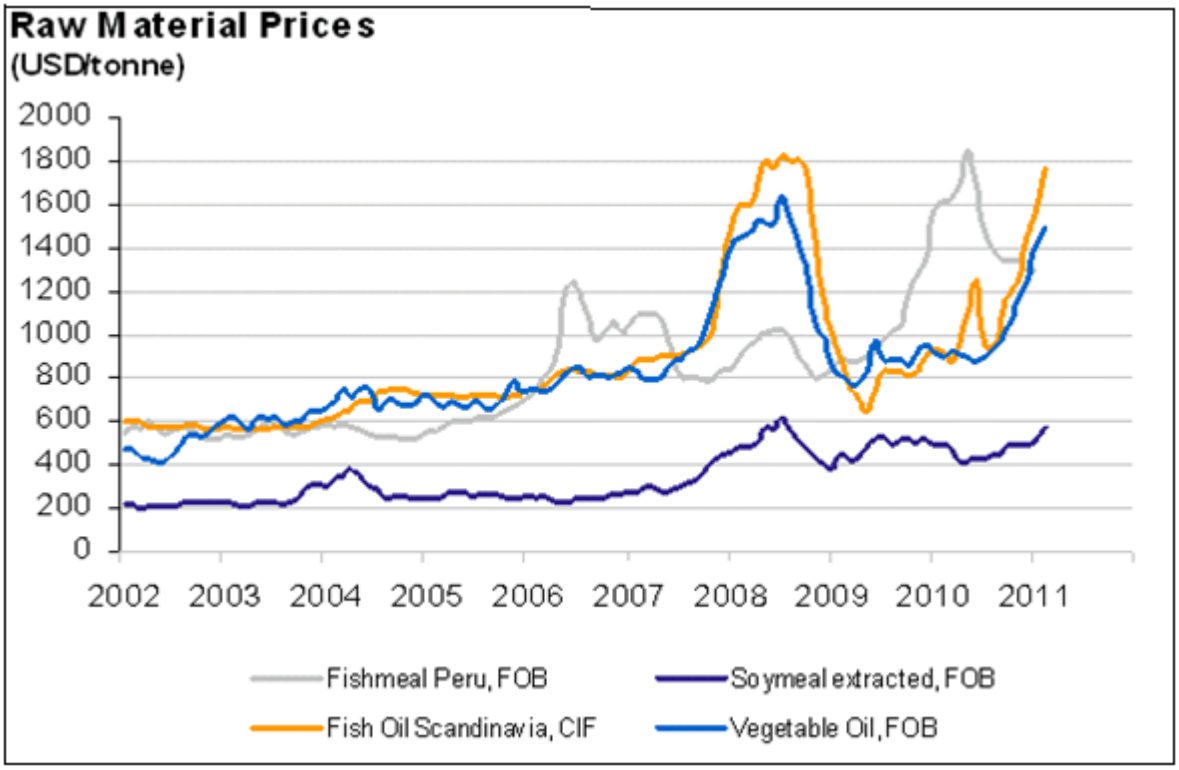
6.3.5 Raw materials and consumable costs

As feed costs equal approximately 50 % of the total production cost for GSF, we consider it to be an essential value driver. The feed producers have historically operated on cost-plus contracts, leaving the exposure of raw material prices with the aquaculture companies[104]. It is therefore important to determine how feed prices will develop in the future.

One important factor affecting the feed price is soft commodity prices, which has increased significantly the last 2-3 years, as illustrated by figure 6.3. This price increase can be explained by the reduction of catch quotas of wild fish in some areas and increased demand from emerging markets like China, where the raw materials are used for feed in pigs/pork production[105].

104 Marine Harvest Industry Handbook, p. 46
105 Cermaq, Tore Valderhaug ,Investor Relations

Figure 6.3 – Raw material prices



Source: EWOS Outlook 2011, Presentation from Cermaq ``North Atlantic Seafood Forum ``, p.5

As seen from figure 6.3, soft commodities have had a strong recovery, after the market crashed in min 2008. In the short term, we share Cermaq and other analysts view, that the recovery in the global economy will lead to higher demand, hence higher commodity prices[106]. This development will be further supported by a poor catch in Peru last year, and Chile's expected recovery in the coming years[107].

In the long run however, we do not believe a development with 25 % price increases per year, as figure 6.3 indicates, is sustainable. We believe this development is created by other factors than rises in demand, meaning that growth in commodity prices will stabilize.

Despite the higher feed prices, it seems like the fish farming industry are well adopted to handle this development. If we look at figure 3.2, production costs in the industry has decreased in the period 1987-2007, a period with increasing feed prices. The same can be seen from the cost developments in the item *raw materials and consumables used* from GSF's income statement.

106 Cermaq Annual report 2009, p. 11
107 GSF annual report 2010, p 6

While figure 6.3 indicates that feed prices have increase by 25 % per year the last decade (especially since 2005), raw materials expenditures for GSF in 2010 are more or less the same per kilo as in 2005; NOK 14,5.

As mentioned in section 3.1.14, several reasons can explain why this is the case. First of all feed producers have been good at varying the use of raw materials (fish meal, fish oil, vegetable oil, etc) in the fish feed, when prices have changed. The companies have also been innovative in developing new inputs to be used in the production[108]. Secondly fish farmers have improved its production efficiency by consolidating site structures, improving fish health, improving the feed conversion rate and improving the smolt quality[109]. GSF has increased the focus on feeding routines and systemized the feeding strategies, and the focus is underpinned by the establishment of the director of feed and nutrition position[110].

Disease outbreaks also have large impact on the raw material costs, as costs for the fish slaughtered early are distributed over the other produced fish. While it is hard to put a certain number on how much costs per kilo will increase, an amount between 1 and 3 NOK is certainly possible. This, of course depends on how much of the total fish that are affected by the problems.

To sum up, we believe that feed prices will continue to increase in the short term, but then stabilize in the medium to long term. Our findings also indicate that growth in feed prices not necessarily will have a negative impact on the overall production cost per kg produced fish. The biological situation however has a much bigger impact on the costs.

2011: According to analysts and GSF themselves, the probability of a fish disease outburst in one of the production facilities is considered to be low in 2011[111]. This is also indicated by figure 3.3. This implies that costs per kg will be held constant from 2010. However, due to the situation in Peru, and a general increase in commodity prices we believe the cost of raw materials per kg will increase in 2011. Based on our findings, we consider an increase in raw material cost of 1 NOK per kg as a reasonable estimate, equaling an increase of 7 % from 2010. Hence, our forecast of raw material cost per kg in 2011 is NOK 15,5 kr.

108 Cermaq Annual report 2009,p.26
109 Per Grieg Jr.
110 Per Grieg Jr.
111 GSF annual report 2011, p.4

2012: In 2012, the situation in Peru is expected to improve, which indicates lower prices. However we believe the impact from the production recovery in Chiles will offset a fall in prices. The expected raw material costs per kg in 2012 is then NOK 15,5.

2013-2014: In 2013 the growth in Chile has returned to normal production level. We believe this will result in lower prices on feed. However, our forecast for 2013 reflects a higher possibility of fish disease issues. We have earlier mentioned that disease outbreaks in the fish farming industry have hit the industry in cycles. As figure 3.3 indicates, it has been approximately 5 years between each mortality peak. As the last peak was in 2008-2009, one may expect the next peak to occur in 2013-2014. However we believe the next peak will affects the industry less, due to technological improvements like mass vaccine facilities etc.

Raw material cost is therefore expected to remain at NOK 15,5 per kilo.

2014-2019: Historically costs for smolt and raw material have decreased by 2,0 % per year since 1986. In addition GSF's investment program to be self sufficient in smolt is expected to impact on the company's cost. The facilities which is finalized in 2013 is expected to materialize in 2014-2015 into cost savings between 1,5 and 2 NOK per kilo[112]. We believe these costs saving will gradually materialize, and that the cost savings will be fully materialized in 2018.

Even though the facilities are also expected to improve the biological performance of GSF, the affect on the company's cost is hard to quantify at this stage and is therefore not incorporated into the valuation.

6.3.6 Salaries and personnel expenses

Salaries and personnel expenses have varied between NOK 2,5 and 4 per kilo throughout the period with an average cost of NOK 3,7 per kilo. We see no clear trend in the development for this item, neither for GSF nor SalMar. Our best estimate for the future is therefore the cost levels for 2010.

6.3.7 Other operating costs

Other operating costs have increased considerably throughout the period. The increase is attributable to increased requirements on documentation on products sold in the EU and US. Per

112 Per Grieg Jr and Q1 2011 presentation

Grieg Jr. also points to several unsuccessful attempts of launching a new sales organization to explain the development. As GSF now are planning to make another attempt on launching the sales division, we believe these costs will remain at its current level.

For other costs we use the average cost 2009-2010 as our estimate for future costs, since it looks like the costs have stabilized at this level. This is also in line with GSF expectations, as earlier mentioned.

6.3.8 Amortization of licenses

Amortizations has on average the last 6 years equaled 0,8 % of licenses. The last three years, however, it has stabilized around 0,44 %. This level is expected to continue in the future.

6.3.9 Financial expenses

Interest expenses could be measured in % of interest bearing debt. Excluding 2007 where GSF where in breach with its covenants commitments, interest expenses have equaled approximately 5 % of total interest bearing debt. Since the company states that they pay 4,4% on their debt, we have decided to use this rate.

6.3.10 Tax

GSF has had a quite stable average tax of about 27,2 %, excluding 2007 where the company experienced negative earnings. Since GSF now are moving towards a period with more stable positive returns, the Norwegian corporate tax rate of 28 % will be used for valuation purposes.

6.3.11 Other

All non-recurring items are set to zero as the pure nature of these items implies that one cannot expect them to persist.

6.4 Balance sheet forecasting

Ideally one ought to forecast each item of the balance sheet explicitly for the chosen period, as this would provide the subsequent valuation with detailed information that would provide a more exact stock value. This is not appropriate in practice, as some items are not explicitly explained in the annual reports and do not follow any linear trend / correlate with any external factors.

These items however, are often indirectly related to the development in the revenue. The development in revenue will therefore be the foundation for the forecasting of the rest of the items in the financial statement.

There is however one major implication using revenue as an indicator of development for a company's operations. This approach is designed for industries where prices are stable, and where activities therefore follow the level of operations in the company. In the fish farming industry however, the price of salmon is very volatile which causes revenue to be volatile. While many costs are correlated with a company's operations, they are not necessarily correlated with the price the company is selling. We have therefore decided to calculate some of the items in the balance sheet in relation to production rather than revenue.

6.4.1 Intangible assets

The item intangible asset for GSF consists of production licenses, goodwill and other intangible assets.

A company records *goodwill* when the price it paid for an acquisition exceeds the target's book value[113]. As we do not explicitly model potential acquisitions, we will hold goodwill constant in the future.

Other intangible assets are acquired customer portfolios and computer software licenses. For the same reasons as above, this item is held constant in the future.

With our current view on future production, GSF will have to start investing in new licenses in 2016, when the company reaches its production capacity. The cost per licenses is estimated to be NOKm 33,13 in the future[114]. This is the average transaction price per license since 2004. We also expect that GSF will improve its productivity by 2 % per year until 2015 and 5 % per year in the period 2015-2020, meaning that the company is able to produce more per license. Given these assumptions the following investment in licenses can be expected.

113 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 245.
114 Pareto Seafood Quarterly Preview 19 April 2011

Table 6.8 – Investment in Licenses

	2016	2017	2018	2019	2020
Production per license	869	912	958	1.006	1.056
Production	81.465	86.353	91.535	97.027	102.848
Licenses needed	1,48	5,34	5,14	4,94	1,51
Investment in licenses	49.150	176.858	170.142	163.763	50.157

Source: Own creation

6.4.2 Investment in property, plant and equipment

Forecasting CAPEX is often a hard task as the business environment is constantly changing, which forces management to constantly consider different investment opportunities. To forecast GSF's future investments we have essentially two options. Use management projections on future investment, or use PP&E in percent of revenue as a forecast driver to decide the level of the tangible assets, and tie depreciations to tangible + intangible assets[115].

The first approach is a good indicator of the size of planned investments. However, it only works in the short term, as management does not offer any investment guiding after 2013.

The other approach is designed for industries where prices are stable, and where companies need to increase investments to increase its revenue. In the fish farming industry, the price of salmon has a major impact on a company's revenue, which has the implication that investments will be large in years with a high salmon price and low in years with a low salmon price. The production cycle of three years also complicates this analysis.

Short term 2011 – 2013

In GSF's Q4 2010 presentation, management offers a guiding on their future investment plan. To maintain its current operational level, management believes the company will have to invest NOKm 150 per year. This is the base investment level and is known as the maintenance level. We believe this number is overstated. Historically depreciations have equaled 13% of PP&E. This indicates investments of NOKm 142 for 2011.

Beyond this, the company has initiated an investment program in new recirculation facilities budgeted for NOKm 200. Of this amount, NOKm 150 is due in 2011, NOKm 40 in 2012 and NOKm 10 in 2013. Through the years, GSF's management has had a habit of underestimating

115 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 245.

CAPEX. We believe that there is a chance that this will happen again. We have therefore chosen to revise the numbers from the investments program upwards by 15 % per year, leading to total investments in PP&E of NOKm 314,5 in 2011, NOKm 194 in 2012 and NOKm 160 in 2013.

Compared to other brokerage firms, our estimates seem to be sensible;
Platou Markets believes CAPEX will be NOKm 230 in 2011 and NOKm 190 in 2012.
First Securities believes CAPEX will be NOKm 350 in 2011 and NOKm 225 in 2012.

Long term investments 2014 -

In the long term, we have decided to forecast investments in PP&E based on what we actually believe GSF will have to invest, to reach enable the expected production. From GSF investor presentations it comes clear that the company has already made the investments in PP&E needed to reach its production capacity[116]. Hence we do not expect any major investments in PP&E before 2016.

When estimating investment in PP&E 2016- we assume that for each license purchased, the company has to invest NOKm 7,5 in PP&E. These numbers are based on Marine Harvest assumptions[117].

Table 6.9 – Investment in PP&E

	2016	2017	2018	2019	2020
Production per license	869	912	958	1.006	1.056
Production	81.465	86.353	91.535	97.027	102.848
Licenses needed	1,48	5,34	5,14	4,94	1,51
Investment in PP&E	11.127	40.037	38.517	37.073	11.355

Source: Own creation

In addition, the company has to invest to maintain its current operational level. These investments should be measured in % of PP&E[118]. For GSF, depreciations have varied between 11% and 14 % the last 5 years. Excluding 2005, the average of 13 % seems to be a good indicator of a future maintenance investment level.

116 GSF Q4 presentation 2008
117 Marine Harvest Industry Handbook p. 53
118.Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 238.

Table 6.10 - Depreciations

	2005	2006	2007	2008	2009	2010
Production	15.516	16.955	40.461	51.731	48.747	64.214
PP&E	185.971	300.629	639.092	794.346	819.110	923.546
Depreciations in % of PP&E	-18,3%	-13,1%	-11,3%	-13,4%	-14,4%	-12,6%

Source: Own creation and annual reports

This leads us to conclude on the following future CAPEX.

Table 6.11 – CAPEX

GSF	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PP&E	318.520	193.974	160.964	149.464	149.464	162.032	196.131	199.601	202.960	203.028
Licenses	4.497	4.497	4.497	4.497	4.497	4.497	53.864	182.351	176.386	41.800
CAPEX	**323.016**	**198.471**	**165.461**	**153.961**	**153.961**	**166.529**	**249.994**	**381.952**	**379.346**	**244.827**

Source: Own creation

On average, GSF is expected to invest NOKm 242 per year in the budget and terminal period. This is NOKm 158 less than in the budget period. Considering that we only expect GSF to increase its production by 6 % per year in the future, compared to 30 % per year historically, this investment level seems reasonable.

6.4.3 Investment and loans in/to associated companies and other non- current receivables

According to Koller, valuations should based on assessing the investments currently owned, not on discounting the forecasted changes in their book value[119]. We do not wish to speculate whether GSF will acquire any companies in the future. Investments in associated companies and loans to associated companies are therefore considered to be stable in the future.

Other non current receivables are receivables from associated companies. This item is believed to be transitory. We have therefore not budgeted any changes in this item.

6.4.4 Available for sale financial assets

We do not wish to speculate whether GSF is able to sell its financial items or not. The item is therefore held constant in the future.

119 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 246.

6.4.5 Inventory

Inventory is measured in percent of production. It could also be measures in percent of total costs as its development is tied to input prices[120]. Due to the effect fish diseases historically have had on the total costs, we have chosen to use production as a driver for forecasting future growth.

Production has on average equaled 108 % of inventory. This development is expected to continue in the future. As we have forecasted that raw material costs will not fluctuate greatly in the future, we believe this is a fair assumption.

6.4.6 Biological assets

Production has on average equaled 4,1 % of biological assets with small yearly deviations. For SalMar production on average equals 7,2 % of biological assets.

Table 6.12 – Biological Assets

Biological assets in % of production	2005	2006	2007	2008	2009	2010	Average
GSF	5,15%	3,07%	3,79%	4,82%	3,57%	4,11%	4,08%
SalMar	9,56%	6,29%	7,07%	6,70%	7,66%	6,05%	7,22%

Source: Own creation

As GSF in the future will focus on running its operations more efficiently one can expect this ratio to increase. This can be done by utilizing its licenses more efficiently, producing closer to its production capacity. The company's investment in new smolt facilities will contribute to this development.

We expect that GSF trough the period will manage to increase this ratio from 4.1% in 2010 to 5.9 % in 2020. This development will start slow with increases of 2% per year. In 2015, when the investment programs start thriving we believe the speed will pick up to 5% per year[121].

6.4.7 Account receivables

Table 6.13 – Accounts Receivables

Accounts receivables in % of revenue	2005	2006	2007	2008	2009	2010	Average
GSF	7,5%	11,3%	11,0%	10,7%	11,7%	10,8%	11,1%
SalMar	8,4%	8,9%	8,8%	8,7%	10,6%	11,9%	9,6%

Source: Own creation

120 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 243

121 Henning C. Steffenrud – Analyst First Securities

Accounts receivables should be measures in % of revenue, as the price of salmon affects the size of the receivables. Account receivables have been held steady at 10-11 % of revenue throughout the period. Excluding 2005, an average of 11,1 % seems to be a good indicator for the item's future development.

6.4.8 Cash and cash equivalents

The excess cash of NOKm 144 is expected to remain constant in the future. These funds serve as a buffer in years with low salmon prices. Especially in 2013 and 2014, we believe GSF will need to rely on these funds.

6.4.9 Other current receivables

Other current receivables are small items like prepaid expenses, vat receivables and other current receivables. As the item has been quiet stable throughout the analyzed period we believe this development will continue in the future. No changes are therefore expected.

Table 6.14 – Other Recieveables

GSF	2005	2006	2007	2008	2009	2010
Other receivables	44.018	34.073	84.569	48.488	57.051	43.265
Other receivables in % of revenue	10,8%	6,4%	8,3%	3,3%	3,5%	1,8%

Source: Own creation

6.4.10 Account payable

Table 6.15 – Accounts Payable

Accounts payable in % of revenue	2005	2006	2007	2008	2009	2010	Average
GSF	14,8%	11,9%	19,3%	14,5%	14,5%	10,4%	14,2%
SalMar	12,8%	12,0%	5,9%	7,8%	8,6%	10,2%	9,6%

Source: Own creation

Accounts payable is measured in percent of revenue. Historically accounts payable has equaled 14,2 % of revenue. This is also expected in the future. Account payable could have been estimated as a percentage of total costs as they are tied to the price of the inputs bought[122]. Since disease outbreaks historically have had such an effect on the total cost of the company we believe revenue is a better estimate for their future development.

122 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 243.

6.4.11 Accrued salary expense and public tax payable

Accrued salary expenses and public tax payable has followed revenue closely throughout the period. The average for the period has been 1,3%. We believe this is a trend that will continue.

Table 6.16 – Salary and Public tax

GSF	2005	2006	2007	2008	2009	2010	Average
Accrued salary and public tax	1,5%	1,6%	1,8%	0,9%	0,9%	1,0%	1,3%

Source: Own creation

6.4.12 Deferred tax

Deferred tax has on average equaled 22,5% of revenue. As we do not expect GSF to increase investments from its current level in the future, we expect deferred tax liabilities to remain constant in the future.

Table 6.17 – Deferred Tax

GSF	2005	2006	2007	2008	2009	2010	Average
Deferred tax in % of revenue	11,4%	38,6%	27,5%	17,0%	20,6%	21,7%	22,8%

Source: Own creation

6.4.12 Interest bearing debt

On average interest bearing debt has equaled about 104 % of revenue. In 2010 however, it only equaled 50 %. The company's management has on several occasions stated that they are happy with the current debt/equity situation. We therefore expect debt to equal about 50 % of revenue in the future.

Table 6.18 – Interest Bearing Debt

GSF	2005	2006	2007	2008	2009	2010	Average
Interest bearing debt in % of revenue	124,1%	134,5%	113,8%	106,6%	94,8%	49,5%	103,9%

Source: Own creation

6.4.13 Pension obligations and noncurrent liabilities

Pension obligations are operating assets that have varied greatly compared to the development in revenue and production trough out the period. As we so clear development for this item in the future, we have chosen to hold it steady at its current level (2010) in the future.

Noncurrent liabilities consist of several transitory items. We will therefore not forecast any future development for them.

7. Valuation

So far we have analyzed GSF's strategic environment to assess the future external and competitive forces that will affect the company. Additionally, a financial analysis has shed light on GSF's and its peer group's historical performance. These analysis combined has enabled us to make qualified assumptions on GSF's future performance. With this in place the focus will now be shifted towards the actual valuation.

In the initial part of this the chapter we discuss and outline the choice of frameworks we use in the valuation of GSF. Once frameworks have been chosen the inputs to the models are found trough a thorough analysis of each component. Then the actual valuation will take place, enabling us to answer our problem statement; finding the value of GSF's stock. The detailed valuation models developed in excel is presented in appendix 18.

We realize that several of the input/value drivers used in the valuation frameworks are based on subjective opinions of the analysts. The value of the stock will therefore be tested trough a sensitivity analysis, which serves the purpose of giving the reader the possibility of valuing the company differently than us, based on his subjective meaning on the inputs. The sensitivity analysis also enable us to conclude on the accuracy of the valuation conducted and the risk of investing in the stock, as a highly input-sensitive stock value could suggest that the stock price is to be approached with caution.

7.1Choice of framework for valuation

When valuating companies, a variety of approaches can be used. Each of the different methods have own strengths, weaknesses and limitations. This section will present the valuation techniques used for valuing GSF.

Despite an extensive list of different valuation frameworks, the models can broadly be categorized in to two types: absolute and relative models. The main frameworks used in this thesis are absolute models; Discounted Cash Flow (DCF) and Economic Value Added (EVA).

As a supplement, we will also use relative valuation techniques such as trading- and transactions multiples.

Absolute valuation models are models that bases value on the future performance of the company, typically by discounting future profits such as free cash flow or economic profit, at a determined discount rate. Future performance is often also split into a budget period and a terminal value.

The benefit of the absolute methods is that they are accurate and flexible for valuing projects, divisions and companies. The absolute methods represent the theoretically correct value of a company. However they often rely on subjective forecasted performance measures.

Furthermore, absolute valuation models are difficult and time consuming to perform. Professional analysts have therefore often had the habit of discarding them in favor of relative valuation methods, despite referring to them as the correct method to value a company.

Valuation based on multiples is popular among practitioners due to its apparently low level of complexity and the speed by which a valuation can be performed. A valuation based on multiples relies on the relative pricing of peers earnings[123].

7.2 Absolute valuation

7.2.1 DCF model

The enterprise DCF model discount free cash flow at the weighted average cost of capital. The model starts by estimating future EBIT. From EBIT tax from operations is subtracted, and depreciations/amortiziations are added. Then you add/subtract changes in working capital and subtract CAPEX. You are than left with free cash flow. One thereafter use Gordon's growth model on the (free csh flow) to transform it in to infinite free cash flow. Free cash flow is thereafter discounted back to present value. In order to get the market value (market cap) we have to subtract the net interest bearing debt (NIB) from the enterprise value. We have chosen the debt as the book value of interest bearing debt. The value we get is then divided by outstanding shares.

123 Plenborg- Financial Statement Analysis, p.278

Since the WACC is used to discount all future cash flow the choice of WACC is of great importance. As will be shown in the sensitivity analysis small changes in this estimate will have a great impact on the final value of the analyzed company.

7.2.2 Weighted average cost of capital - WACC

A firm's WACC represents the markets' overall required return on the company as a whole, and can be defined as follows:

$$WACC = \frac{D}{D+E} \times r_d \times (1 - T_c) + \frac{E}{D+E} \times r_e$$

where:

- D and E represent the market value of debt and equity respectively
- r_d represents the cost debt of the company
- T_c equals the marginal corporate tax rate
- r_e is the required rate of return on equity

GSF does not state in its annual report, which cost of capital is employed. In the following each component of the WACC will be discussed and determined in order to reach the final calculation of the cost of capital.

Corporate tax rate, Tc *Tc = 28 %*

Since free cash flow is calculated in after tax terms, WACC must be calculated on an after-tax basis. For practical reasons we will use the Norwegian tax rate of 28 % as a proxy for the company's tax rate. This aligns well with the company's average tax rate the last 6 years, excluding the one year with negative earnings.

Capital structure *Equity = 64 %, Debt = 36 %*

The debt and equity levels used in the calculation of WACC should be measured at market value, since the WACC represents the expected return on an alternative investment. The rationale is that if management decided to return capital to the investors without changing the capital structure it could repay debt and repurchase the outstanding shares.

GSF has no guiding on a target capital structure for the future. The company has also not had a stable capital structure the past 6 years. Our best guess on future capital structure is therefore their current capital structure.

We have chosen to use GSF actual market cap as an estimate of the equity market value. At the cut of date, 01.01.2011, GSF where trading at 19,40, equaling a market cap of NOKm 2.166[124].

GSF borrowings are noted in the annual report at market value. In the company's balance sheet Q4 2010 the company's total interest bearing debt had a market value of NOKm 1.211.

Debt / (Debt + Equity) = 1.211 / (1.211+2.166) = 36 %
Equity/(Debt + Equity) = 2.166/ (1.211+2.166) = 64 %

Cost of debt *Rd = 4, 4 %*

In its annual report GSF states its various types of debt and its respective interest rates.
The company's borrowings are mainly floating rate loans, which to some extent simplifies the analysis since we don't have to calculate a yield to maturity.

The loans are however denominated in different currencies as a measure to decrease currency risk. This complicates the analysis, as the WACC ideally should be separated into different elements each reflecting the individual type of debt and its corresponding debt[125]. It is however of importance that the cash flow is discounted by a factor denominated in the same currency as the cash flow.

We have therefore chosen to use the interest paid on the Norwegian part of the company's debt. GSF pay 4,4 % in interest on the Norwegian part of the company's total loans which equals 47 % of the outstanding debt. This number also mirrors the financial cost divided by the company's total interest bearing debt well.

Return on equity *Re = 9, 91 %*

A company's cost of equity represents the compensation that the market demands in exchange for owning the asset and bearing the risk of ownership.

To estimate the cost of equity, we must determine the expected return of the company's stock. Since expected returns are unobservable we rely on asset pricing models that translate risk into expected return. The most commonly used model is the renowned Capital Asset Pricing Model

124 Oslobors.no – ticker gsf – date 01.01.2011
125 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p.291.

(CAPM) developed by William Sharpe, John Lintner and Jack Treynor in the 1960s[126]. The model is based upon several assumptions that will not be discussed here.

The CAPM states that the expected return on equity equals the beta of the stock times the market risk premium, plus the risk free rate. The market risk premium expresses the compensation the investor requires from investing in the market portfolio as opposed to the risk free asset.

$$r_e = Beta \times (r_m - r_f) + r_f$$

In the CAPM, the risk free rate and market risk premium are common to all companies. Only the beta estimate varies across companies.

The risk free rate *Rf = 3, 67 %*

The risk free interest rate is far from a universal measure and can be defined in a number of ways. In principal, each cash flow should be discounted using government bond with similar maturity as the cash flow. In practices however, this is rarely the case[127].

For simplicity, most choose a government bond with maturity matching the cash flow. While this would have meant using the 30 year Norwegian government bond, its illiquidity can cause stale prices and yield premiums. A better proxy is the 10-year Treasury bill[128].

The risk free rate is determined from the Norwegian Treasury 10 – year bill which at the cutoff date (01.01.2011) was *3, 67%*[129].

126Brealey, Myers & Allen. (2008). Principles of Corporate Finance. McGrawHill,9th edition..p. 214

127 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p.296

128 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p.296

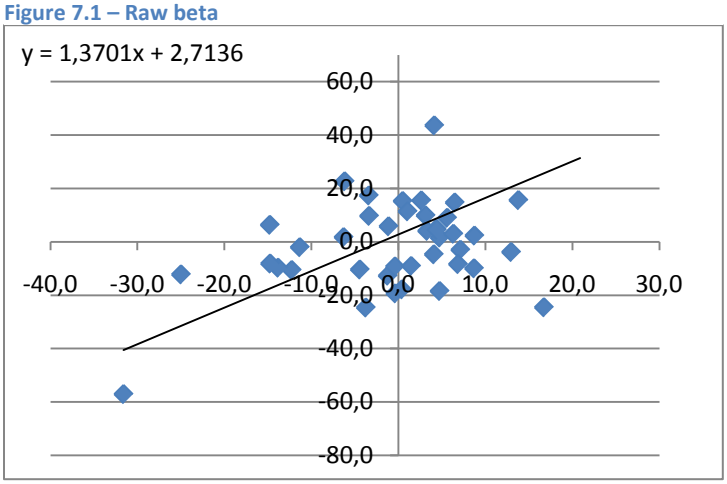
129 http://www.norges-bank.no/no/prisstabilitet/rentestatistikk/statsobligasjoner-rente-daglige-noteringer/

Beta *B = 1,248*

Beta represents a stock's incremental risk to a diversified investor, where risk is defined by how much the stock co-varies with the aggregate stock market.

A beta above 1 indicates that the return of the stock is more strongly affected by systematic changes than the general market. It is important to remember that the beta of a stock is by no means a static and uniform figure. It may vary over time as the company undergoes changes or the overall market composition changes.

Figure 7.1 – Raw beta



Source: Own creation

Estimating the raw beta of a stock is done through a regression analysis on the return of the particular stock and the return of a given index representing a market portfolio[130]. The data series used can be found in appendix 18.8. Since GSF is a Norwegian company listed on the Oslo Stock Exchange, we consider this index as the relevant to use in the regression analysis. In order to improve the estimated raw beta we will use smoothing techniques[131].

The raw regression should be based on monthly returns. If we use shorter periods, systematic biases could incur. A period of five years is considered to be sufficient when performing the raw regression. However, we have only 4 years of data available, the period GSF has been traded at OBX. Figure 7.1 illustrates the scatter chart of OBXs and GSFs monthly returns where the linear also equation is stated.

The slope of the trend line equaling 1,3701 is the raw beta of GSF. As we identify relative few direct comparables to GSF, we chose to use the smoothing process used by Bloomberg in order to improve our estimate[132]:

130 McKinsey page 306, Market model: Ri = alpha + Beta * Rm + e
131 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 306.

Adjusted Beta = 0,33 + 0,67 * Raw Beta

This method smoothes our raw estimate toward 1. The formula origins from Blume`s observation that betas revert to the mean. By implementing our raw beta of 1,3701 into the formula we get an adjusted beta equaling 1,248[133].

As a sanity check, we chose to compare our estimated beta of 1,248 with Reuters. For GSF, Reuters operates with a beta of 1,30 which is very close to our own estimate. This enforces the validity of the calculated beta. Finally, we consider it interesting to identify which beta estimates Reuters is operating with in relation to the peer group. For Marine Harvest, Lerøy Seafood and SalMar, Reuter's beta estimates are respectively: 1,16, 0,54 and 0,53. The average beta of the peer group then equals 0,75 and represents the industry beta.

We conclude that GSFs beta is 1,248. The measure is in line with Reuters estimate and we therefore consider our beta to be reasonable. Compared to the peer group, GSF has a higher beta which reflects that the company is more risky than its competitors.

Market risk premium *Rm = 5 %*

Similar to beta, the size of the market risk premium is not easily determined, as the premium depends on the period analyzed. Koller suggest a market premium of 5 %, Brealy and Meyers 7,6 % and Damodaran 5 % for the Norwegian market (31.05.2011) [134]. Fernandez & Baonza did a research in 2010 where they measured what market risk premium professors all over the world used. They came up with 5 % as the average.

Since Damodaran numbers are updated on a monthly basis, and most of the numbers used, are approximately 5 %, we believe 5 % is the number that best reflects the latest market risk premium. Now that all the parameters of the CAPM have been determined it becomes possible to estimate the required return on equity;

Re = 3,67 % + 5 % * 1,248 = 9,91 %

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132 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 314.

133 Adjusted beta = 0,33 + 0,67 *1,3701 = 1,248

134 http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

WACC *WACC = 7,5 %*

Now that all the parameters have been estimated it is possible to calculate the opportunity cost of capital for GSF. WACC = 7,5 %[135].

In appendix 18.9, one can find a table illustrating how sensitive our WACC estimate is towards changes in the debt ratio and beta.

7.2.3 DCF valuation

In the two previous sections we presented our choice of valuation methods. The respective inputs have been determined by accurately estimating each of the components. Now the actual valuation take place.

Figure 7.2 presents the resulting share price of GSF by using the DCF approach

Figure 7.2 – DCF valuation

Future cash flow statement	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EBIT	**406.543**	**130.458**	**-38.511**	**13.509**	**112.150**	**229.280**	**355.779**	**486.714**	**591.332**	**606.115**
TAX on core operations	-113.832	-36.528	10.783	-3.783	-31.402	-64.198	-99.618	-136.280	-165.573	-169.712
Depreciations	142.014	147.974	149.464	149.464	149.464	150.906	156.093	161.084	165.887	170.035
Amortiziation	4.497	4.497	4.497	4.497	4.497	4.497	4.713	5.493	6.243	6.399
Sum	**439.221**	**246.400**	**126.233**	**163.687**	**234.709**	**320.484**	**416.967**	**517.011**	**597.890**	**612.837**
Change working capital	178.759	-140.975	-68.827	-61.875	-12.765	-12.207	-11.945	-12.064	-11.346	-44.066
Capex	-323.016	-198.471	-165.461	-153.961	-153.961	-166.529	-249.994	-381.952	-379.346	-244.827
Free Cash Flow	**294.964**	**-93.045**	**-108.055**	**-52.148**	**67.983**	**141.748**	**155.028**	**122.995**	**207.198**	**323.944**
Discount factor	93%	87%	80%	75%	70%	65%	60%	56%	52%	
PV Free Cash Flow	**274.385**	**-80.515**	**-86.980**	**-39.049**	**47.354**	**91.847**	**93.444**	**68.963**	**108.071**	**3.379.272**

Enterprice value budget period	477.521
Enterprice value terminal period	3.379.272
Enterprice value	**3.856.794**
Interest bearing debt	-1.210.849
EK	**2.645.945**
Shares	111.662
Price per share	**23,70**

WACC assumption	7,50%
Growth assumption	2,50%
Percentage of value in terminal period	87,62%

Source: Own creation

Our estimates results in share price for the GSF stock of NOK 23,7 This is NOK 4,3 (22 %) above the market price (01.01.2011). The chosen terminal growth rate of 2,5% reflects a

135 WACC = 0,36 * 4,4% * (1-0,28) + 0,64 * 9,91%

reasonable growth estimate for the general economy growth (GDP) and hence for GSF when the fish farming industry growth stagnates.

Our model further predicts that approximately 87,6 % of our fundamental share price origins from the terminal value. This can be explained by GSF demanding cost situation. As GSF's costs cuts and efficiency gains are realized at the end of the budgeting period, also the intrinsic value of the stock is achieved from this period. The high number strengthens the statement that forecasting of the terminal period is crucial in the valuation of a company.

7.3 Economic value added

7.3.1 EVA method

The purpose of the EVA valuation is to measure the total value added of a company´s operations, i.e. the net cash generated in excess of equity- and debt- holders return requirements. EVA is computed so that the WACC times the invested capital is subtracted from EBIT less tax from operational activities. This amount for each of the subsequent years are then discounted and summed up. For the terminal period Gordon's growth model is applied, before this amount is discounted back to present value.

The EVA model works as a supplement to the DCF model and should yield the same value for the company. They supplement each other by presenting the data in two different ways. The DCF model shows how changes in working capital and capital expenditures affect the value of the company. The EVA model on the other hand gives the analyst important information on what size the earning needs to be and how large margins needs to be, to satisfy the return required by the company's debt/equity- holders.

7.3.2 EVA valuation

Figure 7.3 presents the resulting share price of GSF by using the EVA approach

Figure 7.3 – EVA valuation

EVA Valuation	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EBIT after tax	292.711	93.929	-27.728	9.727	80.748	165.081	256.161	350.434	425.759	436.403
Cost on capital	-268.397	-267.927	-281.950	-287.975	-292.615	-293.573	-295.323	-302.908	-319.966	-336.358
EVA	24.314	-173.998	-309.678	-278.248	-211.867	-128.491	-39.162	47.526	105.793	100.045
PV (EVA)	22.618	-150.566	-249.279	-208.352	-147.578	-83.257	-23.605	26.648	55.180	1.043.638

Enterprice value budget period	-758.192
Enterprice value terminal period	1.043.638
Enterprice value	**285.445**
Invested capital primo	3.578.622
Interest bearing debt	-1.210.849
EK	**2.653.218**
Shares	111.662
Price per share	**23,76**

Source: Own creation

The NOK 0,06 difference between the value the two models yields, is believed to be caused by an error in the spreadsheet.

As earlier mentioned, the EVA and DCF approach tells two different stories of the value creation in GSF. Figure 7.3 illustrates that GSF is actually destroying value for the company's equity holders in the budget period. It also illustrates that with GSF current margins, the terminal period only contributes with a small part of the company's value. Most of the value in GSF lies in the capital already invested in the capital.

By using the solver function in excel we can calculate the salmon price needed to create abnormal return for GSF shareholders. Given the capital already invested in GSF and the company's cost structure (NOK 30,35 per kilo in 2011), the company needs a salmon price above NOK 36.2 to create abnormal return for its shareholders in 2011. As the salmon price in 2012 and onwards are expected to stay below that level, the model illustrated that GSF has to make some substantial cost cuts to be able to create value for its shareholders in the future.

Before we conclude on the fair value of GSF, we consider it important to analyze how accurate the calculated price is. This will be done by comparing the fundamental value of GSF with the

values found when using multiples. Finally, we will test how solid the share price is by changing the inputs used in the DCF-valuation.

7.4 Relative valuation

There are numerous multiples for valuation and an exhaustive list will not be provided here. Overall, the multiples can be divided into trading and transaction multiples. Trading multiples imply comparing financial ratios across companies, whereas transaction multiples assess the value of a company by looking at previously conducted transactions of similar companies.

Due to the uncertainty and lack of precision from using multiples, our problem statement will be answered using absolute methods. In accordance with Koller, among others, multiples will be used supportively to test the plausibility of the cash flow forecasts, explain mismatches between a company's performance and that of its competitors, and support useful discussions about whether the company is strategically positioned to create more value than other industry players[136].

To apply multiples properly, the four best practices should be used[137]:

1. Choose comparables with similar prospects for ROIC and growth
2. Use multiples based on forward looking estimates
3. Use enterprise-value multiples based on EBITDA to mitigate problems with capital structure and non recurring items
4. Adjust the enterprise-value multiple for non operating items, such as excess cash, operating leases and pension expenses.

Our view on the multiples:

1. We realize that our peer group historically has not had the same level of ROIC and can therefore not expect the companies to have similar ROIC in the future. Except from Marine Harvest, who are limited from a significant growth in Norway due to licenses restrictions, the other companies are believed to have the same growth prospects.

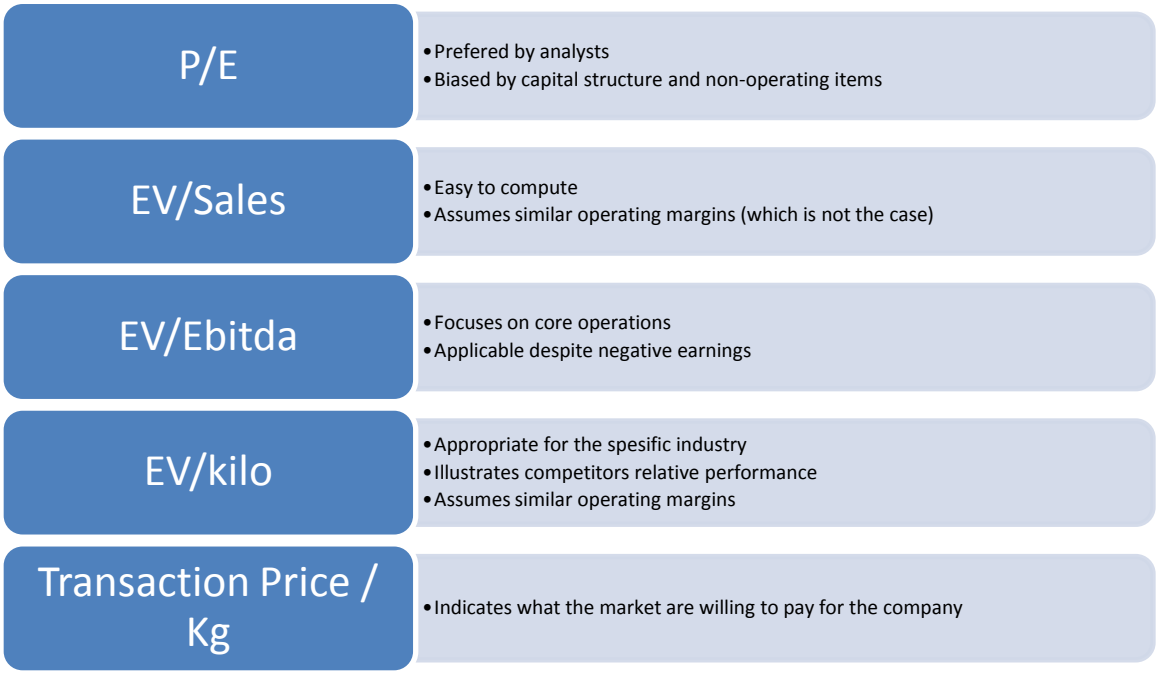
136 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 361.
137 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 366.

2. We will base our estimates on forward looking projections based on analysts' consensus, as we consider this as the best view of the market's expectations to the different companies.
3. Except for price / earning which is applied due to its popularity among analysts, the other multiples used will not be affected by capital structure and non recurring items.
4. We will adjust for excess cash.

Overall we believe the peer group consists of the most comparable companies to GSF. Our peer group is the same as other brokerage firms use in their multiple valuation models.

The following multiples will be used in our valuation:

Figure 7.4 – Chosen multiples



Source: Own creation

7.4.1 Multiple valuation

A valuation based on multiples relies on the relative pricing of peers' earnings, in GSF's case Marine Harvest, Lerøy Seafood and SalMar. The multiple model developed in excel is presented in appendix 18.10.

We have decided to use both 2011 and 2012 market consensus estimates in our calculations. This ensures that the valuation is based on a fully invested enterprise value, and that temporary

economic slack does not bias the valuation. We also use harmonic mean, to reduce any distortions from large fluctuations in the estimates[138].

Figure 7.5 - Multiples

Multiples 2011	Marine Harvest	Lerøy Seafood	SalMar	Harmonic Mean	GSF
P/E	7,4	7,9	6,1	7,1	5,2
EV/EBITDA	5,6	5,4	5,6	5,5	4,4
EV/Sales	1,6	1,2	1,9	1,5	1,4
EV/Kilo	81,3	81,2	79,1	80,5	50,5
Multiples 2012	**Marine Harvest**	**Lerøy Seafood**	**SalMar**	**Harmonic Mean**	**GSF**
P/E	10,6	10,4	8,4	9,7	6,9
EV/EBITDA	7,2	6,9	7,3	7,1	5,4
EV/Sales	1,7	1,2	2,1	1,6	1,4
EV/Kilo	74,9	79,9	78,0	77,6	44,8

Source: Own creation

Figure 7.5 presents the multiples the different companies in GSF's peer group are trading at. In our opinion, the companies are trading at attractive to moderate multiples. We find higher multiples for 2012 warranted, as salmon prices are expected to have peaked, resulting in declining earnings and increasing multiples going forward.

Grieg is currently trading at 2011 EV / EBITDA and a P / E of 4,4x and 5,2x respectively, while our share price target corresponds to a 2011 EV / EBITDA of 5,0x and P / E of 6,3x. These differences highlight our long term optimistic view on the GSF stock and especially the fish farming industry.

Figure 7.5 also illustrates that GSF is trading at a discount to its peers. This may indicate that GSF's stock is undervalued. We however, believe this discount is warranted, as the company has a much higher cost level than its peers, shown in the financial analysis. We believe this discount is likely to remain, until Grieg investments in smolt facilities start materializing.

138 Plenborg – Financial Statement Analysis (2011). P.289.

Figure 7.6 illustrates the average 2011-2012 multiples and the resulting enterprise / stock value.

Figure 7.6 – Multiple valuation

Multiples	Average Harmonic Mean 2011-2012	Price and Enterprise Value GSF, NOKm	Share Price GSF, NOK
P/E	8,4	3077,9	27,6
EV/EBITDA	6,3	4250,0	28,5
EV/Sales	1,5	3629,3	23,0
EV/Kilo	79,1	5375,4	38,6

Source: Own creation

The multiples illustrate the potential cost cuts can have on the pricing of GSF. By reducing cost down to the industry level and by increasing production, the stock has potential to rise up to NOK 38,6. The multiple analysis yields an average price of NOK 29,4.

As a supplement to the trading multiples used above, we find it informative to also include a valuation based on transaction multiples. In specific, we identify transactions taken place in 2010 on companies similar to GSF. These multiples will give us an indication on how market participants, like Bakkafrost and Marine Harvest, value companies similar to Grieg Seafood.

Figure 7.7 illustrates four recent transactions within the fish farming industry. We use the multiple transaction price / kilo in the analysis. Even though it would have been informative to include more multiples, the acquired companies are not publicly traded. Hence information about these companies is limited.

Figure 7.7 – Transaction multiple valuation

Transaction Info	Price NOKm	Kg fish produced of company	TP/Kilo
Norwegian Royal Salmon,IPO,23.03.11	687	21000000	32,73
Bakkafrost Aquired PF Havsbrun,11.04.11	1150	7000000	164,29
Morpol Aquired Jøkelfjord Salmon,13.01.11	490	6500000	75,38
Marine Harvest Aquired Straume Fish farming ,25.02.11	100	1857000	53,85
Harmonic mean TP/Kilo	**58,4**		
GSF TP Value NOKm	**3784**		
GSF Shareprice NOK	**34**		

Source: Own creation

The market in 2010 priced fish farming companies at 58,4 per kilo produced. With Grieg's production of 64.800 in 2010 this prices the company to NOKm 3.784 or NOK 34 per stock. This is NOK 14,6 above the market price 01.01.2011 and NOK 10,3 above our DCF target.

Several reasons explain the high price this multiple yields. First of all it highlights GSF cost inefficiency. Secondly it shows that the acquiring firms often have to pay a premium above the actual market value when they acquire companies.

However the resulting price is less than what the EV/Kilo multiple yields, illustrated in figure 7.6. This shows that GSF is also running less efficiently than companies smaller than themselves.

The huge differences between the prices of the different transactions, also highlights that one have to be careful when using transaction multiples, as each particular transaction consists of many different aspects that may affect the value. Bakkafrost's acquisition of PF Havsbruns is a good example of this. Since PF Havsbruns main revenue origins from other sources than production of salmon, the multiple used, yields a very high price for the transaction.

7.5 Sensitivity and Scenario Analysis

The purpose of the following section is to check how sensitive the stock price of GSF is to changes in the input parameters used in the forecast. Since the estimated parameters in many instances are subjective assumptions, rather than true observable values, the valuation is associated with uncertainty[139]. The sensitivity analysis also enables the reader to conclude on the value of the company, using his own assumption on the inputs in the forecast. The sensitivity analysis will test the parameters which entails the highest degree of uncertainty and that has the largest affect on the company's stock.

7.5.1 Growth rate and WACC

Our estimated growth rate in the terminal period is a relative uncertain measure as it reflects the infinitive growth. As the terminal value equals approximately 88 % of the EV, small changes in the growth rate will result in significant variations in the stock price.

139 Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005, p. 354.

Another central element in the valuation process is the measure WACC. As earlier mentioned, uncertainty regarding the beta and GSF future capital structure have great influence on the size of the WACC. Since the forecasted cash flows are discounted with this rate we find it interesting to evaluate how the company value will be affected by changes in the estimate.

The table below illustrates the resulting stock price when changing terminal period growth and WACC.

Figure 7.8 – Changes in terminal period growth (Y axis) and WACC (X axis)

23,70	6,00%	6,50%	7,00%	**7,50%**	8,00%	8,50%	9,00%
1,50%	31,95	26,58	22,24	18,65	15,65	13,11	10,93
2%	36,72	30,24	25,11	20,94	17,51	14,64	12,20
2,50%	42,85	34,81	28,61	**23,70**	19,71	16,42	13,67
3%	51,03	40,69	33,00	27,06	22,35	18,53	15,38
3,50%	62,47	48,53	38,63	31,26	25,57	21,06	17,41

Source: Own creation

As one can see from figure 7.8, GSF's share value is sensitive towards changes in both of the variables. A 0,5 pp change in one of the variables, when holding the other constant, will in both cases result in approximately 4 NOK difference in the share value. This equals a NOKm 400 change in the market cap.

The model clearly illustrates that changes in the chosen inputs have a great impact on the value of the company. As both the parameters are difficult to estimate with certainty, the valuation of the company also entails uncertainty. This is an issue the DCF model often is criticized for.

7.5.2 Salmon price 2011-2013 and WACC

Since there are uncertainty of the validity of our statistical model and thereby also our prediction of future salmon prices, we perform a sensitivity analysis on how different prices in the years 2011 – 2013 affects the value of GSF. The years 2011-2013 are chosen explicitly due to the insecurities of the speed at which Chile's production recovers and thereby also the short term salmon price.

Figure 7.9 – Change in salmon price (X axis) and WACC (Y axis)

23,70	**-3,0**	**-2,0**	**-1,0**	**0,0**	1,0	2,0	3,0
6,0%	40,17	41,06	41,95	42,85	43,74	44,64	45,53
6,5%	32,16	33,04	33,93	34,81	35,70	36,58	37,47
7,0%	25,98	26,86	27,74	28,61	29,49	30,37	31,24
7,5%	21,09	21,96	22,83	**23,70**	24,56	25,43	26,30
8,0%	17,13	17,99	18,85	19,71	20,57	21,43	22,29
8,5%	13,87	14,72	15,57	16,42	17,27	18,13	18,98
9,0%	11,14	11,98	12,83	13,67	14,51	15,36	16,20

Source: Own creation

According to our analysis and compared to industry consensus, a deviation from our estimate will most likely not be bigger than NOK 1. Holding WACC constant the analysis show's an increase/decrease in the price of salmon of NOK 1 will result in approximately NOK 0, change (3,6% change) in the stock price. Hence, Grieg Seafood stock is not very sensitive towards small fluctuations in the salmon price for short periods of time.

7.5.3 WACC and EBIT per kilo 2011 -

This section conducts a scenario analysis concerning GSFs main concern which is its high production cost compared to its competitors. Operating cost is an essential driver of the company value and we therefore find it appropriate to analyze how changes in this item will affect the stock price. We choose to use the parameter EBIT per kilo as this parameter compares margin, rather than just costs. This also enables the reader to view how changes in the salmon price affect the value of the company.

Change in EBIT/Kg 2011-

Figure 7.10 - Change in EBIT/Kg (X axis) and WACC (Y axis)

								Salmar level
23,70	**-1,5**	**-1,0**	**-0,5**	**0,0**	0,5	1,0	1,5	4,4
6,0%	20,66	28,06	35,45	42,85	50,24	57,64	65,04	107,93
6,5%	15,53	21,96	28,39	34,81	41,24	47,67	54,09	91,37
7,0%	11,59	17,26	22,94	28,61	34,29	39,96	45,64	78,55
7,5%	8,48	13,55	18,62	**23,70**	28,77	33,84	38,92	**68,34**
8,0%	5,96	10,55	15,13	19,71	24,29	28,88	33,46	60,04
8,5%	3,90	8,07	12,25	16,42	20,60	24,77	28,94	53,15
9,0%	2,18	6,01	9,84	13,67	17,50	21,33	25,16	47,36

Source: Own creation

As seen from the figure GSF is very sensitive to changes in the EBIT/kg margin when including both the budget period and the terminal period to the analysis. An increase of just 0,5 EBIT per kg would lead to a share value of 28,77 equaling an increase of NOK 5 per share. This indicates the huge impact margins have in the fish farming industry.

The orange part of the table illustrates GSFs share value in scenarios were GSF reaches the same margins as SalMar, which is the most cost efficient company in the peer group. As one can see, with the base case WACC of 7,5 %, GSF would be worth nearly NOK 45 more per share with a value of 68,34. This equals an increase in the total market cap of approximately NOKbn 4.8. Hence, we identify tremendous upside potential in GSFs share value if they manage to cut its costs. However, if GSF is to reach SalMars cost level, investments is necessary. This will result in lower free cash flows and subsequently a lower share value than NOK 68,34 illustrated in figure 7.10.

7.6 Partial conclusion

As a partial conclusion we find NOK 23,70 to be valid estimate of the fundamental value of GSF. Using multiples the company is valued at about NOK 30. This is NOK 6,3 more per share than our DCF value, immediately indicating that our estimate on the price of Grieg Seafood is too low. However, this value assumes that GSF is as profitable as its peers. As viewed the

financial analysis, they are not. This value should therefore rather be looked upon as the potential value for GSF, if the company manages to cut its costs down to the same level as its peers.

The sensitivity analysis showed that by cutting costs, the GSF stock has great potential. The analysis however assumes that the company does not have to invest to enable these cost cuts.

The sensitivity analysis also shows that the value of GSF is highly sensitive towards changes in WACC and growth in the terminal period. This indicates that considerable uncertainty exist regarding our value estimate.

8. Conclusion

The purpose of our thesis was to determine the fair stock value of Grieg Seafood per 01.01.2011, through a strategic and financial analysis. The findings from the respective analysis formed the basis for the forecast and thereby also our view on the fundamental value of the GSF stock.

The fish farming industry has experienced strong growth and performed well the last years due to high salmon prices. Global health concerns have led to increased focus on healthy eating, which again has been reflected in an increased demand for salmon. More competitive salmon prices compared to its substitutes has also helped fuel this development.

The supply on the other hand, has been highly affected by a major fish disease outbreak in Chile. This event caused global supply to fall back 2 % in the period 2009-2010, causing salmon prices to reach levels above NOK 40. These extreme high prices do not reflect normal market conditions in the industry, and is therefore not expected in the future.

Biological issues like fish diseases and sea lice have a major impact on companies' costs. Further Norwegian politicians have stated that they are not willing to increase the number of licenses before the biological issues has been addressed and solved. This in combination with a limited amount of new locations to farm fish has convinced us that the industry will grow at a slower pace than observed historically. Hence, increased competition, pressure on costs and consolidation in the industry is expected.

Through the financial analysis it becomes clear that GSF is less cost efficient than its peer group. The company has historically had a lower EBIT/Kg margins than its competitors, due to its high production costs. SalMar, the most cost efficient company in the industry, has over the last six years had an EBIT per kilo of NOK 4,4 higher than GSF. The high costs level can therefore be considered the biggest threat for investors investing in GSF. The high cost level could also be looked upon as an opportunity, as future cost reductions will have a major impact on the company's value.

The price on salmon and the cost of raw materials are considered to be the most important value drivers for GSF. We expect a high salmon price in 2011 equaling NOK 35,7. In 2012 and 2013 however, we forecast that the prices will decrease to NOK 30,6 and NOK 29,4 respectively. The lower prices are caused by the expected production recovery in Chile.

Raw material costs on the other hand have increased by 25 % per year the last 5 years. Due to technological improvements, the industry has managed to offset this development. This can also be seen from the item *raw materials and consumables used* from GSF income statement, which in 2010 is not larger than it was in 2005.

2011-2019 was chosen as our budget period. This period equals 1,5 whole business cycles in the fish farming industry. It also reflects when we expect GSF and the industry to approach the long term growth of the economy.

We estimate the WACC to be 7,5 %, based on detailed estimates of its respective inputs. The DCF and EVA valuation concludes that the GSF share is worth NOK 23,7. The GSF stock traded at NOK 19,4 per 01.01.2011, suggesting an upside potential of 22 %. As analysts we therefore conclude that GSF is undervalued by the market. Solely based on this finding, we should recommend investors to invest in the GSF stock.

In the sensitivity analysis, we conclude that GSFs share value is highly sensitive towards changes in both WACC and terminal period growth. This indicates the importance of establishing accurate estimates. Further, GSFs stock is highly sensitive towards changes in the EBIT margin. Trough a cost scenario analysis we illustrate a tremendous potential in the share, if GSF manages to improve its cost efficiency. Holding everything equal (ignoring increased investments), we identify a potential upside of 190 % if GSF manages to reach SalMar's cost level.

Even though our fundamental share value concludes on a significant upside potential for the stock, it is important to point out that the upside potential for GSF is caused by our long term optimistic view on the industry, rather than GSF performance itself. On the basis of our analysis it is clear that the company has major cost issues that most likely will follow the company for the years to come. GSF will probably manage to narrow the EBIT/Kg gap to its peers through its current investment program, but by how much is uncertain. Due to GSF demanding cost situation the company will not be able to create abnormal returns for its shareholders before 2018.

As a final remark, we characterize the fish farming industry as very attractive for investors in the years to come. Our recommendation is to invest in companies with lower cost levels than GSF, like for instance SalMar.

9. The thesis in perspective

Our thesis is written at a time when the industry has experienced abnormal conditions due to the production collapse in Chiles and successive high prices. This is important to be aware of when drawing conclusions from the thesis. Concerning the future of GSF we are quite optimistic. Partly because of positive industry outlooks and partly because of the potential we identify in Grieg Seafood. The market for farmed salmon is growing. At the same time, Grieg Seafood has increased their attention to improve its operating efficiency. In our opinion, Grieg Seafood should be able to move towards its competitors regarding this issue and by doing this accomplish better margins and profits in the coming years.

Throughout the process of trying to find GSF fundamental value we encountered some challenges in relation to both the analyzed company and the fish farming industry. The greatest challenge is related to the biological issues affecting the industry and the analysis and forecast of production volume and salmon prices. The outburst of diseases for instance, is hard to predict and it has great influence on the industry.

Further, it is difficult to know how much biomass is in the water at a given time and thus the volume of fish entering the market. It is therefore relatively large uncertainty associated with the forecast of both output and subsequently the price of salmon.

When valuing fish farming companies one should be aware that their production is often lower than management has earlier guided on. This is certainly our experience with GSF. Concerning salmon prices, it is also important to consider company's ability to secure high prices through forward contracts. Our experience is that many market analysts underestimate companies in relation to this issue.

Finally, we find it interesting to point on some findings from our thesis that may be of relevance for other industries as well. In industries with fluctuating prices, we consider it more reasonable to forecast items in the balance sheet, in relation to production rather than revenue. While increases in revenue may indicate that a company has increased its operations, it could also be explained by higher prices. By forecasting items based on the items historical percentage of the actual production, one reduces prices impact on the estimate.

References

Books

Andersson, J.Hedegaard, O. and Lauritsen, H. (2002). Grund Læggende Erhvervs Økonomi, 2nd edition.

Brealey, Myers & Allen. (2008). Principles of Corporate Finance. McGrawHill, 9th edition.

Damodar N. Gujarati and Dawn C. Porter.(2004). Basic Econometrics. McGrawHill, 5th edition 2009.

Grant, RM.(2010). Contemporary Strategy Analysis, 7th edition

Koller , T. Goedhart, M. and Wessels, D. (2005). Valuation: Measuring and Managing the Value of Companies. McKinsey and Company, 4th edition 2005.

Penman, SH. (2009). Financial Statement Analysis and Security Valuation. McGrawHill 4th edition.

Plenborg T. Petersen C.V. (2007). Regnskapsanalyse for Beslutningstagere.

Thomsen,S.(2008). An Introduction to Corporate Governance- Mechanisms and Systems. Djøf Publishing Copenhagen.

Reports

Bakkafrost Annual Report 2009

EWOS Spotlight report, February 2010.

GSF North Atlantic Seafood Conference, March 4th 2010

GSF Annual Report, 2009.

Lerøy Annual Report, 2009.

Marine Harvest Annual Report, 2009.

Marine Harvest Salmon Farming Industry Handbook, July 16th 2010.

Pareto Seafood Quarterly Preview 19 April 2011

Prospectus of GSF, July 16th 2009.

RS Platou Seafood Quarterly Sector Report, January 2011.

SalMar Annual Report, 2009.

SEB Enskilda GSF Company Update, November 19th 2011.

SEB Enskilda GSF Company Update, January 6th 2011.

SEB Enskilda GSF company description,2011.

Survey by Fernandez, P and Baonza, J.D.C. (2010). Market Risk Premium Used in 2010 by Professors. Downloadable at SSRN: http://ssrn.com/abstract=1606563

Webpages

Bakkafrost: www.bakkafrost.no

Bloomberg:

- http://www.bloomberg.com/news/2011-02-09/marine-harvest-climbs-to-three-year-high-on-earnings-update1-.html
- http://www.dn.no/forsiden/naringsliv/article2070190.ece

GSF: www.griegseafood.com

Lerøy: www.leroy.no

Seafoodsource: http://www.seafoodsource.com/newsarticledetail.aspx?id=4294999450

Marine Harvest: www.marineharvest.com

SalMar: www.SalMar.no

Ministry of Fisheries and Costal Affairs, Strategy for an environmentally sustainable aquaculture industry 2010:

http://www.regjeringen.no/nb/dep/fkd/samlesider/barekraftig-havbruk.html?id=612469

Ministry of Fisheries and Costal Affairs ,Marine industry development:

http://www.regjeringen.no/nb/dep/fkd/dok/regpubl/stprp/20052006/stprp-nr-1-2005-2006-/1/1.html?id=292708

Thefishsite, Norway Fishery Products Annual Report 2007:

http://www.thefishsite.com/articles/344/norway-fishery-products-annual-report-2007

Nifes ,Seafood and health:

http://www.nifes.no/forskning/sjomathelse/

Food and drink europe , Health is key in ready meal growth report:

http://www.foodanddrinkeurope.com/Consumer-Trends/Health-is-key-in-ready-meal-growth-report

Norwegian Government, Regulations for the Suppression of sea lice:

www.government.no

NYTEK NS 9415 (2003),Standards for design, installation, operation and maintenance of fish farms:

http://www.eftasurv.int/media/esa-docs/physical/4365/data.pdf

Articles:

Asche, F. Sick fish: a market barrier and a production challenge:

http://www.uis.no/getfile.php/SV/Bilder/6.2008.pdf

Trollvik, J. (2010). Global production of Salmon / What's happening in Chile? Norwegian Seafood Export Council, February 2010:

http://www.seafood.no/binary?id=126651

Newspapers:

NRK, Fears for free trade agreement:

http://www.nrk.no/nyheter/distrikt/troms_og_finnmark/1.7328827

Børsen ,Major caviar factory will open in the desert, Paper Edition, , March 2011, p.28-29.

Dagens Næringsliv: http://www.dn.no/forsiden/resultater/article2015586.ece

Aftenposten,Norway lost the salmon dispute with the United States:

http://www.aftenposten.no/nyheter/uriks/article1197676.ece

Financial tools and programs

Bloomberg Computer

Datastream

Thomson One Banker

SAS Enterprise Guide

Interviews and external information

Frank Asche, Professor at the University of Stavanger.

Sjur Malm, Equity Research analyst at SEB Enskilda Oslo office.

Per Grieg Jr.

Ole Risøy, Business Controller Lerøy Seafood.

Tore Valderhaug, Cermaq Investor Relations.

Henrik Heiberg, Marine Harvest Investor Relations.

Lisbeth La Cour, Professor in economics at CBS.

Appendixes

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Appendixes

Appendix 1 - Grieg Seafood Value chain

Source: Grieg Seafood Prospectus , July 2009, p.38

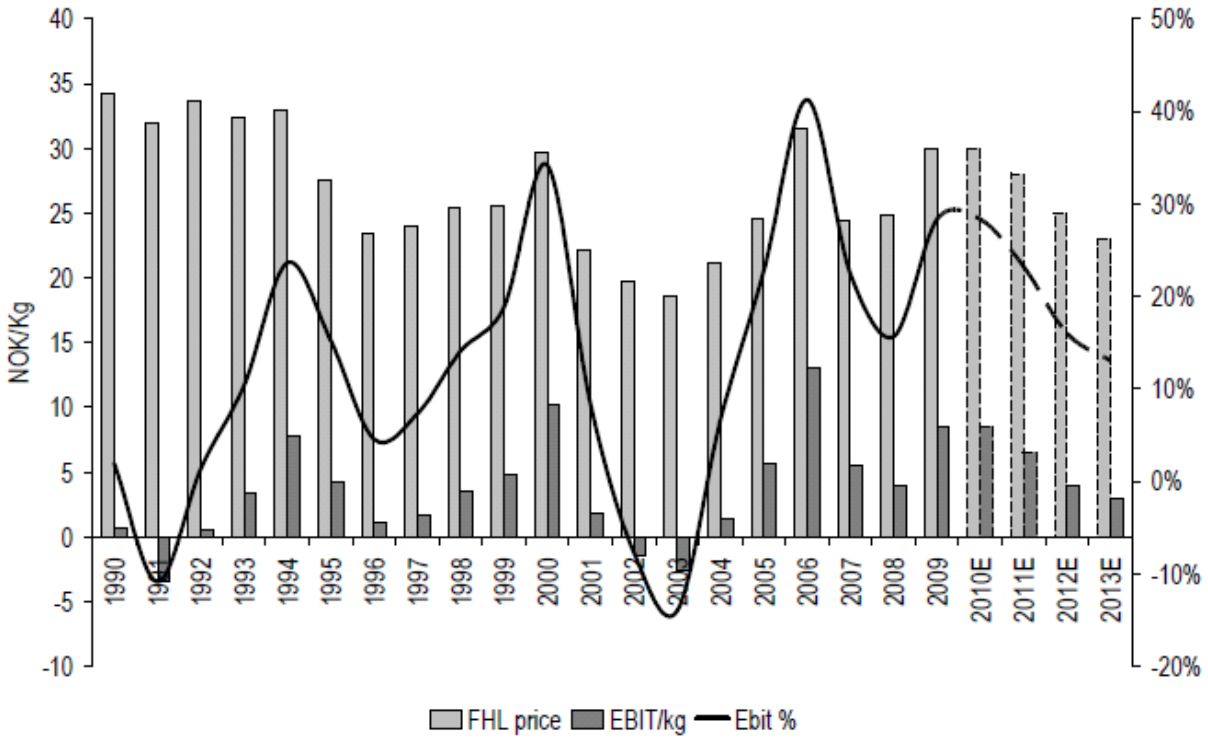
The cycle begins with the broodstock. These are the parent fish, selected for characteristics such as growth, disease resistance, maturation and colour. They are held in a hatchery in large freshwater tanks where they become sexually mature and ready to spawn. Eggs from the females are mixed with milt (sperm) from the males to produce fertilised eggs. When the eggs hatch, tiny fish emerge in a form known as alevins. Still in fresh water, they now begin to receive specially prepared feed. When the salmon fry are about six grams, they are moved to larger freshwater tanks or to an open net cage in a lake. This is a phase in which the fish grow rapidly in the right conditions, though low temperatures may slow this. They reach 60–80 grams and a length of around 120mm and are ready to move on to the smolt stage.

Smolt is the name for the stage in which salmon undergo a physiological change that enables them to move from fresh water to seawater. Adapting to seawater, the smolts become young adult salmon. The smolts are kept in net pens until they have reached a market weight of around 4.5 to 5.5 kg and then they are harvested.

Processing of fish for sale as whole fish or fish products happens in two stages, known as primary and secondary processing. There is also a third stage, known as the value adding stage (VAP). The primary processing stage is the stage where the fish gets gutted and the head of the fish is removed. Secondary processing takes the gutted fish and prepares products ready for retail and food service. These are products such as fillets, steaks and portions. At the third stage, VAP are made, where further preparation creates products that are, for example, ready-to-heat or ready-to-eat.

Source: http://www.marineharvest.com/en/Seafood-Value-Chain1/

Appendix 2 – Cyclical trend



Source: SEB Enskilda Salmon Market Update

Appendix 3 - Grieg Seafood Geographical markets by 2009

GEOGRAPHICAL MARKET	UK	Rogaland	Finnmark	BC	Total	%
EU	61 297	113 863	693 695	5 853	874 708	54 %
UK	286 054	-	-	-	286 054	18 %
USA	61 297	-	707	276 330	338 334	21 %
Canada	-	-	-	99 123	99 123	6 %
Other markets	-	-	12 728	1 671	14 400	1 %
Sum	**408 648**	**113 863**	**707 130**	**382 978**	**1 612 619**	**100 %**

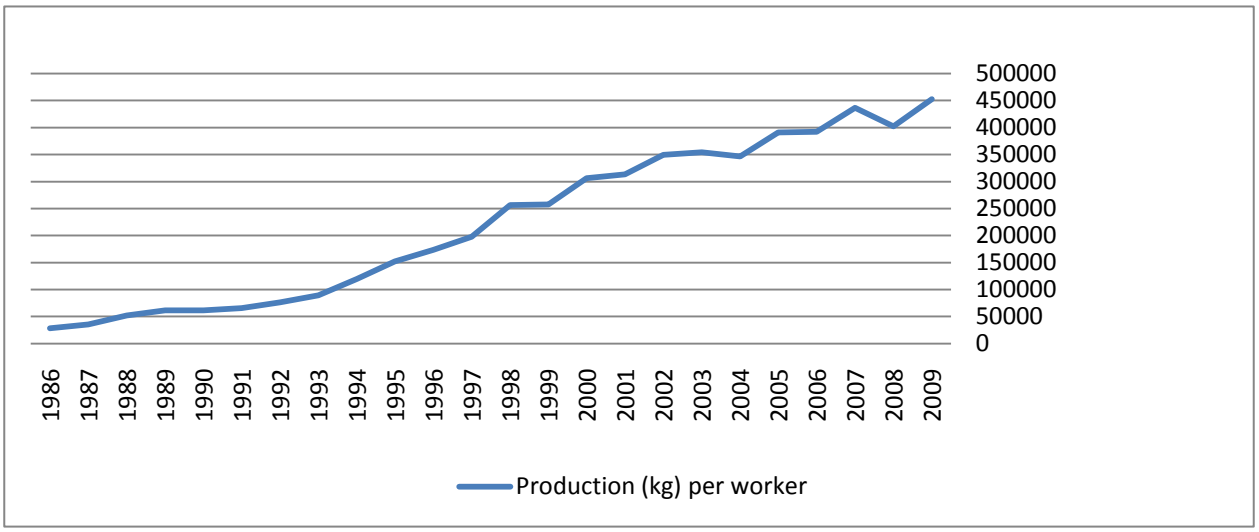
Source: Grieg Seafood annual report 2009, note 10, page 21

Appendix 4 – Grieg Seafood Ownership

Investor	Number of shares	% of top 20	% of total	Type	Country
GRIEG HOLDINGS AS	53,628,010	55.29%	48.03%	Comp.	NOR
TEIGEN FRODE	10,338,707	10.66%	9.26%	Priv.	NOR
HALDE INVEST AS	4,502,000	4.64%	4.03%	Comp.	NOR
ODIN NORGE	4,409,463	4.55%	3.95%	Comp.	NOR
ODIN NORDEN	4,070,522	4.20%	3.65%	Comp.	NOR
REAL SALMON AS	3,658,500	3.77%	3.28%	Comp.	NOR
DNB NOR SMB VPF	3,250,000	3.35%	2.91%	Comp.	NOR
YSTHOLMEN AS	2,864,892	2.95%	2.57%	Comp.	NOR
METEVA AS	1,391,000	1.43%	1.25%	Comp.	NOR
OM HOLDING AS	1,383,784	1.43%	1.24%	Comp.	NOR
SKANDINAVISKA ENSKILDA BANKEN	993,834	1.02%	0.89%	Nom.	SWE
UBS AG, LONDON BRANCH	870,574	0.90%	0.78%	Nom.	GBR
MP PENSJON PK	859,000	0.89%	0.77%	Comp.	NOR
JPMORGAN CHASE BANK	858,464	0.89%	0.77%	Nom.	LUX
GRIEG SHIPPING AS	824,565	0.85%	0.74%	Comp.	NOR
HOLMEFJORD IVAR	710,000	0.73%	0.64%	Priv.	NOR
JPMORGAN CHASE BANK	640,414	0.66%	0.57%	Nom.	GBR
BANK OF NEW YORK MELLON SA/NV	610,678	0.63%	0.55%	Nom.	DEU
ORKLA NORDIC VALUE VERDIPAPIRFOND	579,374	0.60%	0.52%	Comp.	NOR
BREMNES FRYSERI AS	543,000	0.56%	0.49%	Comp.	NOR
Total number owned by top 20	**96,986,781**	**100%**	**86.86%**		
Total number of shares	**111,662,000**		**100%**		

Source: Grieg Seafood annual report 2009, note 27, p.34

Appendix 5 – Production per worker



Source: Own Creation

Appendix 6 – Reformulated income statements GSF and peer group

Appendix 6.1 – GSF income statement

Income Statement	2005	2006	2007	2008	2009	E2010
Sales revenue	**408.097**	**535.756**	**1.021.810**	**1.477.029**	**1.612.619**	**2.446.490**
Other income	11.283	7.704	46.542	2.175	8.746	9.398
Other gains and losses				8.299	80	
Changes in inventories	849	40.497	205.859	51.637	158.085	-10.412
Raw materials and consumables used	-226.204	-306.582	-746.174	-903.678	-900.581	-932.118
Salaries and personnel expenses	-39.030	-53.696	-136.246	-165.148	-193.300	-238.000
Other operating expenses	-63.285	-53.890	-196.814	-332.645	-410.541	-593.122
Operating profit before dep. and fair value adjustments	**91.710**	**169.789**	**194.977**	**137.669**	**275.108**	**682.236**
Depreciation	-34.105	-39.343	-72.486	-106.144	-118.300	-115912
Impairment of fixed assets				-38.012		
Amortisation of licenses	-4.591	-4.804	-1.155	-4.378	-3.282	-3662
Impairment of goodwill and licenses				-161.988		72385
Operating profit before fair value adjustment	**53.014**	**125.642**	**121.336**	**-172.853**	**153.526**	**635.047**
Fair value adjustment of biological assets	22.693	42.367	-44.075	-35.747	115.276	207629
Operating profit	**75.707**	**168.009**	**77.261**	**-208.600**	**268.802**	**842.676**
Income from associated companies	-2.097	-66	-1.897	700	1.985	7590
Financial income	9.894	3.544	26.488	18.258	136.333	54675
Financial expenses	-24.165	-32.481	-65.815	-252.223	-89.606	-51882
Profit before taxes	**59.339**	**139.006**	**36.037**	**-441.865**	**317.514**	**853.059**
Income tax expense	-16.694	-44.179	16.165	97.461	-86.640	-226.727
Profit for the year	**42.645**	**94.827**	**52.202**	**-344.404**	**230.874**	**626.332**

Appendix 6.2 – GSF reformulated income statement

Core operations	2005	2006	2007	2008	2009	E 2010
Sales revenue	**408.097**	**535.756**	**1.021.810**	**1.477.029**	**1.612.619**	**2.446.490**
Other income	11.283	7.704	46.542	2.175	8.746	9.398
Income from associated companies	-2.097	-66	-1.897	700	1.985	7.590
Raw materials and consumables used	-226.204	-306.582	-746.174	-903.678	-900.581	-932.118
Salaries and personnel expenses	-39.030	-53.696	-139.861	-167.326	-193.921	-238.409
Other operating expenses	-63.285	-53.890	-196.814	-332.645	-410.541	-593.122
Changes in inventories of work in progress based c	849	40.497	205.859	51.637	158.085	-10.412
EBITDA	**89.613**	**169.723**	**189.465**	**127.892**	**276.392**	**689.417**
Depreciation	-34.105	-39.343	-72.486	-106.144	-118.300	-115.912
Amortisation of licenses and other intangible asse	-4.591	-4.804	-1.155	-4.378	-3.282	-3.662
EBIT	**50.917**	**125.576**	**115.824**	**17.370**	**154.810**	**569.843**
Tax on core operations	-14.336	-40.419	-7.188	-31.735	-41.257	-147.541
NOPLAT	**36.581**	**85.157**	**108.636**	**-14.365**	**113.553**	**422.302**

Non Operating or Reecurring Items	2005	2006	2007	2008	2009	E 2010
Other gains and losses	-	-	-	8.299	80	-
Impairment of fixed assets	-	-	-	-38.012	-	-
Impairment of goodwill and licenses	-	-	-	-161.988	-	72.385
Fair value adjustment of biological assets	22.693	42.367	-44.075	-35.747	115.276	207.629
Financial income	9.894	3.544	26.488	18.258	136.333	54.675
Financial expenses	-24.165	-32.481	-65.815	-252.223	-89.606	-51.882
Net other Non Operating Items	**8.422**	**13.430**	**-83.402**	**-461.413**	**162.083**	**282.807**
Tax Non Operating Items (TAX SHIELD)	-2.358	-3.760	23.353	129.196	-45.383	-79.186
Net Income Year	**42.645**	**94.827**	**48.587**	**-346.582**	**230.253**	**625.923**

Appendix 6.3 – Marine Harvest reformulated income statement

Core operations	2005	2006	2007	2008	2009	2010
Sales revenue	1.501.300	5.640.500	14.091.500	13.486.900	14.500.200	15.191.400
Income from associated companies	1.400	23.700	66.600	5.800	69.500	202.000
Raw materials and consumables used	-898.700	-3.296.700	-9.146.100	-8.654.400	-8.690.900	-7.690.700
Salaries and personnel expenses	-255.100	-839.500	-2.165.000	-2.139.800	-2.167.400	-2.178.900
Other operating expences	-197.700	-912.500	-1.304.300	-1.393.800	-1.448.200	-1.448.200
Changes in inventories of work in progress based on cost	124.700	511.900	-	-	-	-
EBITDA	**275.900**	**1.127.400**	**1.542.700**	**1.304.700**	**2.263.200**	**4.075.600**
Depreciation	-139.100	-305.500	-791.800	-685.300	-687.700	-653.100
EBIT	**136.800**	**821.900**	**750.900**	**619.400**	**1.575.500**	**3.422.500**
TAX on operational activities	59.972	786.228	-279.380	-677.296	-334.500	-911.552
NOPLAT	**196.772**	**1.608.128**	**471.520**	**-57.896**	**1.241.000**	**2.510.948**

Other Non Operating or Reecurring Items	2005	2006	2007	2008	2009	2010
Other gains and losses	-	-	-	-	-	-14.300
Impairment of fixed assets	252.000	-	-12.100	-1.579.400	-373.100	-5.000
Fair value adjustment of biological assets	71.600	40.000	-350.400	-278.800	301.200	1.091.700
Financial income	82.000	509.500	-7.700	-451.500	28.700	-207.900
Financial expenses	-155.700	-356.900	-380.900	-485.400	-392.900	-367.800
Restructuring cost			-196.300	-241.000	-169.500	-4.400
Net currency effects	-	-	343.900	-844.600	690.600	366.800
Net other Non Operating Items	**249.900**	**192.600**	**-603.500**	**-3.880.700**	**85.000**	**859.100**
Tax Non Operating Items (TAX SHIELD)	-69.972	-53.928	168.980	1.086.596	-23.800	-240.548
Net Income Year	**376.700**	**1.746.800**	**37.000**	**-2.852.000**	**1.302.200**	**3.129.500**

Appendix 6.4 – Lerøy reformulated income statement

Core operations	2005	2006	2007	2008	2009	2010
Sales revenue	4.014.454	5.616.592	6.290.898	6.057.053	7.473.807	8.887.671
Income from associated companies	64.534	128.982	35.509	13.716	62.744	122.006
Raw materials and consumables used	-3.254.686	-4.105.186	-4.698.675	-4.455.703	-5.177.492	-5.612.160
Salaries and personnel expenses	-245.819	-399.999	-579.004	-664.377	-690.477	-777.845
Other operating expences	-191.625	-342.943	-472.158	-579.295	-586.743	-691.791
Changes in inventories of work in progress based on cost	-	-	-	176.551	135.068	-
EBITDA	**386.858**	**897.446**	**576.570**	**547.945**	**1.216.907**	**1.927.881**
Depreciation	-48.214	-84.707	-153.846	-197.023	-204.007	-219.624
EBIT	**338.644**	**812.739**	**422.724**	**350.922**	**1.012.900**	**1.708.257**
Tax on operational activities	-75.369	-227.567	-118.363	-98.258	-283.612	-478.312
NOPLAT	**263.275**	**585.172**	**304.361**	**252.664**	**729.288**	**1.229.945**

Other Non Operating or Reecurring Items	2005	2006	2007	2008	2009	2010
Fair value adjustment of biological assets	69.412	85.938	15.838	-36.369	60.483	298.538
Financial income	-17.090	-40.294	-69.736	-150.507	-86.105	-66.272
Net other Non Operating Items	**52.322**	**45.644**	**-53.898**	**-186.876**	**-25.622**	**232.266**
Tax Non Operating Items (TAX SHIELD)	-14.650	-12.780	15.091	52.325	7.174	-65.034
Net Income Year	**300.947**	**618.036**	**265.555**	**118.113**	**710.840**	**1.397.177**

Appendix 6.5 – SalMar reformulated income statement

Core operations	2005	2006	2007	2008	2009	2010
Sales revenue	866.584	1.240.668	1.665.530	1.704.242	2.376.262	3.429.400
Other income	4.867	7.896	12.157	10.014	1.042	-
Income from associated companies	73.711	91.752	31.600	12.248	56.769	147.400
Raw materials and consumables used	-456.871	-643.547	-836.652	-922.016	-1.162.445	-1.645.300
Salaries and personnel expenses	-119.766	-131.913	-217.808	-240.393	-265.517	-313.300
Other operating expences	-85.220	-110.851	-191.270	-253.701	-311.973	-404.100
Changes in inventories of work in progress based on cost	27.362	131.612	47.750	103.844	25.567	-
EBITDA	**310.667**	**585.617**	**511.307**	**414.238**	**719.705**	**1.214.100**
Depreciation	-27.267	-37.874	-50.671	-55.225	-66.578	-94.000
Amortisation of licenses and other intangible assets	-	-	-	-	-11.600	-
EBIT	**283.400**	**547.743**	**460.636**	**359.013**	**641.527**	**1.120.100**
TAX on operational activities	-56.945	-123.950	-123.656	-100.681	-165.296	-263.532
NOPLAT	**226.455**	**423.793**	**336.980**	**258.332**	**476.231**	**856.568**

Other Non Operating or Reecurring Items	2005	2006	2007	2008	2009	2010
Other gains and losses	-	-8.617	-17.641	-9.303	-	-
Fair value adjustment of biological assets	40.785	63.676	94.234	-32.996	-4.624	181.000
Financial income	16.844	12.961	5.070	3.849	30.396	-40.400
Financial expenses	-21.841	-38.445	-61.039	-85.861	-33.197	-
Net other Non Operating Items	**35.788**	**29.575**	**20.624**	**-124.311**	**-7.425**	**140.600**
Tax Non Operating Items (TAX SHIELD)	-10.021	-8.281	-5.775	34.807	2.079	-39.368
Net Income Year	**252.222**	**445.087**	**351.829**	**168.828**	**470.885**	**957.800**

Appendix 7- Reformulated balance sheet GSF and peer group

Appendix 7.1 – GSF balance sheet

Assets	2005	2006	2007	2008	2009	E 2010
Goodwill	16.063	105.556	138.661	87.665	87.583	90.540
Licences	185.302	445.117	849.838	831.921	818.340	926.170
Other intangible assets	-	-	-	8.205	5.578	3.160
Property, plant and equipment	185.971	300.629	639.092	794.346	819.110	923.546
Investments in associated companies	13.720	10.729	10.879	11.579	13.619	33.456
Loans to associated companies	-	3.871	2.897	2.410	1.923	3.449
Available-for-sale financial assets	35.823	40.700	156	178	945	557
Other non-current receivables	-	12.667	10.275	1.790	-	1.958
Total non-current assets	436.879	919.269	1.651.798	1.738.094	1.747.098	1.982.836
Inventories	7.812	17.091	34.927	44.592	49.180	58.409
Biological assets	301.467	551.637	1.067.574	1.073.341	1.367.061	1.564.041
Accounts receivable	30.550	60.589	111.893	157.876	188.052	265.350
Other current receivables	44.018	34.073	84.569	48.488	57.051	43.265
Derivatives and other financial instruments	-	-	-	8.243	20.350	-
Cash and cash equivalents	9.729	12.692	24.318	68.146	139.778	143.729
Total current assets	393.576	676.082	1.323.281	1.400.686	1.821.472	2.074.794
Total assets	830.455	1.595.351	2.975.079	3.138.780	3.568.570	4.057.630

Equity and liabilities	2005	2006	2007	2008	2009	E2010
Share capital	122.000	184.848	306.048	306.048	446.648	446.648
Share premium reserve	-	257.152	811.120	621.550	716.634	-
Other equity	112.464	118.168	91.459	1.005	-19.734	23.845
Retained earnings	-58.360	6.036	57.456	-	230.873	1.511.912
Minority interest	9.656	13.051	-	-	-	-
Total equity	**185.760**	**579.255**	**1.266.083**	**928.603**	**1.374.421**	**1.982.405**
Deferred tax liabilities	46.715	206.567	281.294	251.069	331.995	531.498
Pension obligations	3.368	3.523	4.369	4.161	1.927	6.996
Cash settlement	-	-	-	-	1.351	-
Subordinated loans	50.000	-	9.800	13.517	13.548	14.581
Borrowings	265.052	427.730	563.484	8.065	711.419	646.686
Financial leasing liabilities	58.141	72.197	123.352	213.117	198.167	168.856
Other non-current liabilities	-	1.962	19.096	5.882	691	4.192
Total non-current liabilities	**423.276**	**711.979**	**1.001.395**	**495.811**	**1.259.098**	**1.372.809**
Short-term loan	96.436	175.354	337.957	496.702	482.989	260.000
Current portion of long- term borrowings	19.872	26.115	76.184	807.827	85.295	79.000
Current portion of financial leasing liabiliti	17.131	19.034	52.498	35.305	37.383	41.726
Accounts payable	60.571	63.703	197.356	214.687	233.443	253.305
Accrued salary expense and public tax payal	6.160	8.630	18.021	13.611	13.869	25.107
Derivatives and other financial instruments	-	-	-	122.532	9.672	1.605
Other current liabilities	21.249	11.281	25.585	23.702	72.400	41.673
Total current liabilities	**221.419**	**304.117**	**707.601**	**1.714.366**	**935.051**	**702.416**
Total liabilities	**644.695**	**1.016.096**	**1.708.996**	**2.210.177**	**2.194.149**	**2.075.225**
Total equity and liabilities	**830.455**	**1.595.351**	**2.975.079**	**3.138.780**	**3.568.570**	**4.057.630**

Appendix 7.2 – GSF reformulated balance sheet

Assets	2005	2006	2007	2008	2009	E2010
Inventories	7.812	17.091	34.927	44.592	49.180	58.409
Biological assets	301.467	551.637	1.067.574	1.073.341	1.367.061	1.564.041
Accounts receivable	30.550	60.589	111.893	157.876	188.052	265.350
Other current receivables	44.018	34.073	84.569	48.488	57.051	43.265
Operating current assets	**383.847**	**663.390**	**1.298.963**	**1.324.297**	**1.661.344**	**1.931.065**
Accounts payable	-60.571	-63.703	-197.356	-214.687	-233.443	-253.305
Accrued salary expense and public tax payal	-6.160	-8.630	-18.021	-13.611	-13.869	-25.107
Other current liabilities	-21.249	-11.281	-25.585	-23.702	-72.400	-41.673
Operating current liabilities	**-87.980**	**-83.614**	**-240.962**	**-252.000**	**-319.712**	**-320.085**
Operating working capital	**295.867**	**579.776**	**1.058.001**	**1.072.297**	**1.341.632**	**1.610.980**
Property, plant and equipment	185.971	300.629	639.092	794.346	819.110	923.546
Other non-current receivables	-	12.667	10.275	1.790	-	1.958
Investments in associated companies	13.720	10.729	10.879	11.579	13.619	33.456
Sum Fixed Assets	**199.691**	**324.025**	**660.246**	**807.715**	**832.729**	**958.960**
Pension obligations	-3.368	-3.523	-4.369	-4.161	-1.927	-6.996
Cash settlement	-	-	-	-	-1.351	-
Other non-current liabilities	-	-1.962	-19.096	-5.882	-691	-4.192
Non current liabilities	**-3.368**	**-5.485**	**-23.465**	**-10.043**	**-3.969**	**-11.188**
Invested capital excluding goodwill	**492.190**	**898.316**	**1.694.782**	**1.869.969**	**2.170.392**	**2.558.752**
Licences	185.302	445.117	849.838	831.921	818.340	926.170
Goodwill	16.063	105.556	138.661	87.665	87.583	90.540
Other intangible assets	-	-	-	8.205	5.578	3.160
Invested capital including goodwill	**693.555**	**1.448.989**	**2.683.281**	**2.797.760**	**3.081.893**	**3.578.622**

Appendixes

Total Equity	**185.760**	**579.255**	**1.266.083**	**928.603**	**1.374.421**	**1.982.405**
Deferred tax liabilities	**46.715**	**206.567**	**281.294**	**251.069**	**331.995**	**531.498**
Subordinated loans	50.000	-	9.800	13.517	13.548	14.581
Borrowings	265.052	427.730	563.484	8.065	711.419	646.686
Financial leasing liabilities	58.141	72.197	123.352	213.117	198.167	168.856
Short Term Loan	96.436	175.354	337.957	496.702	482.989	260.000
Current part long- term borrowings	19.872	26.115	76.184	807.827	85.295	79.000
Current part financial leasing liabilities	17.131	19.034	52.498	35.305	37.383	41.726
Total interest-bearing debt	**506.632**	**720.430**	**1.163.275**	**1.574.533**	**1.528.801**	**1.210.849**
Available-for-sale financial assets	-35.823	-40.700	-156	-178	-945	-557
Derivatives and other financial instruments	-	-	-	-8.243	-20.350	-
Cash and cash equivalents	-9.729	-12.692	-24.318	-68.146	-139.778	-143.729
Loans to associated companies	-	-3.871	-2.897	-2.410	-1.923	-3.449
Derivatives and other financial instruments	-	-	-	122.532	9.672	1.605
Net interest-bearing debt	**461.080**	**663.167**	**1.135.904**	**1.618.088**	**1.375.477**	**1.064.719**
Invested Capital	**693.555**	**1.448.989**	**2.683.281**	**2.797.760**	**3.081.893**	**3.578.622**

Appendix 7.3 - Marine Harvest reformulated balance sheet

Invested Capital	2005	2006	2007	2008	2009	2010
Inventories	73.800	955.700	917.400	1.074.500	742.700	775.800
Biological assets	1.060.300	6.311.700	5.553.900	5.620.600	5.351.100	7.278.100
Accounts recieveable	334.600	2.443.700	1.883.400	1.903.400	1.672.100	2.548.700
Other current recievables	80.900	211.400	667.500	532.400	551.600	-
Operating current assets	**1.549.600**	**9.922.500**	**9.022.200**	**9.130.900**	**8.317.500**	**10.602.600**
Accounts payable	-222.600	-1.787.400	-1.349.700	-1.729.200	-1.339.800	-
Tax payable	-	-	-	-69.900	-50.800	-
Other current liabilities	-265.600	-763.700	-907.100	-2.349.900	-1.048.600	-
Operating current liabilities	**-488.200**	**-2.551.100**	**-2.256.800**	**-4.149.000**	**-2.439.200**	**-2.899.600**
Operating working capital	**1.061.400**	**7.371.400**	**6.765.400**	**4.981.900**	**5.878.300**	**7.703.000**
Deferred tax assets	-	617.500	27.000	230.500	54.500	114.400
Property, plant and equipment	1.205.800	4.211.800	3.894.700	4.243.600	3.518.100	3.885.100
Investments in associated companies	-	-	-	513.500	520.100	803.100
Sum Fixed Assets	**1.205.800**	**4.829.300**	**3.921.700**	**4.987.600**	**4.092.700**	**4.802.600**
Pension obligations	-	-	-	-	-	-
Other non-current liabilities	-10.800	-202.600	-136.400	-116.700	-99.800	-571.100
Non current liabilities	**-10.800**	**-202.600**	**-136.400**	**-116.700**	**-99.800**	**-571.100**
Invested capital excluding goodwill	**2.256.400**	**11.998.100**	**10.550.700**	**9.852.800**	**9.871.200**	**11.934.500**
Licences	1.037.800	5.913.400	5.566.600	5.766.600	5.409.500	2.111.600
Goodwill	128.700	3.554.500	3.344.600	2.239.900	2.142.600	5.442.500
Other intangible assets	10.300	224.000	135.900	160.000	136.000	132.900
Invested capital including goodwill	**3.433.200**	**21.690.000**	**19.597.800**	**18.019.300**	**17.559.300**	**19.621.500**

Invested Capital	2005	2006	2007	2008	2009	2010
Total Equity	**1.778.500**	**13.542.200**	**12.484.000**	**9.624.700**	**11.460.500**	**12.591.400**
Deferred tax liabilities	84.300	1.866.800	1.199.700	732.900	1.142.600	2.241.800
Debt to credit institutions	1.610.500	7.956.000	5.856.900	6.747.700	5.116.900	5.107.300
Debt to credit institutions (current)	185.400	1.625.100	1.249.200	1.365.500	130.300	-
Total interest-bearing debt	**1.795.900**	**9.581.100**	**7.106.100**	**8.113.200**	**5.247.200**	**5.107.300**
Investments in shares and other securit	-72.800	-591.500	-829.400	-78.900	-118.800	-
Cash and cash equivalents	-152.700	-2.182.500	-362.600	-372.600	-172.200	-319.000
Asset held for sale	-	-640.000	-	-	-	-
Liabilities held for sale	-	113.900	-	-	-	-
Net interest-bearing debt	**1.570.400**	**6.281.000**	**5.914.100**	**7.661.700**	**4.956.200**	**4.788.300**
Invested Capital	**3.433.200**	**21.690.000**	**19.597.800**	**18.019.300**	**17.559.300**	**19.621.500**

Appendix 7.4 – Lerøy reformulated balance sheet

Invested Capital	2005	2006	2007	2008	2009	2010
Inventories	95.337	189.326	265.008	223.158	236.311	290.379
Biological assets	528.123	1.052.319	1.494.133	1.676.164	1.858.562	2.706.733
Accounts recieveable	594.752	752.676	690.800	772.440	876.127	1.190.214
Other current recievables	83.065	169.539	219.885	159.844	130.734	-
Operating current assets	**1.301.277**	**2.163.860**	**2.669.826**	**2.831.606**	**3.101.734**	**4.187.326**
Accounts payable	-373.030	-468.529	-508.294	-544.757	-615.996	-
Tax payable	-19.206	-153.513	-76.154	-16.631	-93.551	-
Public charges payable	-12.182	-32.963	-37.743	-49.014	-55.671	-
Other current liabilities	-118.913	-190.310	-158.242	-206.081	-240.228	-1.431.732
Operating current liabilities	**-523.331**	**-845.315**	**-780.433**	**-816.483**	**-1.005.446**	**-1.431.732**
Operating working capital	**777.946**	**1.318.545**	**1.889.393**	**2.015.123**	**2.096.288**	**2.755.594**
Deferred tax asset					4.461	-
Property, plant and equipment	284.832	695.062	1.149.128	1.294.818	1.225.399	1.586.334
Other non-current receivables	1.621	244	681	6.743	11.928	-
Investments in associated companies	320.867	308.592	289.474	277.455	272.970	369.982
Sum Fixed Assets	**607.320**	**1.003.898**	**1.439.283**	**1.579.016**	**1.514.758**	**1.956.316**
Pension obligations	-4.191	-8.869	-12.012	-13.211	-14.990	-
Other non-current liabilities	-	-	-	-4.150	-826	
Non current liabilities	**-4.191**	**-8.869**	**-12.012**	**-17.361**	**-15.816**	**-**
Invested capital excluding goodwill	**1.381.075**	**2.313.574**	**3.316.664**	**3.576.778**	**3.595.230**	**4.711.910**
Licences	309.400	-	2.832.305	2.959.927	2.959.611	3.851.457
Goodwill	134.508	-	-	-	-	-
Other intangible assets	-	1.922.348	-	-	-	-
Invested capital including goodwill	**1.824.983**	**4.235.922**	**6.148.969**	**6.536.705**	**6.554.841**	**8.563.367**

Invested Capital	2005	2006	2007	2008	2009	2010
Total Equity	**1.275.946**	**2.340.719**	**3.778.843**	**3.764.343**	**4.300.256**	**5.994.274**
Deferred tax liabilities	154.237	451.172	643.529	669.327	834.877	1.269.054
Debt to credit institutions	589.627	1.960.000	2.291.293	2.514.682	2.150.812	2.657.135
Total interest-bearing debt	**589.627**	**1.960.000**	**2.291.293**	**2.514.682**	**2.150.812**	**2.657.135**
Pension fund assets	-245	-360	-535	-	-	-
Shares available for sales	-2.615	-5.737	-26.423	-23.161	-23.115	-
Cash and cash equivalents	-191.967	-509.872	-537.738	-388.486	-707.989	-1.357.096
Net interest-bearing debt	**394.800**	**1.444.031**	**1.726.597**	**2.103.035**	**1.419.708**	**1.300.039**
Invested Capital	**1.824.983**	**4.235.922**	**6.148.969**	**6.536.705**	**6.554.841**	**8.563.367**

Appendix 7.5 – SalMar reformulated balance sheet

Invested Capital	2005	2006	2007	2008	2009	2010
Inventories	-	53.398	63.979	97.768	103.176	-
Biological assets	364.037	701.017	905.675	971.454	1.011.518	1.709.900
Accounts receivable	72.629	110.156	147.193	148.596	252.155	409.700
Other current receivables	14.082	51.544	37.950	34.156	73.247	134.200
Operating current assets	450.748	916.115	1.154.797	1.251.974	1.440.096	2.253.800
Accounts payable	110.995	148.380	98.713	133.022	204.394	-
Accrued salary expense and public tax payable	55.350	79.007	89.867	46.271	146.293	-
Public charges payable	-	11.364	22.076	19.137	19.710	-
Other current liabilities	51.325	33.860	44.652	59.837	43.627	689.900
Operating current liabilities	217.670	272.611	255.308	258.267	414.024	689.900
Operating working capital	**233.078**	**643.504**	**899.489**	**993.707**	**1.026.072**	**1.563.900**
Property, plant and equipment	162.121	306.609	348.222	416.084	533.286	878.500
Other non-current receivables	20.370	9.317	5.316	5.485	12.720	-
Investments in associated companies	339.562	261.790	258.203	257.615	268.508	884.900
Sum Fixed Assets	**522.053**	**577.716**	**611.741**	**679.184**	**814.514**	**1.763.400**
Pension obligations	-13.445	-3.364	-4.507	-5.233	-5.784	-
Other non-current liabilities	-	-97.239	-	-	-	-
Non current liabilities	**-13.445**	**-100.603**	**-4.507**	**-5.233**	**-5.784**	**-**
Invested capital excluding goodwill	**741.686**	**1.120.617**	**1.506.723**	**1.667.658**	**1.834.802**	**3.327.300**
Licences	227.893	711.503	845.178	914.116	935.916	1.707.000
Goodwill	-	56.155	197.965	196.932	205.458	-
Invested capital including goodwill	**969.579**	**1.888.275**	**2.549.866**	**2.778.706**	**2.976.176**	**5.034.300**

Invested Capital	2005	2006	2007	2008	2009	2010
Total Equity	**407.585**	**885.214**	**1.287.327**	**1.315.113**	**1.699.806**	**2.469.200**
Deffered tax liabilities	**127.075**	**336.102**	**460.067**	**481.813**	**498.508**	**751.600**
Debt to credit institutions	355.098	525.498	687.336	758.171	746.071	1.872.200
Financial leasing liabilities	-	-	77.319	65.764	68.070	-
Debt to credit institutions (current)	82.785	149.474	88.394	183.999	118.073	40.600
Total interest-bearing debt	437.883	674.972	853.049	1.007.934	932.214	**1.912.800**
Pension fund assets	-	-301	-1.766	-1.637	-4.904	-
Investments in shares and other securities	-	-762	-1.001	-975	-1.025	-
Cash and cash equivalents	-2.964	-6.950	-47.809	-23.541	-148.424	-99.300
Net interest-bearing debt	**434.919**	**666.959**	**802.473**	**981.781**	**777.861**	**1.813.500**
Invested Capital	**969.579**	**1.888.275**	**2.549.867**	**2.778.707**	**2.976.175**	**5.034.300**

Appendix 8 – GSF and peer group DuPont analysis, decomposition of ROE

GSF

	2006	2007	2008	2009	2010
Avg. ROIC (after tax)	**7,9%**	**5,3%**	**-0,5%**	**4,0%**	**12,7%**
FGEAR	**114%**	**90%**	**174%**	**100%**	**54%**
Spread	**4,8%**	**2,8%**	**-11,8%**	**6,4%**	**12,9%**
ROE (excluding transitoy items)	**13%**	**8%**	**-21%**	**10%**	**20%**
ROE (including transitory items)	25%	6%	-31%	20%	37%

Average numbers	2006	2007	2008	2009	E2010
ROIC (after tax)	7,9%	5,3%	-0,5%	3,9%	12,7%
ROIC (before tax)	11,7%	5,6%	0,6%	5,3%	17,1%
EBIT Margin (before tax)	23,4%	11,3%	1,2%	9,6%	23,3%
Turnoverrate	50,0%	49,5%	53,9%	54,9%	73,5%

SalMar

Average numbers	2006	2007	2008	2009	2010
ROIC (after tax)	29,7%	15,2%	9,7%	16,6%	21,4%
ROIC (before tax)	38,3%	20,8%	13,5%	22,3%	28,0%
EBIT Margin (before tax)	44,1%	27,7%	21,1%	27,0%	32,7%
Turnoverrate	86,8%	75,1%	64,0%	82,6%	85,6%

Marine Harvest

Average numbers	2006	2007	2008	2009	2010
Avg. ROIC (after tax)	12,8%	2,3%	-0,3%	7,0%	13,5%
Avg. ROIC (before tax)	6,5%	3,6%	3,3%	8,9%	18,4%
EBIT Margin (before tax)	14,6%	5,3%	4,6%	10,9%	22,5%
Turnoverrate	24,6%	50,2%	51,7%	58,0%	81,7%

Lerøy

Average numbers	2006	2007	2008	2009	2010
ROIC (after tax)	19,3%	5,9%	4,0%	11,1%	16,3%
ROIC (before tax)	26,8%	8,1%	5,5%	15,5%	22,6%
EBIT Margin (before tax)	14,5%	6,7%	5,8%	13,6%	19,2%
Turnoverrate	185,3%	121,2%	95,5%	114,2%	117,6%

Appendix 9 – GSF and SalMar common size analysis

GSF

Common size analysis	2005	2006	2007	2008	2009	E2010
Production	15.516	16.955	40.461	51.731	48.747	64.214
Sales revenue	**2630%**	**3160%**	**2525%**	**2855%**	**3308%**	**3810%**
Income from associated companies	-14%	0%	-5%	1%	4%	12%
Other income	73%	45%	115%	4%	18%	15%
Raw materials and consumables used	-1458%	-1808%	-1844%	-1747%	-1847%	-1452%
Salaries and personnel expenses	-252%	-317%	-346%	-323%	-398%	-371%
Other operating expenses	-408%	-318%	-486%	-643%	-842%	-924%
Changes in inventories	5%	239%	509%	100%	324%	-16%
Sum costs before EBITDA	**-2112%**	**-2204%**	**-2167%**	**-2614%**	**-2763%**	**-2763%**
EBITDA	**578%**	**1001%**	**468%**	**247%**	**567%**	**1074%**
Depreciation	-220%	-232%	-179%	-205%	-243%	-181%
Amortisation	-30%	-28%	-3%	-8%	-7%	-6%
EBIT	**328%**	**741%**	**286%**	**34%**	**318%**	**887%**
TAX on operational activities	-92%	-238%	-18%	-61%	-85%	-230%
NOPLAT	**236%**	**502%**	**268%**	**-28%**	**233%**	**658%**

In % of production	2005	2006	2007	2008	2009	E2010	Average
Inventories	50%	101%	86%	86%	101%	91%	85%
Biological assets	1943%	3254%	2639%	2075%	2804%	2436%	2543%
Accounts receivable	197%	357%	277%	305%	386%	413%	304%
Other current receivables	284%	201%	209%	94%	117%	67%	181%
Operating current assets	**2474%**	**3913%**	**3210%**	**2560%**	**3408%**	**3007%**	**3113%**
Accounts payable	-390%	-376%	-488%	-415%	-479%	-394%	-430%
Accrued salary expense and public tax p	-40%	-51%	-45%	-26%	-28%	-39%	-38%
Other current liabilities	-137%	-67%	-63%	-46%	-149%	-65%	-92%
Operating current liabilities	**-567%**	**-493%**	**-596%**	**-487%**	**-656%**	**-498%**	**-560%**
Operating working capital	**1907%**	**3419%**	**2615%**	**2073%**	**2752%**	**2509%**	**2553%**
Property, plant and equipment	1199%	1773%	1580%	1536%	1680%	1438%	1553%
Other non-current receivables	0%	75%	25%	3%	0%	3%	21%
Investments in associated companies	88%	63%	27%	22%	28%	52%	
Sum Fixed Assets	**1287%**	**1911%**	**1632%**	**1561%**	**1708%**	**1493%**	**1620%**
Pension obligations	-22%	-21%	-11%	-8%	-4%	-11%	-13%
Cash settlement	0%	0%	0%	0%	-3%	0%	-1%
Other non-current liabilities	0%	-12%	-47%	-11%	-1%	-7%	-14%
Non current liabilities	**-22%**	**-32%**	**-58%**	**-19%**	**-8%**	**-17%**	**-28%**
Invested capital excluding goodwill	**3172%**	**5298%**	**4189%**	**3615%**	**4452%**	**3985%**	**4145%**
Licences	1194%	2625%	2100%	1608%	1679%	1442%	1841%
Goodwill	104%	623%	343%	169%	180%	141%	284%
Other intangible assets	0%	0%	0%	16%	11%	5%	5%
Invested capital including goodwill	**4470%**	**8546%**	**6632%**	**5408%**	**6322%**	**5573%**	**6276%**

SalMar

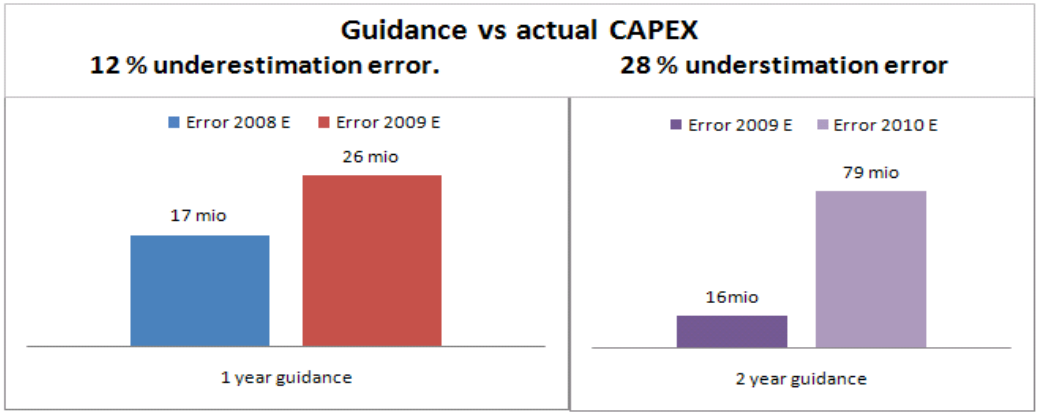
Income Statement	2005	2006	2007	2008	2009	2010
Production	34.800	44.100	64.000	65.100	77.500	103.500
Sales revenue	**2490%**	**2813%**	**2602%**	**2618%**	**3066%**	**3313%**
Income from associated companies	212%	208%	49%	19%	73%	142%
Income from associated companies	14%	18%	19%	15%	1%	0%
Raw materials and consumables used	-1313%	-1459%	-1307%	-1416%	-1500%	-1590%
Salaries and personnel expenses	-344%	-299%	-340%	-369%	-343%	-303%
Other operating expences	-245%	-251%	-299%	-390%	-403%	-390%
Changes in inventories of work in progr	79%	298%	75%	160%	33%	0%
Sum Costs before EBITDA	**-1823%**	**-1711%**	**-1872%**	**-2016%**	**-2212%**	**-2283%**
EBITDA	**893%**	**1328%**	**799%**	**636%**	**929%**	**1173%**
Depreciation	-78%	-86%	-79%	-85%	-86%	-91%
EBIT	**814%**	**1242%**	**720%**	**551%**	**828%**	**1082%**
TAX on operational activities	-164%	-281%	-193%	-155%	-213%	-255%
NOPLAT	**651%**	**961%**	**527%**	**397%**	**614%**	**828%**

Invested Capital	2005	2006	2007	2008	2009	2010	Average
Inventories	0%	121%	100%	150%	133%	0%	101%
Biological assets	1046%	1590%	1415%	1492%	1305%	1652%	1370%
Accounts receivable	209%	250%	230%	228%	325%	396%	248%
Other current receivables	40%	117%	59%	52%	95%	130%	73%
Operating current assets	**1295%**	**2077%**	**1804%**	**1923%**	**1858%**	**2178%**	**1792%**
Accounts payable	319%	336%	154%	204%	264%	0%	256%
Accrued salary expense and public tax payable	159%	179%	140%	71%	189%	0%	148%
Public charges payable	0%	26%	34%	29%	25%	0%	
Other current liabilities	147%	77%	70%	92%	56%	667%	88%
Operating current liabilities	**625%**	**618%**	**399%**	**397%**	**534%**	**667%**	**515%**
Operating working capital	**670%**	**1459%**	**1405%**	**1526%**	**1324%**	**1511%**	**1277%**
Property, plant and equipment	466%	695%	544%	639%	688%	849%	606%
Other non-current receivables	59%	21%	8%	8%	16%	0%	23%
Sum Fixed Assets	**1500%**	**1310%**	**956%**	**1043%**	**1051%**	**1704%**	**1172%**
Pension obligations	-39%	-8%	-7%	-8%	-7%	0%	-14%
Other non-current liabilities	0%	-220%	0%	0%	0%	0%	-44%
Non current liabilities	**-39%**	**-228%**	**-7%**	**-8%**	**-7%**	**0%**	**-58%**
Invested capital excluding goodwill	**2131%**	**2541%**	**2354%**	**2562%**	**2367%**	**3215%**	**2391%**
Licences	655%	1613%	1321%	1404%	1208%	1649%	1240%
Goodwill	0%	127%	309%	303%	265%	0%	201%
Invested capital including goodwill	**2786%**	**4282%**	**3984%**	**4268%**	**3840%**	**4864%**	**3832%**

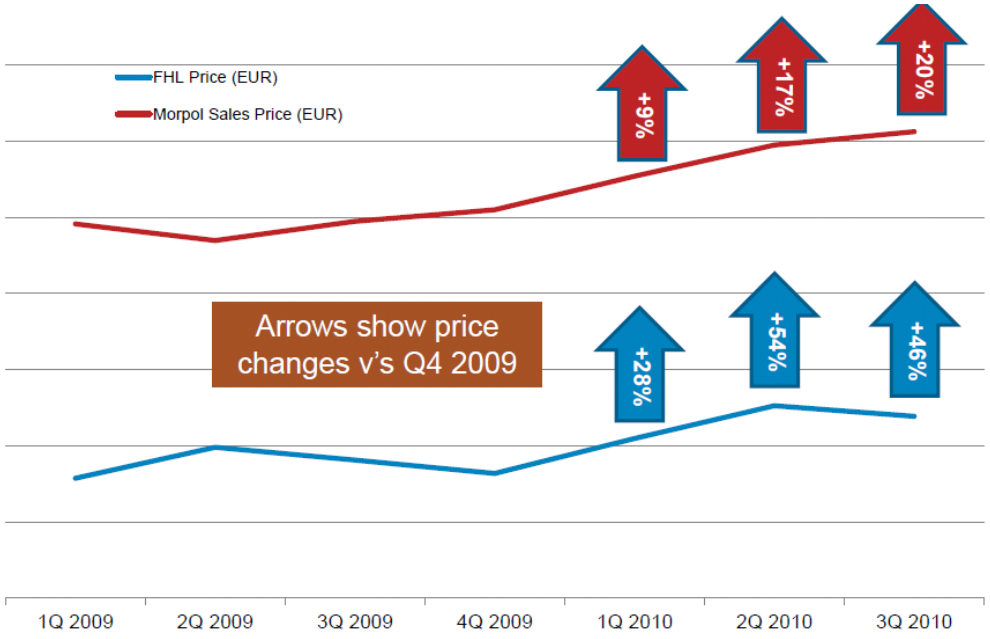
Appendix 10 – Production guidance peer group

Marine harvest	2007	2008	2009	2010	
Guidance	400000	308000	296000	292000	
Actual production	336000	326600	327100	295700	**Average error**
Error %	-16	6,0	10,5	1,3	0,453210271
Lerøy	**2007**	**2008**	**2009**	**2010**	
Guidance	99500	112000	123000	128000	
Actual production	109000	104100	121700	130300	**Average error**
Error %	9,5	-7,1	-1,1	1,8	0,808532924
Salmar	**2008**	**2009**	**2010**		
Guidance	60000	65000	73000		
Actual production	53700	64300	64900	**Average error**	
Error %	-10,5	-1,08	-11,1	-7,557604496	

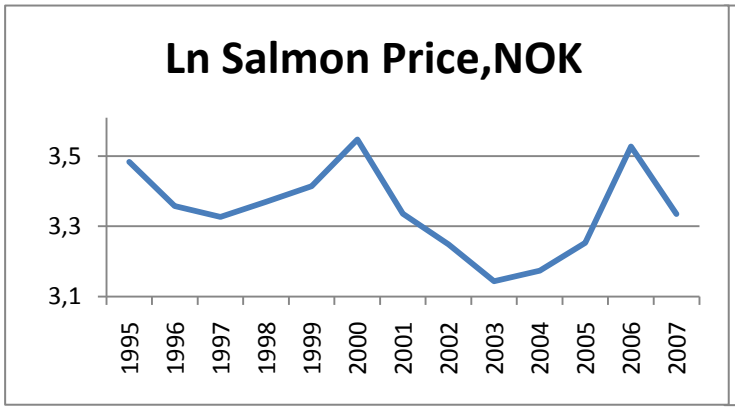
Appendix 11 - CAPEX Underestimation Error

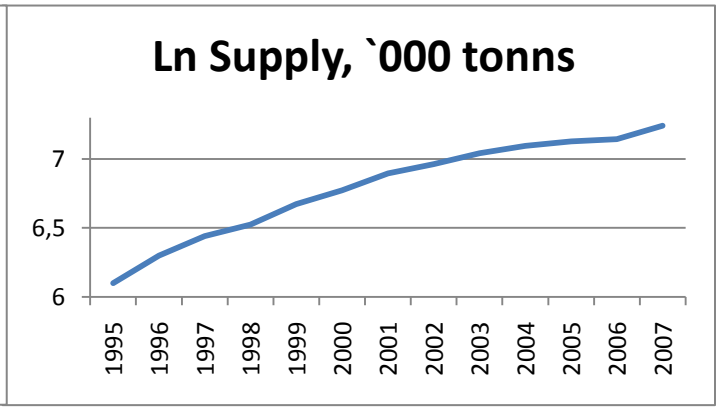


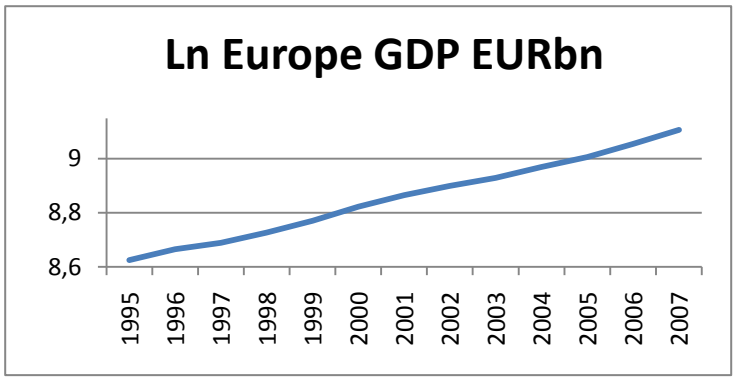
Appendix 12 - Sales prices lag behind raw material increases in 2010



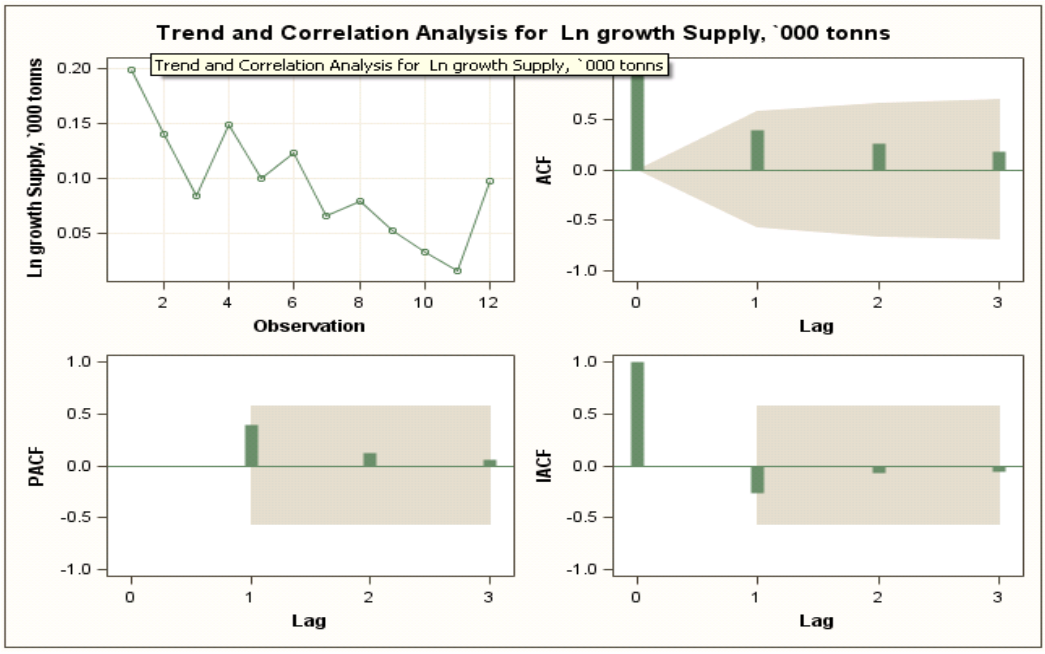
Appendix 13 – Regression analysis Ln time series

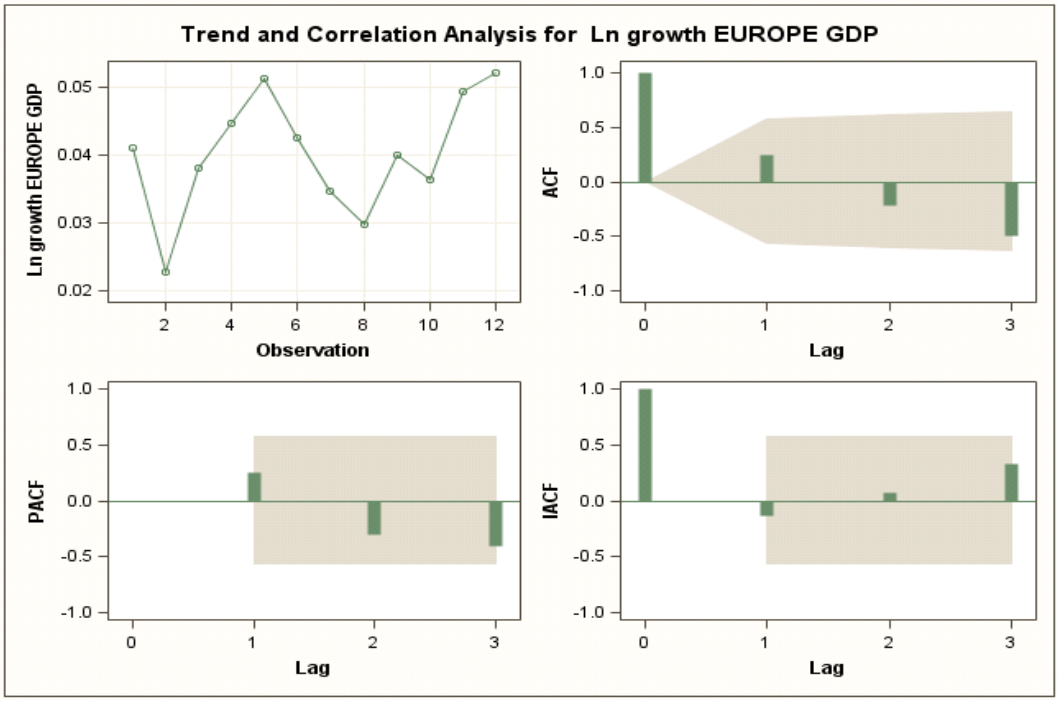






Appendix 14 – Stationarity tests





Source: SAS Enterprise Guide

Appendix 15 – Regression Analysis Results

Number of Observations Read	12
Number of Observations Used	12

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	0.06726	0.03363	1.99	0.1929
Error	9	0.15234	0.01693		
Corrected Total	11	0.21960			

Root MSE	0.13010	R-Square	0.3063
Dependent Mean	-0.01243	Adj R-Sq	0.1521
Coeff Var	-1046.37633		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.00611	0.20496	0.03	0.9769
Ln growth EUROPE GDP	1	2.82896	4.51646	0.63	0.5466
Ln growth Supply, `000 tonns	1	-1.39085	0.76063	-1.83	0.1007

Source: SAS Enterprise Guide

Appendix 16 – Original time series and input used in the regression analysis

Date	Salmon Price , SP	Supply, `000 tonns	EUROPE GDP
1995	32,5941813	446	5566,23
1996	28,72204968	544	5799,04
1997	27,86043837	626	5932,58
1998	29,07452828	681	6163,35
1999	30,38765802	790	6445,27
2000	34,73190231	873	6784,75
2001	28,11630186	988	7080,18
2002	25,74571172	1056	7329,4
2003	23,18767953	1144	7551,01
2004	23,89303929	1206	7859,86
2005	25,8630176	1247	8150,54
2006	34,03271443	1267	8561,75
2007	28,07640927	1397	9019,53

Date	Ln growth Salmon Price , SP	Ln growth Supply, `000 tonns	Ln growth EUROPE GDP
1996	-0,126468676	0,198630295	0,040974402
1997	-0,030457406	0,140401124	0,022766808
1998	0,042654771	0,084211935	0,038161267
1999	0,044174066	0,148470639	0,044726068
2000	0,1336221	0,09990261	0,051330918
2001	-0,211309094	0,123747142	0,042621884
2002	-0,088081468	0,066560767	0,034594326
2003	-0,104646995	0,080042708	0,029787672
2004	0,02996609	0,052778205	0,040087465
2005	0,079226883	0,033431568	0,036315388
2006	0,274508195	0,015911235	0,049220426
2007	-0,192392555	0,097675179	0,052087618

Appendix 17 – GSF and SalMar trend analysis cost per kg

GSF

Reorganized Income statement	2005	2006	2007	2008	2009	2010	Average	2005	2006	2007	2008	2009	2010
Sales revenue	**26**	**32**	**25**	**29**	**33**	**38**	**30**	**100**	**120**	**96**	**109**	**126**	**145**
Income from associated companies	-0	-0	-0	0	0	0	-0	100	3	35	-10	-30	-87
Other income	1	0	1	0	0	0	0	100	62	158	6	25	20
Raw materials and consumables used	-14,6	-18,1	-18,4	-17,5	-18,5	-14,5	-16,9	100	124	126	120	127	100
Salaries and personnel expenses	-3	-3	-3	-3	-4	-4	-3,3	100	126	137	129	158	148
Other operating expenses	-4	-3	-5	-6	-8	-9	-6,0	100	78	119	158	206	226
Changes in inventories	0	2	5	1	3	-0	2	100	4365	9298	1824	5927	-296
Sum costs before EBITDA	**-21,1**	**-22,0**	**-21,7**	**-26,1**	**-27,6**	**-27,6**	**-24**	**100**	**104**	**103**	**124**	**131**	**131**
EBITDA	**6**	**10**	**5**	**2**	**6**	**11**	**7**	**100**	**173**	**81**	**43**	**98**	**186**
Depreciation	-2	-2	-2	-2	-2	-2	-2	100	106	82	93	110	82
Amortisation	-0	-0	-0	-0	-0	-0	-0	100	96	10	29	23	19
Cost per kilo	**-23,6**	**-24,6**	**-23,5**	**-28,3**	**-30,1**	**-29,5**	**-26,6**	**100**	**104**	**100**	**120**	**128**	**125**
EBIT	**3**	**7**	**3**	**0**	**3**	**9**	**4,3**	**100**	**226**	**87**	**10**	**97**	**270**
Tax on core operations	-1	-2	-0	-1	-1	-2	-1	100	258	19	66	92	249
NOPLAT	**2**	**5**	**3**	**-0**	**2**	**7**	**3**	**100**	**213**	**114**	**-12**	**99**	**279**

SalMar

Income Statement	2005	2006	2007	2008	2009	2010	average	2005	2006	2007	2008	2009	2010
Sales revenue	**24,9**	**28,1**	**26,0**	**26,2**	**30,7**	**33,1**	**28,2**	**100**	**113**	**105**	**105**	**123**	**133**
Income from associated companies	2,1	2,1	0,5	0,2	0,7	1,4	1,2	100	98	23	9	35	67
Other income	0,1	0,2	0,2	0,2	0,0	-	0,1	100	128	136	110	10	0
Raw materials and consumables used	-13,1	-14,6	-13,1	-14,2	-15,0	-15,9	-14,3	100	111	100	108	114	121
Salaries and personnel expenses	-3,4	-3,0	-3,4	-3,7	-3,4	-3,0	-3,3	100	87	99	107	100	88
Other operating expences	-2,4	-2,5	-3,0	-3,9	-4,0	-3,9	-3,3	100	103	122	159	164	159
Changes in inventories	0,8	3,0	0,7	1,6	0,3	-	1,1	100	380	95	203	42	0
Sum Costs before EBITDA	**-18,2**	**-17,1**	**-18,7**	**-20,2**	**-22,1**	**-22,8**	**-19,9**	**100**	**94**	**103**	**111**	**121**	**125**
EBITDA	**8,9**	**13,3**	**8,0**	**6,4**	**9,3**	**11,7**	**9,6**	**100**	**149**	**89**	**71**	**104**	**131**
Depreciation	-0,8	-0,9	-0,8	-0,8	-0,9	-0,9	-0,8	100	110	101	108	110	116
COST per kilo	**-19,0**	**-18,0**	**-19,5**	**-21,0**	**-23,0**	**-23,7**	**-20,7**	**100**	**95**	**103**	**110**	**121**	**125**
EBIT	**8,1**	**12,4**	**7,2**	**5,5**	**8,3**	**10,8**	**8,7**	**100**	**153**	**88**	**68**	**102**	**133**
TAX on operational activities	-1,6	-2,8	-1,9	-1,5	-2,1	-2,5	-2,1	100	172	118	95	130	156
NOPLAT	**6,5**	**9,6**	**5,3**	**4,0**	**6,1**	**8,3**	**6,6**	**100**	**148**	**81**	**61**	**94**	**127**

Appendix 18 – Valuation appendixes

Appendix 18.1 – GSF valuation assumptions

Income Statement forecasting	2005	2006	2007	2008	2009	E2010	Average
Production	15.516	16.955	40.461	51.731	48.747	64.214	
Raw materials and consumables used	-14,6	-18,1	-18,4	-17,5	-18,5	-14,5	-16,9
Salaries and personnel expenses	-2,5	-3,2	-3,5	-3,2	-4,0	-3,7127	-3,34
Other operating expenses	-4,1	-3,2	-4,9	-6,4	-8,4	-9,2	-6,0
Depreciations in % PP&E	-18%	-13%	-11%	-13%	-14%	-13%	-13,0%
Amortiziation in % of licenses	-0,025	-0,011	-0,001	-0,005	-0,004	-0,004	-0,44%
Interest in % of interest bearing debt	-5%	-5%	-6%	-16%	-6%	-4%	-5,0%
Balance Sheet Forecasting							
Biological assets in % of production	5,1%	3,1%	3,8%	4,8%	3,6%	4,1%	4,1%
Inventory in % of production	199%	99%	116%	116%	99%	110%	108%
Accounts receivables in % of revenue	7,5%	11,3%	11,0%	10,7%	11,7%	10,8%	11,1%
Accounts payable in % of revenue	15%	12%	19%	15%	14%	10%	14%
Accrued salary in % of revenue	1,5%	1,6%	1,8%	0,9%	0,9%	1,0%	1,3%
Tax assumption	-28%	-32%	45%	-22%	-27%	-27%	-27%
Total interest bearing debt	124%	134%	114%	107%	95%	49%	103,9%

Appendix 18.2- Income statement and balance sheet forecasting

Income Statement forecasting	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Salmon price spot	35,7	30,6	29,4	30,0	30,6	31,3	32,0	32,6	33,3	33,3
Salmon price forward	38,7	34,4	-	-	-	-	-	-	-	-
Production	61.560	68.400	72.504	76.854	81.465	86.353	91.535	97.027	102.848	105.420
Raw materials and consumables used	-15,50	-15,50	-15,50	-15,50	-15,00	-14,50	-14,00	-13,50	-13,50	-13,50
Salaries and personnel expenses	-3,7	-3,7	-3,7	-3,7	-3,7	-3,7	-3,7	-3,7	-3,7	-3,7
Other operating expenses	-8,8	-8,8	-8,8	-8,8	-8,8	-8,8	-8,8	-8,8	-8,8	-8,8
Depreciations in % PP&E	-13,0%	-13,0%	-13,0%	-13,0%	-13,0%	-13,0%	-13,0%	-13,0%	-13,0%	-13,0%
Amortiziation in % of licenses	-0,44%	-0,44%	-0,44%	-0,44%	-0,44%	-0,44%	-0,44%	-0,44%	-0,44%	-0,44%
Interest in % of interest bearing debt	4,4%	4,4%	4,4%	4,4%	4,4%	4,4%	4,4%	4,4%	4,4%	4%
Balance Sheet Forecasting										
Biological assets in % of production	4,2%	4,2%	4,3%	4,4%	4,6%	4,9%	5,1%	5,4%	5,6%	5,9%
Inventory in % of production	108%	108,0%	108%	108%	108%	108%	108%	108%	108%	108%
Accounts receivables in % of revenue	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%
Accounts payable in % of revenue	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Accrued salary in % of revenue	1%	1%	1%	1%	1%	1%	1%	1%	1%	1,0%
Tax assumption	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%
Total interest bearing debt	49%	49%	49%	49%	49%	49%	49%	49%	49%	49%

Appendix 18.3 – GSF Future income statement

Future Income Statement	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sales revenue	**2.262.330**	**2.184.012**	**2.131.618**	**2.305.627**	**2.492.844**	**2.702.862**	**2.929.108**	**3.163.071**	**3.424.849**	**3.510.470**
Other income	9.398	9.398	9.398	9.398	9.398	9.398	9.398	9.398	9.398	9.633
Income from associated companies	7.590	7.590	7.590	7.590	7.590	7.590	7.590	7.590	7.590	7.780
Raw materials and consumables used	-954.180	-1.060.200	-1.123.812	-1.191.241	-1.221.982	-1.252.125	-1.281.485	-1.309.861	-1.388.452	-1.423.163
Salaries and personnel expenses	-228.555	-253.950	-269.188	-285.339	-302.459	-320.607	-339.843	-360.234	-381.848	-391.394
Other operating expenses	-543.529	-603.921	-640.157	-678.566	-719.280	-762.437	-808.183	-856.674	-908.074	-930.776
EBITDA	**553.053**	**282.928**	**115.449**	**167.470**	**266.111**	**384.682**	**516.585**	**653.291**	**763.463**	**782.549**
Depreciation	-142.014	-147.974	-149.464	-149.464	-149.464	-150.906	-156.093	-161.084	-165.887	-170.035
Amortization	-4.497	-4.497	-4.497	-4.497	-4.497	-4.497	-4.713	-5.493	-6.243	-6.399
EBIT	**406.543**	**130.458**	**-38.511**	**13.509**	**112.150**	**229.280**	**355.779**	**486.714**	**591.332**	**606.115**
Financial expenses	-49.267	-47.561	-46.420	-50.210	-54.287	-58.860	-63.787	-68.882	-74.583	-76.448
Net other Non Operating Items	**-49.267**	**-47.561**	**-46.420**	**-50.210**	**-54.287**	**-58.860**	**-63.787**	**-68.882**	**-74.583**	**-76.448**
Net income before tax	357.276	82.896	-84.932	-36.701	57.863	170.419	291.991	417.831	516.749	529.667
Tax	-100.037	-23.211	23.781	10.276	-16.202	-47.717	-81.758	-116.993	-144.690	-148.307
Net Income Year	**257.239**	**59.685**	**-61.151**	**-26.425**	**41.661**	**122.702**	**210.234**	**300.838**	**372.059**	**381.361**

Appendix 18.4 – Future invested capital

Invested capital	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Inventories	56.988	63.320	67.119	71.146	75.415	79.940	84.736	89.820	95.209	97.590
Biological assets	1.469.998	1.601.305	1.664.102	1.729.361	1.745.831	1.762.458	1.779.243	1.796.188	1.813.295	1.858.627
Accounts receivable	250.918	242.232	236.421	255.720	276.485	299.778	324.872	350.821	379.855	389.351
Other current receivables	43.265	43.265	43.265	43.265	43.265	43.265	43.265	43.265	43.265	44.347
Operating current assets	**1.821.169**	**1.950.122**	**2.010.906**	**2.099.492**	**2.140.995**	**2.185.441**	**2.232.116**	**2.280.094**	**2.331.624**	**2.389.915**
Accounts payable	-319.303	-308.249	-300.855	-325.414	-351.838	-381.479	-413.412	-446.433	-483.380	-495.465
Accrued salary expense and public tax	-27.972	-27.004	-26.356	-28.508	-30.823	-33.419	-36.217	-39.110	-42.346	-43.405
Other current liabilities	-41.673	-41.673	-41.673	-41.673	-41.673	-41.673	-41.673	-41.673	-41.673	-42.715
Operating current liabilities	**-388.949**	**-376.927**	**-368.884**	**-395.595**	**-424.333**	**-456.572**	**-491.301**	**-527.216**	**-567.399**	**-581.584**
Operating working capital	**1.432.221**	**1.573.195**	**1.642.022**	**1.703.897**	**1.716.662**	**1.728.869**	**1.740.814**	**1.752.878**	**1.764.225**	**1.808.330**
Property, plant and equipment	1.096.046	1.142.046	1.153.546	1.153.546	1.153.546	1.164.673	1.204.710	1.243.227	1.280.300	1.312.307
Other non-current receivables	1.958	1.958	1.958	1.958	1.958	1.958	1.958	1.958	1.958	2.007
Investments in associated companies	33.456	33.456	33.456	33.456	33.456	33.456	33.456	33.456	33.456	34.292
Sum Fixed Assets	**1.131.460**	**1.177.460**	**1.188.960**	**1.188.960**	**1.188.960**	**1.200.087**	**1.240.124**	**1.278.641**	**1.315.714**	**1.348.607**
Pension obligations	-6.996	-6.996	-6.996	-6.996	-6.996	-6.996	-6.996	-6.996	-6.996	-7.171
Other non-current liabilities	-4.192	-4.192	-4.192	-4.192	-4.192	-4.192	-4.192	-4.192	-4.192	-4.297
Non current liabilities	**-11.188**	**-11.188**	**-11.188**	**-11.188**	**-11.188**	**-11.188**	**-11.188**	**-11.188**	**-11.188**	**-11.468**
Invested capital excluding goodwill	**2.552.493**	**2.739.467**	**2.819.794**	**2.881.669**	**2.894.434**	**2.917.767**	**2.969.750**	**3.020.331**	**3.068.750**	**3.145.469**
Licences	926.170	926.170	926.170	926.170	926.170	926.170	975.320	1.152.178	1.322.320	1.355.378
Goodwill	90.540	90.540	90.540	90.540	90.540	90.540	90.540	90.540	90.540	92.804
Other intangible assets	3.160	3.160	3.160	3.160	3.160	3.160	3.160	3.160	3.160	3.239
Invested capital including goodwill	**3.572.363**	**3.759.337**	**3.839.664**	**3.901.539**	**3.914.304**	**3.937.637**	**4.038.770**	**4.266.209**	**4.484.770**	**4.596.890**
Invested Capital										
Total Equity	**2.071.299**	**2.297.035**	**2.403.294**	**2.379.046**	**2.299.151**	**2.218.539**	**2.207.695**	**2.319.339**	**2.408.337**	**2.478.420**
Deferred tax liabilities	531.498	531.498	531.498	531.498	531.498	531.498	531.498	531.498	531.498	544.785
Total interest-bearing debt	**1.119.702**	**1.080.940**	**1.055.008**	**1.141.131**	**1.233.791**	**1.337.736**	**1.449.713**	**1.565.509**	**1.695.071**	**1.737.448**
Available-for-sale financial assets	-557	-557	-557	-557	-557	-557	-557	-557	-557	-571
Loans to associated companies	-3.449	-3.449	-3.449	-3.449	-3.449	-3.449	-3.449	-3.449	-3.449	-3.535
Cash and cash equivalents	-143.729	-143.729	-143.729	-143.729	-143.729	-143.729	-143.729	-143.729	-143.729	-147.322
Derivatives and other financial instrum	1.605	1.605	1.605	1.605	1.605	1.605	1.605	1.605	1.605	1.645
Net interest-bearing debt	**973.572**	**934.810**	**908.878**	**995.001**	**1.087.661**	**1.191.606**	**1.303.583**	**1.419.379**	**1.548.941**	**1.587.665**
Invested Capital	**3.576.369**	**3.763.343**	**3.843.670**	**3.905.545**	**3.918.310**	**3.941.643**	**4.042.776**	**4.270.215**	**4.488.776**	**4.610.870**

Appendix 18.5 – Future cash flow

Future cash flow statement	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EBIT	**406.543**	**130.458**	**-38.511**	**13.509**	**112.150**	**229.280**	**355.779**	**486.714**	**591.332**	**606.115**
TAX on core operations	-113.832	-36.528	10.783	-3.783	-31.402	-64.198	-99.618	-136.280	-165.573	-169.712
Depreciations	142.014	147.974	149.464	149.464	149.464	150.906	156.093	161.084	165.887	170.035
Amortiziation	4.497	4.497	4.497	4.497	4.497	4.497	4.713	5.493	6.243	6.399
Sum	**439.221**	**246.400**	**126.233**	**163.687**	**234.709**	**320.484**	**416.967**	**517.011**	**597.890**	**612.837**
Inventories	1.421	-6.332	-3.799	-4.027	-4.269	-4.525	-4.796	-5.084	-5.389	-2.380
Biological assets	94.043	-131.307	-62.796	-65.259	-16.470	-16.627	-16.785	-16.945	-17.107	-45.332
Accounts receivable	14.432	8.686	5.811	-19.300	-20.764	-23.293	-25.093	-25.949	-29.034	-9.496
Accounts payable	65.998	-11.054	-7.395	24.560	26.424	29.642	31.932	33.021	36.947	12.085
Accrued salary expense and public tax	2.865	-968	-648	2.152	2.315	2.597	2.797	2.893	3.237	1.059
Change working capital	**178.759**	**-140.975**	**-68.827**	**-61.875**	**-12.765**	**-12.207**	**-11.945**	**-12.064**	**-11.346**	**-44.066**
Investment in intangible assets	-4.497	-4.497	-4.497	-4.497	-4.497	-4.497	-53.864	-182.351	-176.386	-41.800
Investments in tangible assets	-318.520	-193.974	-160.964	-149.464	-149.464	-162.032	-196.131	-199.601	-202.960	-203.028
Capex	**-323.016**	**-198.471**	**-165.461**	**-153.961**	**-153.961**	**-166.529**	**-249.994**	**-381.952**	**-379.346**	**-244.827**
Free Cash Flow	**294.964**	**-93.045**	**-108.055**	**-52.148**	**67.983**	**141.748**	**155.028**	**122.995**	**207.198**	**323.944**
Interest paid	-49.267	-47.561	-46.420	-50.210	-54.287	-58.860	-63.787	-68.882	-74.583	-76.448
Tax shield	13.795	13.317	12.998	14.059	15.200	16.481	17.860	19.287	20.883	21.405
New loans	-91.147	-38.762	-25.932	86.123	92.660	103.945	111.977	115.796	129.563	42.377
Net change in cash flow	**168.345**	**-166.052**	**-167.410**	**-2.176**	**121.556**	**203.313**	**221.078**	**189.195**	**283.060**	**311.278**
Dividends paid	-168.345	166.052	167.410	2.176	-121.556	-203.313	-221.078	-189.195	-283.060	-311.278

Appendix 18.6 – DCF valuation

DCF Valuation	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	1	2	3	4	5	6	7	8	9	
Discount factor	93%	87%	80%	75%	70%	65%	60%	56%	52%	
Free Cash Flow	294.964	-93.045	-108.055	-52.148	67.983	141.748	155.028	122.995	207.198	323.944
PV Free Cash Flow	274.385	-80.515	-86.980	-39.049	47.354	91.847	93.444	68.963	108.071	3.379.272

Enterprice value budget period	477.521
Enterprice value terminal period	3.379.272
Enterprice value	**3.856.794**
Interest bearing debt	-1.210.849
EK	**2.645.945**
Shares	111.662
Price per share	**23,70**
WACC assumption	7,50%
Growth ssumtion	2,50%

Appendix 18.7 – EVA valuation

EVA Valuation	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EBIT after tax	292.711	93.929	-27.728	9.727	80.748	165.081	256.161	350.434	425.759	436.403
Cost on capital	-268.397	-267.927	-281.950	-287.975	-292.615	-293.573	-295.323	-302.908	-319.966	-336.358
EVA	24.314	-173.998	-309.678	-278.248	-211.867	-128.491	-39.162	47.526	105.793	100.045
PV (EVA)	22.618	-150.566	-249.279	-208.352	-147.578	-83.257	-23.605	26.648	55.180	1.043.638

Enterprice value budget period	-758.192
Enterprice value terminal period	1.043.638
Enterprice value	**285.445**
Invested capital primo	3.578.622
Interest bearing debt	-1.210.849
EK	**2.653.218**
Shares	111.662
Price per share	**23,76**
WACC assumption	7,50%
Growth ssumtion	2,50%

Appendix 18.8 – Raw beta data

Date	OBX Monthly returns %	GSF Monthly Returns %
20-08-2007	-12,3	-10,6
20-09-2007	8,7	-10,0
20-10-2007	0,5	15,3
20-11-2007	-3,7	-24,7
20-12-2007	-1,2	-12,7
20-01-2008	-13,8	-9,7
20-02-2008	4,7	-18,5
20-03-2008	-6,2	22,6
20-04-2008	13,0	-3,8
20-05-2008	13,8	15,6
20-06-2008	-6,3	1,7
20-07-2008	-14,7	-8,2
20-08-2008	-0,4	-9,3
20-09-2008	-11,3	-2,0
20-10-2008	-31,6	-57,1
20-11-2008	-25,0	-12,2
20-12-2008	16,7	-24,6
20-01-2009	1,5	-9,1
20-02-2009	-3,4	9,7
20-03-2009	6,5	14,7
20-04-2009	4,1	43,6
20-05-2009	20,9	167,9
20-06-2009	-0,3	-19,3
20-07-2009	-1,1	5,8
20-08-2009	4,8	1,6
20-09-2009	8,8	2,3
20-10-2009	7,1	-3,0
20-11-2009	0,4	-17,8
20-12-2009	4,1	-4,7
20-01-2010	1,1	11,4
20-02-2010	-3,4	17,3
20-03-2010	3,1	9,8
20-04-2010	5,6	9,0
20-05-2010	-14,8	6,3
20-06-2010	6,3	3,0
20-07-2010	-4,4	-10,4
20-08-2010	2,6	15,5
20-09-2010	6,9	-8,4
20-10-2010	4,4	4,9
20-11-2010	3,3	4,1
20-12-2010	4,4	4,5

Appendix 18.9 – WACC Sensitivity Analysis, by changing Beta and Debt ratio

		D/(D+E)						
	7,5%	0,26	**0,36**	0,46	0,56	0,66	0,76	0,86
	0,50	5,4%	5,1%	4,8%	4,5%	4,2%	3,9%	3,6%
	0,75	6,3%	5,9%	5,5%	5,0%	4,6%	4,2%	3,8%
	1,00	7,2%	6,7%	6,1%	5,6%	5,0%	4,5%	3,9%
Beta	**1,25**	8,2%	**7,5%**	6,8%	6,1%	5,5%	4,8%	4,1%
	1,50	9,1%	8,3%	7,5%	6,7%	5,9%	5,1%	4,3%
	1,75	10,0%	9,1%	8,2%	7,2%	6,3%	5,4%	4,5%
	2,00	10,9%	9,9%	8,8%	7,8%	6,7%	5,7%	4,6%

Source: Own Creation

Appendix 18.10 – Multiple Valuation

2011	Marine Harvest	Lerøy Seafood	SalMar	GSF
Data				
Number of shares	3574900000	54577368	103000000	111660000
Share value 30/12-10 NOK	6,17	198,5	61,5	19,4
Marketcap NOKm	22057,133	10833,60755	6334,5	2166,204
Debt NOKm	5107,3	2657,135	1912,8	1210,849
Cash NOKm	319	1357,096	99,3	147,7
Enterprice value NOKm	26845,4	12133,6	8148,0	3229,4
Ratios				
Earnings	2967,167	1370,983484	1031,03	419,8416
P/E	**7,4**	**7,9**	**6,1**	**5,2**
EBITDA	4836	2244	1454	742
EV/EBITDA	**5,6**	**5,4**	**5,6**	**4,4**
Sales	16906	9962	4225	2359
EV/Sales	**1,6**	**1,2**	**1,9**	**1,4**
Kilo	330.000.000,00	149.500.000,00	103.000.000,00	63.900.000,00
EV/Kilo	**81,3**	**81,2**	**79,1**	**50,5**
	Harmonic Mean	Grieg Seafood M	Difference	
P/E	7,1	5,2	-1,9	
EV/EBITDA	5,5	4,4	-1,2	
EV/Sales	1,5	1,4	-0,2	
EV/Kilo	80,5	50,5	-30,0	
Value of GSF using ratios, H	Harmonic Mean multiples			
P/E	0,0			
EV/EBITDA	0,0			
EV/Sales	0,0			
EV/Kilo	0,0			
Share Price of GSF using ratios				
P/E	0,00			
EV/EBITDA	-9,52			
EV/Sales	-9,52			
EV/Kilo	-9,52			

2012	Marine Harvest	Lerøy Seafood	SalMar	GSF
Data				
Number of shares	3574900000	54577368	103000000	111660000
Share value 30/12-10 NOK	6,17	198,5	61,5	19,4
Marketcap NOKm	22057,133	10833,60755	6334,5	2166,204
Debt NOKm	5107,3	2657,135	1912,8	1210,849
Cash NOKm	319	1357,096	99,3	147,7
Enterprice value NOKm	26845,4	12133,6	8148,0	3229,4
Ratios				
Earnings	2073,4	1041,3	754,0	313,8
P/E	**10,6**	**10,4**	**8,4**	**6,9**
EBITDA	3746	1759	1115	603
EV/EBITDA	**7,2**	**6,9**	**7,3**	**5,4**
Sales	16033	9977	3944,5	2325
EV/Sales	**1,7**	**1,2**	**2,1**	**1,4**
Kilo	358.186.833	151.812.500	104.442.500	72.100.000
EV/Kilo	**74,9**	**79,9**	**78,0**	**44,8**
	Harmonic Mean	Grieg Seafood Multiples	Difference	
P/E	9,7	6,9	-2,8	
EV/EBITDA	7,1	5,4	-1,8	
EV/Sales	1,6	1,4	-0,2	
EV/Kilo	77,6	44,8	-32,8	
Value of GSF using ratios, NOKm	Harmonic Mean multiples			
P/E	3044,8			
EV/EBITDA	4293,3			
EV/Sales	3664,1			
EV/Kilo	5593,1			
Share Price of GSF using ratios				
P/E	27,27			
EV/EBITDA	28,93			
EV/Sales	23,29			
EV/Kilo	40,57			

Appendix 20- Diseases

- The ISA virus has led to substantial losses for the industry, and was the virus that caused the Chilean output to fall more than 70 % in the period following the disease outbreak in 2006-2007. The risk of an ISA outbreak increases strongly with proximity to the source of infection, suboptimal operations, not allowing the facilities to lie fallow for an adequate length of time and poor quality smolt. The sick fish itself represents no health risk for humans and is therefore sold on the open market.

- HSMI is a viral disease which has occurred sporadically in southern Norway in recent years. Since 2005 the disease has expanded in Norway and is also diagnosed incidental in Scotland. The disease affects fish in the first half of the marine phase, with reduced growth and moderate mortality rates being the most important loss factors. It is assumed that the disease is infectious and therefore may be combated through vaccination.

- PD is another viral disease that has harmed GSF's production in Rogaland. The PD virus can hit in spring or autumn at any size of fish. It attacks heart and skeletal muscle and pancreatic tissue. Mortality may vary from 0-15 %, but more important is chronic damage done to the survivors in terms of reduced growth capacity and scars in skeletal muscle. A PD vaccine is now available and results are promising.

Appendix 20 – CD ROM, Excel models and calculations