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BUSINESS & ECONOMICS

Equity valuation of
BAKKAFROST

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Abstract

The main objective of this master thesis has been to determine the fundamental value of the Faroese based salmon farming company Bakkafrost as of the date 31/12/2015.

A set of analytical tools based on recognized academic theories have been applied when analyzing the competitive environment, industry value drivers and historical performance. The findings of these analyses constitute the foundation for the forecasting of the company's future performance.

The intrinsic value has then been estimated by applying the discounted cash flow (DCF) methodology using the projected free cash flow to the firm (FCFF) discounted at the weighted average cost of capital (WACC). The relative valuation approach is also applied, mainly relying on forward-looking enterprise value (EV) multiples, but also presenting a set of price- and industry specific ratios both using the forward- and trailing multiples approach.

My valuation results vary between the methodologies used, where my multiples approach in general yielded the lower values. For my final verdict on the firms intrinsic value I lean towards the value obtained in the DCF analysis, as I believe this best incorporates my view of the company's future prospects and the confidence I have in my underlying analysis. To further test the assumptions I make in the DCF valuation, I conduct a set of sensitivity- and scenario analysis.

The paper concludes by comparing my results to an analysis performed by the investment bank Fearnley Securities, as well as a short presentation of how the stock has performed in the wake of the valuation date.

Abstrato

O objetivo da presente tese foi avaliar uma empresa de criação de salmão, a Bakkafrost, situada em Faroese, referente ao dia 31/12/2015.

Para analisar a competitividade da indústria, os vetores-chave de criação de valor da indústria em específico e a evolução histórica dos resultados da empresa, certas ferramentas analíticas foram utilizadas com base em métodos reconhecidos. Deste modo, os resultados obtidos constituem a base de previsão da performance futura da referida empresa.

O valor real da empresa foi estimado através do método DCF, usando os FCFF estimados e descontados à taxa WACC. Foi também aplicado o método da "Relative valuation" dependendo principalmente nos forward-looking EV multiples, mas também apresentando rácios do preço e da indústria em específico, ambos através do método do "forward- and trailing multiples".

Os resultados obtidos variam de acordo com a metodologia usada, e os valores mais baixos resultam da avaliação feita pela técnica dos "multiples". Após a análise dos dados, concluo que o valor obtido pelo modelo de análise DCF é o que mais se aproxima às projeções futuras da empresa. Para testar os meus pressupostos, aquando do uso do modelo de avaliação designado por DCF, realizei alguns testes, tanto de sensibilidade como de cenário.

Como conclusão, comparei os resultados a uma análise produzida pelo banco de investimentos Fearnley Securities, e, por fim, elaborei uma pequena apresentação da evolução das ações após a data da presente avaliação.

Acknowledgement

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Christopher Haslerud

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Introduction

According to a recent UN DESA report, "World Population Prospects: The 2015 Revision" (UN.org, 2015), the world has experienced an extraordinary increase in population growth the past half century, a trend that is set to continue going forward. The world´s population of 7.3 billion is projected to reach approximately 8.5 billion by the year 2030 and a staggering 9.7 billion by 2050, with the population growing fastest in developing countries. As the population growth continues at a fast pace, the world must progressively turn to the ocean and aquaculture to provide food for the growing population. Although 70 percent of the planet is covered in water, only 6.5 percent of the sources of protein for human consumption are currently produced in this element, a ratio that might become unsustainable given future demand (marineharvest.com, 2015).

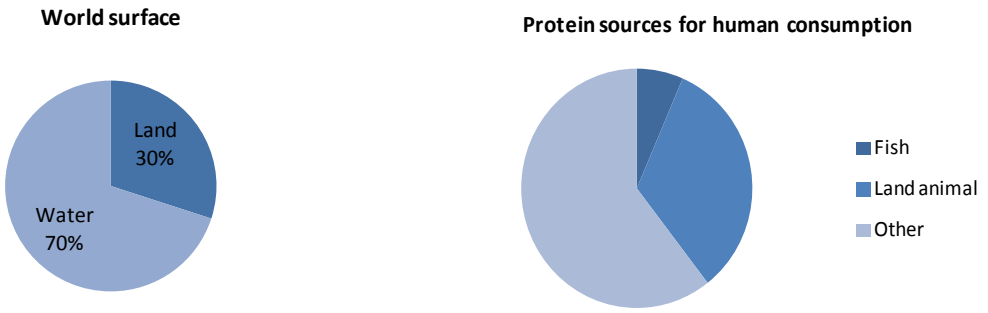


Figure 1, Source: marineharvest.com

The booming population will put heavy pressure on the already strained aquaculture industry to meet this increase in demand, but as more than 85 percent of the world's fisheries have reached, or even moved beyond their biological limitations, the future supply necessary to meet projected growth will surely come with its own set of implications, implications which may lead to future price volatility and drive investment towards innovation of the industry (worldwildlife.org, 2016).

The future need of the industry to supply future demand is clear, but the recent appearance of new biological threats, political tension, stricter regulations and changing consumer preferences have affected the players in the industry, including BAKKA, increasing uncertainties surrounding the valuations of salmon farming companies.

Next I will present a literature review covering the main valuation methods before giving a short presentation of the salmon farming industry and a brief introduction of BAKKA. I then

dive deeper into the analysis of industry and company factors affecting my valuation, elaborating on the issues mentioned briefly in the introduction. Following this I proceed with my valuation of BAKKA, based on the company- and industry-specific analysis conducted, using appropriate valuation methods presented in the literature review. I conclude my report with the presentation of the valuation results, in hand with a sensitivity analysis addressing the identification of critical factors, and a contingency analysis to simulate possible future scenarios and its ensuing effect on my valuation results. I also compare my final results with the valuation results of Fearnley Securities, an independent and research focused investment bank headquartered in Oslo, Norway (fearnleysecurities.no, 2016).

Literature review

I will now present a review of publications by accredited scholars and researchers, covering the topic of firm valuation or otherwise topics directly related and relevant to the process of uncovering the company's fundamental value. I will begin by presenting the main valuation models used by practitioners, also covering the key valuation parameters surrounding the given models. I will attempt to identify areas of controversy or areas in need of further research.

We can classify the different valuation methods into four categories as presented in table 1 below. The direct valuation methods are direct in the way that they provide the user with an actual estimate of the company's fundamental value, or intrinsic value, a value that can be under- or overvalued compared with the current market value. A relative valuation method in contrast, indicates whether or not the company is fairly valued relative to some benchmark or peer-group (ftpress.com, 2013).

	Direct (or Absolute) Valuation Methods	**Relative (or Indirect) Valuation Methods**
Valuation methods relying on cash flows	*Discounted cash flow models:* FCFF FCFE APV DDM *Option-pricing models:* Real option analysis	*Price multiples:* Price-to-cash-flow ratio
Valuation methods relying financial variables other than cash flows	EVA Asset-based valuation	*Price multiples:* Price-to-earnings ratios Price-to –sales ratio Price-to-book ratio Enterprise value multiples: EV/EBITDA multiple EV/Sales multiple

Table 1

Direct valuation methods

Discounted cash flow models

The discounted cash flow valuation (DCF) approach is based on the understanding that the fundamental value of a company today is equal to the present value of the company's future cash flows generated by its core business operations, discounted at a rate that reflects the riskiness of those given cash flows. This is a fundamental principal of corporate finance, and it is the dominant viewpoint on what drives a firm's intrinsic value, broadly used by academics and practitioners alike when conducting valuations (Ferris and Petitt, 2013).

FCFF

The valuation technique most commonly used in corporate practice is the Free Cash Flow to Firm (FCFF) valuation method. This application of DCF takes the perspective of both the equity- and debt holders, hence all the parties involved in financing the assets, thus creating the resulting cash flows. The FCFF excludes the external financing costs as this cost is represented in the cash flows discount rate, and including the cost would lead to a double counting, resulting in a undervalued net present value. On the other hand, an exclusion of the interest on the financing from external sources would oversee the importance of such costs as tax deductible expenses, also known as tax-shields. Such tax-shields are accounted for in the FCFF valuation method by including the tax-shield into the discount rate, also known as the WACC (Mielcarz and Mlinaric, 2014). In general, the firm value can be derived by discounting the expected free cash flows as shown in the formula below.

$$Value\ of\ firm = \sum_{t=1}^{n} \frac{FCFF_t}{(1 + WACC)^t}$$

When valuing a firm, it is common to limit the explicitly forecasted period by assuming that the company will reach a steady state of stable growth sometime in the future. This is incorporated by using a multi-stage growth model, whereby we calculate the residual value at the end of the explicitly forecasted period using Gordon's growth model. Thereafter we find the perpetual value once the firm has reached steady state, discounting this lump sum back to present and adding it to the value of the explicitly forecasted present value as shown in the formula below.

$$Value\ of\ firm = \sum_{t=1}^{n} \frac{FCFF_t}{(1 + WACC)^t} + \frac{(\frac{FCFF_{n+1}}{WACC - g_n})}{(1 + WACC)^n}$$

The advantage of using the FCFF valuation approach is broad applicability, as it can be used in most circumstances. It does not rely on the company to pay divided, nor report positive earnings. A few disadvantages to this approach may be the difficulty of correctly forecasting unknown future cash flows and finding an appropriate discount rate.

FCFE

The Free Cash Flow to Equity (FCFE) technique differs slightly from the FCFF as it takes on the perspective of the equity holders, valuing the firm based on future cash flows attributed to the equity holders alone, hence after cash flows to debt- and preferred stockholders have been accounted for. This results in the need to account for external financing costs such as debt repayments in the cash flow projections, not in the discount rate, which is now the cost of equity (Mielcarz and Mlinaric, 2014). The equity value can be calculated in a similar fashion as the firm value using the FCFF approach, and the formula is presented below.

$$Value\ of\ equity = \sum_{t=1}^{n} \frac{FCFE_t}{(1+k_e)^t} + \frac{(\frac{FCFE_{n+1}}{k_e - g_n})}{(1+k_e)^n}$$

Both the FCFF and FCFE will provide the same valuation results as long as the two methods use consistent assumptions regarding the growth rate, and if the bonds are valued correctly (nyu.edu, 2016). So by adding the value of debt (V_D), as shown below, we should arrive at the same value as calculated using the FCFF.

$$V_F = V_E + V_D$$

The value of debt is equal to its future estimated interest payments discounted at the discount rate required by the debt holders. If we assume an infinite horizon of interest payments, where debt is continuously rolled over, we can calculate the value of debt. We can assume a growth rate to interest payments, reflecting the growth of debt to support sales growth and the company's FCFE, resulting in the maintenance of stable capital structure (Gentry, Reilly and Sandretto, 2003).

Both the FCFF and FCFE valuation methods are well suited for companies with stable capital structures.

DDM

Whereas the FCFE valuation method discounts the dividend-paying capacity, the Dividend Discount Model (DDM) discounts the expected dividend to be paid by the company in the future. The DDM values the firm's equity by discounting its expected future dividends at the cost of equity, the same discount rate used in the FCFE approach. We can account for the terminal value by assuming that future dividend to grow to perpetuity as introduced in the FCFF methods (Nagorniak and Wilcox, 2011).

$$Value\ of\ equity = \sum_{t=1}^{n} \frac{DIV}{(1+k_e)^t} + \frac{(\frac{DIV_{n+1}}{k_e - g_n})}{(1+k_e)^n}$$

APV

The APV, or Adjusted Present Value approach, values the firm as if it was leverage-free and completely equity financed, valuing then separately the debt of the firm by considering the benefits and costs of borrowing. The main benefit is the tax-shield the use of leverage provides, the most significant cost being the added default risk, but benefits and risks may also include items such as subsidized loans or issue costs.

The value of the equity financed firm is estimated by discounting the expected FCFF at the unlevered cost of equity. If the firm is set to grow in perpetuity, as in our FCFF and FCFE models already presented, we can compute the value of the unlevered company using the formula:

$$Value\ of\ unlevered\ firm\ (V_U) = \frac{FCFF_{t+1}}{k_u - g}$$

The values of the company's perpetual tax savings (ITS) and expected bankruptcy costs can be estimated as following:

$$V_{ITS} = \frac{(tax\ rate)(cost\ of\ debt)(debt)}{cost\ of\ debt}$$

$$V_{bankrupcy\ costs} = (probability\ of\ bankruptcy)(PV\ of\ bankruptcy\ costs)$$

The value of the levered firm is then found by adding the value of its interest tax shields to the value of the unlevered firm, and subtracting the estimated bankruptcy costs (nyu.edu, 2016).

An advantage of using APV is how it analyzes financial decisions separately giving, management in particular, relevant information and a transparent view of how value is created or destroyed by financing decisions. APV is also highly flexible, as it can be configured and customized to the particular valuation at hand (Luehrman, 1997).

Option-pricing models

This valuation method also relies on cash flows, but is grounded in option-pricing models such as the Black-Scholes Model, Lattice Model or Monte Carlo simulation where the payoffs are usually not linear, as opposed to the DCF models. This valuation method is rarely used to value entire company's, but can be a valuable tool when valuing investment opportunities, as these often can be represented as option-like models such as options to expand, postpone, abandon or temporarily suspend the activities of a given project. Real option analysis applies many of the same techniques used for valuing financial options, and will most commonly be used when estimating the value of mines, oil reserves or other expropriations of natural resources, or R&D investments, particularly in the pharmaceutical industry (ftpress.com, 2013).

Economic income models

The Economic Value Added (EVA) is a measure of excess value generated by an investment, and is computed by multiplying the capital spent on a given investment with the excess return made on that specific investment (Damodaran, p.870).

$$EVA = NOPAT - (Capital\ invested\ \times WACC)$$

When using the model to value a company, the total value is comprised of the book value of invested capital (C) and the present value of future EVA. The value is calculated in two steps, first the value of the planning horizon derived from pro forma financial statements and second, the residual value, where it is assumed that expected rates are to last forever, with the possibility adding a fixed growth rate (Kislingerová, 2000).

$$Value\ of\ firm = C_t \sum_{t=1}^{n} \frac{EVA_t}{(1+WACC_t)^t} + \frac{EVA_n / WACC_n}{(1+WACC_n)^n}$$

When calculating EVA, book values are commonly used as we are looking to value the assets in place. Using the market value would implicitly include the assets expected future growth.

The book value, however, represents a value that has been affected by accounting choices and must therefore be adjusted to get the best estimate of the true value of capital invested in assets in place.

Asset based valuation

This asset-based approach to valuation focuses on the market value of the company's net asset value, or the company's total assets minus total liabilities. By recreating the asset base of the business by adjusting the book value to their fair market value, the approach is well suited for valuing holding companies, capital-intensive companies or companies generating losses (Saari, 2016).

Key valuation parameters

CAPM

The capital asset pricing model as shown below is commonly used when pricing risky securities.

$$R_j = R_f + \beta_j(R_m - R_f)$$

The risk-free rate used when calculating discount rates should use the current rate of long-term government bonds at the time the discount rate is calculated (Bilan and Fernandez, 2007). Given conditions of low and stable inflation, the risk-free rate used to derive expected returns should be the nominal rate of return, measured in line with the measure of cash flows, i.e. it is the currency in which the cash flows are estimated that determines the choice of risk-free rate. If the rate is not perceived "completely" free of risk, the rate should be adjusted by narrowing the implied default spread already integrated in the rate of return (Damodaran, p.156-158).

As far as the risk premium is concerned, we need to know what investors, on average, require as a premium on top of the rate of a riskless investment for investing in the market portfolio. A good estimate of the rate can be found using the dataset provided by Damodaran, who calculates country specific risk premiums using the formula;

$$Equity\ risk\ premium = Base\ premium\ for\ mature\ equity\ market + Country\ premium$$

Damodaran uses the historical premium for the S&P 500 as the base premium, and specific country premiums dependent on the default spread and relative equity market volatility,

ranging from 6 percent for countries such as the US, Singapore, Australia and Norway, to approximately 20 percent for countries such as Cuba, Greece, Jamaica and Ukraine (stern.nyu.edu, 2016).

In the CAPM, the beta reflects the risk that the investment adds to the market portfolio. The conventional method for calculating the beta is by performing a regression of the given stock's historical returns on the returns on a given market index using the equation below (Damodaran, p.183-192).

$$R_j = a + \beta R_{mkt\ risk\ premium}$$

The slope of the regression above (β) corresponds to the beta of the stock, and serves as a measure of the riskiness of the stock in relation to the given market index. A beta of 1 implies that the stock moves with the market, a beta greater than 1 implies more volatility in the stock price as compared with the market, and a beta of less than 1 implies a lower volatility. A few key decisions must be made regarding the regression model. The first is the length of the period estimated, the second is the return interval used. While a longer estimation period results in a tighter standard error for the estimated beta, it also increases the probability that there will be significant changes in the beta due to the company changing its risk characteristics over the time period. Research has proved that an estimation period of three years captures the maximum reduction in the standard error of the estimated beta in studies covering a range of periods from one year to eight-year estimation periods (Daves, Ehrhardt and Kunkel, 2000). Another estimation issue is the choice of market index. The common practice is to use the index of the market in which the stock trades.

Having derived the risk-free rate, the market risk premium and the beta, we can estimate the expected return from investing in the firm's equity by using the formula;

$$Expected\ return = Riskfree\ rate + Beta\ \times Risk\ premium$$

The expected return, or cost of equity, is the return equity investors need to earn to be compensated for the risk of investing in the firm's equity. Although equity is an essential ingredient in a firms financing mix, most companies also rely on certain amounts of debt to fund their operating activities, and the cost of financing for a firm should also reflect their cost as well. The cost of debt measures the current cost to the firm using borrowed funds to finance their ongoing business (Damodaran, p.208-213).

WACC

The weighted average cost of capital is the average after-tax cost of the firms various funding sources, and its calculation requires the cost of equity, debt, the ratios of debt and equity over firm value, and a tax-rate to account for the given tax-shield. The WACC is computed as follows (Myers, 2001):

$$WACC = R_E(E/V) + R_D(1 - T_c)(D/V)$$

The tax rate used in the calculation of WACC should be the effective rate of the levered firm (Bilan and Fernandez, 2007). Further, market weights for equity and debt are considered more appropriate than book values, as an investor would demand a market rate of return on the market value, not the book value, of capital (macabacus.com, 2016). The market value of equity, also known as market capitalization, can be found by multiplying the current stock price of the company with the total number of shares outstanding (accountingtools.com, 2012).

The cost of debt can be modeled as the after-tax sum of the risk-free rate plus a risk component accounting for credit risk, as presented below.

$$R_D = \big(R_f + credit\ risk\ rate\big)(1 - T)$$

The cost of debt can also be calculated by dividing the annual interest payment by the market value of debt (boundless.com, 2015).

The weights used to compute the WACC should conform to the company's target capital structure, the capital structure that the company desires. The target capital structure can be estimated using one of several approaches (CFA, 2016):

1. Assume the current capital structure, at market rates, as the company's target capital structure
2. Examine statements made by management with regard to the company's capital structure policy
3. Examine historical data for ensuing trends
4. Use the average capital structure of comparable companies

Calculation of residual value

The idea of calculating the residual value by accounting for expected future cash flows into the indefinite future can be considered a valid approach as businesses established as corporations will continue as a going concern, thereby continuing their operations indefinitely. Even in cases where investors have a defined investment horizon, the stock value today is dependent on the company's expected cash flows before the stock is sold and the expected cash flows in subsequent periods after the stock is sold, as these cash flows determine the expected selling price (Nagorniak and Wilcox, 2011).

We calculate the present residual value by discounting the perpetual cash flows using the relevant discount rate dependent on the valuation model used (FCFF, FCFE, DDM, etc.) as shown below.

$$Residual\ value = \frac{CF_0}{r}$$

We can implement the assumption of the cash flow growing at a constant rate by using the Gordon Growth Model as shown, followed by the estimation of the sustainable growth rate:

$$Residual\ value = \frac{CF_1}{r - g}$$

Given the formula above, the growth rate for a company cannot exceed the required rate of return. The long-term growth rate can be calculated as follows:

$$g = Retention\ Ratio \times ROE$$

And the growth rate of dividend can be calculated as:

$$g = (1 - Dividend\ payout\ ratio) \times ROE$$

Factors to consider when determining a long-term growth rate may include the overall GDP growth of the company's operating markets, industry-specific growth, inflation and the company's market share (Rotkowski and Clough, 2013).

Relative Valuation Methods

While relative valuation methods bypass the explicit projections and calculations of present value through the discounting of future payoffs, as extensively used in the direct valuation methods presented above, the method relies on the same underlying principles stating that a company´s fundamental value can be viewed as an increasing function of future cash flows and inverse as a function of risk. Using the relative valuation approach, we value assets based on how comparable assets are valued by the market. According to the underlying economic rationale of the valuation method, the law of one price, identical assets should have an identical price (Nagorniak and Wilcox, 2011). There are two components to this process. Firstly, to make the assets comparable to each other, we standardize the price by converting it into multiples of for example earnings or sales. Secondly, we compare the multiples of the company being valued with those of similar companies, thereby making judgments on whether the company is over- and underpriced compared to the benchmark set by its peer companies (Damodaran, p.453-467). In practice, the use of multiples is widespread. This is well reflected in a study of equity analyst repots, where it was found that 99.1 percent of analysts mentioned that they use some sort of earnings multiple, and that that valuation models based on asset multiples were used in 25.1 percent of all reports (Asquith, Au and Mikhail, 2005).

Multiples can be distinguished based on the multiples numerator. Where the numerator is based on the stock price, we are dealing with an equity value multiple, whereas if the numerator is based on enterprise value we refer to it as an enterprise value multiple. The second dimension, regarding the denominator, can be comprised of accrual flows such as revenues or EBIT, book values such as total assets or invested capital, cash flow items such as operating cash-flows or dividend (Schreiner, 2007). A set of traditional multiples are presented in the table below.

	Traditional multiples		
	Accrual flow multiples	Book value multiples	Cash flow multiples
Equity value multiples	Price/Revenue Price/Gross Income Price/EBITDA Price/EBIT Price/EBT Price/Earnings	Price/Total Assets Price/Invested Capital Price/Book value	Price/OCF Price/Dividend
Enterprise value multiples	EV/Revenue EV/Gross Income EV/EBITDA EV/EBIT	EV/Total Assets EV/Invested Capital	EV/OCF

Table 2

The multiples denominator may be based on trailing values or forward values. For valuation purposes, forward multiples are highly recommended, particularly for companies in growth or decline, as their historical ratios will not be representative of the company's future performance (Nagorniak and Wilcox, 2011).

When selecting multiples to use, research suggests that the most precise forecast when valuing European companies are attained when using the EV/EBIT multiple, as ratios comprised of EV incorporates both debt and equity, and are less susceptible to changes in capital structure as opposed to equity value multiples (Dittmann and Weiner, 2005). Adjusting multiples such as the EV/EBITDA for non-recurring and non-operating items such as litigation fees, excess cash and operating leases, as such items can generate misleading results. Research also shows that using forward-looking multiples, if reliable forecasts are available, will provide more accurate predictions of value (Goedhart, Koller and Wessels, 2005). This is in line with the principles of valuation stating that the company value equals the present value of future cash flows, not sunk costs. Liu, Nassim and Thomas (2002) also studied the relative performance of different multiples, with findings suggesting that multiples based on forward earnings provide the best explanation of stock prices, followed by historical earnings.

A drawback to the research conducted on the use of multiples is that a majority of studies on multiples have been made using US data which might not be fully representative of its use in other parts of the world. Results from studies using European companies have showed a lower performance of European multiples. This can be explained by the dissimilarities of European fiscal and accounting regulations, as opposed to the US companies, who are much more homogeneous, and by the lower degree of efficiency from what is observed in US capital markets (Minjina, 2008).

The main advantages and disadvantages of using a multiples approach to valuation are summarized in the table below.

Pros and cons of relative valuation	
Advantages	Disadvantages
- Useful – Multiples can be robust tools that provide useful information about relative value - Simplicity - Fewer necessary explicit assumptions, consumes less time and resources, and can be simpler to understand and easier to present - Relevance - Reflects the current market situation	- Due to its simplicity, can result in inconsistent estimates as key variables such as risk, growth and cash-flows are ignored - Subject to manipulation - Leads to overvaluation when market overvalues similar companies, and to undervaluation in the inverse situation - Difficulty defining correct peer-group - A multiple represents a static representation of the firm at a single point in time, thereby failing to capture the dynamic nature of business and competition

Table 3

A large drawback to the relative valuation method is its reliance on a peer group of similar companies, as mentioned as a disadvantage in the table above. This task can be difficult, if not impossible, as many firms are involved across a variety of sectors, and industries can often be hard to precisely separate. Henschke and Homburg at University of Cologne stresses this problem as they study differences in firms and its impact on valuations based on multiples. Their study concludes that it seems that the choice of a specific type of multiple is less important than that to control for differences between firms when using multiples. They conclude that when adequately controlling for these differences among companies for a potential peer group, the different multiples yield very similar value estimates, stressing the importance of establishing a valid peer group (Henschke and Homburg, 2009).

When selecting comparable companies for a peer group, a good starting point is examining companies in the same industry, as research has shown that a the selection of peer group based on firms from the same industry improves the performance across accrual flow-, book value-, and cash flow multiples, when valuing equity (Liu, Nissim and Thomas, 2002). Industries might be loosely defined or companies might be difficult to assign due to their specific business model. An alternative then could be to use the Standard Industrial Classification codes published by the US Government or the Global Industry Classification Standard. Selecting peers with similar prospects for ROIC and growth is also important (Goedhart, Koller and Wessels, 2005). Research also suggests that selecting comparable companies with similar ROA outperforms the selection of comparables based on industry or total assets, and for European companies, choosing comparables from the European member states yields the best forecasts (Dittmann and Weiner, 2005).

It is important to understand reasons why multiples may vary from company to company. Below is a short list of considerations to keep in mind when using relative valuation.

Issues to consider when using multiples
- Differences in the quality of the business itself, and in the company's core value drivers - Different firms can have different fiscal-year ends - Use of different accounting standards - Fluctuations in cash flows or profits, might be unrepresentative of the future if they, for example, are due to non-recurring activities - The stock may be mispriced by the market

Table 4: source: Cooper, et al. 2001

Company and industry presentation

Salmon farming industry

Salmon farming started on an experimental level in the 1960s, and has grown significantly the last 40 years, today representing the world's fastest growing animal-based food producing sector. Farmed salmon, as opposed to fishing wild salmon, accounts for approximately 60 percent of the worlds salmon production, and is set to keep gaining traction over the stagnated wild salmon catch for years to come (exhibit 1A and 1B). The reason for this changing scenario being the collapse of many wild salmon commercial fisheries due to overfishing, resulting in a generic evolution of farmed salmon who are inadequate to live in the wild. The leakage of fish from hatcheries around the world over the span of 40 years have lead to, what has proved to be a highly devastating outcome of wild fish breeding with its farmed counterpart, further impeding the stock of natural salmon to survive in their natural habitat (independentsciencenews.org, 2014).

The relatively young industry has traditionally been dominated by a small number of farming regions in Chile, Norway, Canada and Scotland (globalsalmoninitiative.org, 2015). Today Norway, Iceland and the Faroe Islands together account for the largest amount of harvest, followed by Chile in Latin America. Norway represents the single largest harvester of Atlantic salmon led by its largest producer Marine Harvest Group (exhibit 1C), and its industry has shown a steady growth compared to the more volatile growth seen in other regions (exhibit 1D). The largest market for salmon is Europe including Russia, followed by North America. However, emerging markets such as Brazil have recently grown at rates far outpacing the traditional markets, Brazil with a compounded annual growth rate of 20 percent, as opposed to 5 percent in the EU over the last 10 years; will emerge as important markets in the near future (exhibit 1E).

Figure 2, source: marineharvest.com

The farming activity is limited by geographic location as the process requires certain natural conditions to be met. The major production areas lie within latitudes 40-70º in the Northern Hemisphere, and 40-50º in the Southern Hemisphere as shown in on the map above illustrating the major farming regions, and in exhibit 1F. The water temperature in these areas fit well with optimal farming conditions for salmon growth, ranging from 8 to 14 degrees. The salmon production also requires certain natural currents in order to exchange the water in such a way that it replicates the salmon's natural habitat, and other biological parameters allowing for efficient production. Such conditions prohibit aquaculture of salmon at most coastlines around the world, serving as a natural barrier to entry for future competition (marineharvest.com, 2015). Another barrier to entry has been the increasing government regulations, the industry has experienced a global consolidation the last 10 years, as illustrated in exhibit 1G.

Compared to the production of food from livestock such as chicken, pig and cattle, salmon represents the most resource efficient when measured by feed conversion ratio as illustrated in Exhibit 1H, a common ratio in the industry representing the kilogram of feed needed to increase the bodyweight of the given animal by one kilogram. The resource efficiency associated with the salmon farming industry further reduces feed costs, which are often a substantial cost of the business, and simultaneously lowers the industries carbon footprint if operated responsibly, in comparison to traditional meat production as illustrated in exhibit 1I (marineharvest.com, 2015). Salmon has also remained relatively cheap compared to other

major protein-containing food sources (exhibit 1J), however, once the product reaches store-shelves it acquires a premium price compared to other products such as lamb, pork and chicken (exhibit 1K). The salmon market is industrialized and sophisticated, as well as highly volatile, for which reason it has an established forward market (Exhibit 1L) through the clearing service Fish Pool ASA, offered by NASDAQ. NASDAQ also offers a commodity benchmark index reflecting the salmon's weekly spot prices (exhibit 1M) in the European market (nasdaqmx.com, 2016).

The diagram below indicates the production cycle:

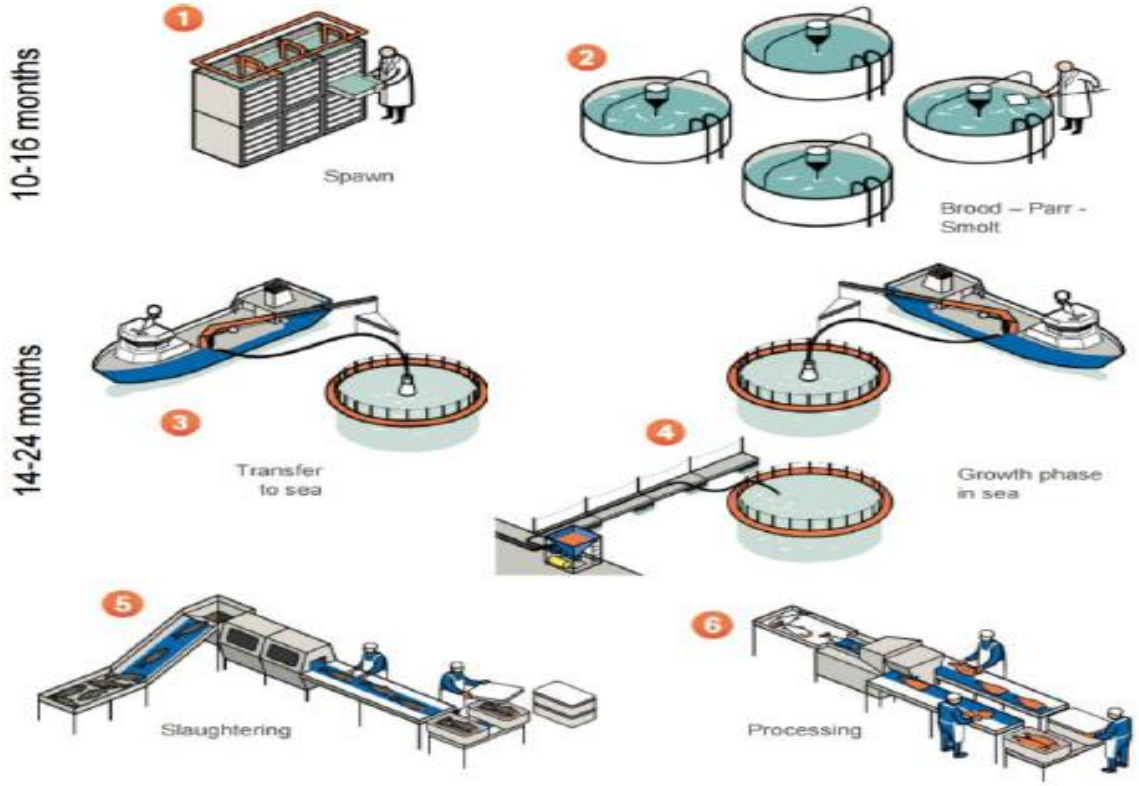


Figure 3, source: marineharvest.com

The fish chosen for breeding purposes are selected from sea-site production stock, and normally moved into freshwater tanks or cages in autumn at a freshwater hatchery, thereafter spawn is collected as shown in phase 1. Following the hatching of the eggs, the fish are held in a manipulated environment to induce early smoltification as shown in phase 2, which is a series of physiological changes affecting the salmon as it naturally adapts from living in fresh water to living is seawater. Once this process is complete, the smolted fish are transferred to sea sites using specialized transport tanks on board well-boats, or boats with large wells circulating seawater, as shown in phase 3. The salmon are grown in cages at sea sites for up to

2 years, with harvested fish weighing from 2kg and upwards, before they are collected, slaughtered and processed for sale (bakkafrost.com, 2015).

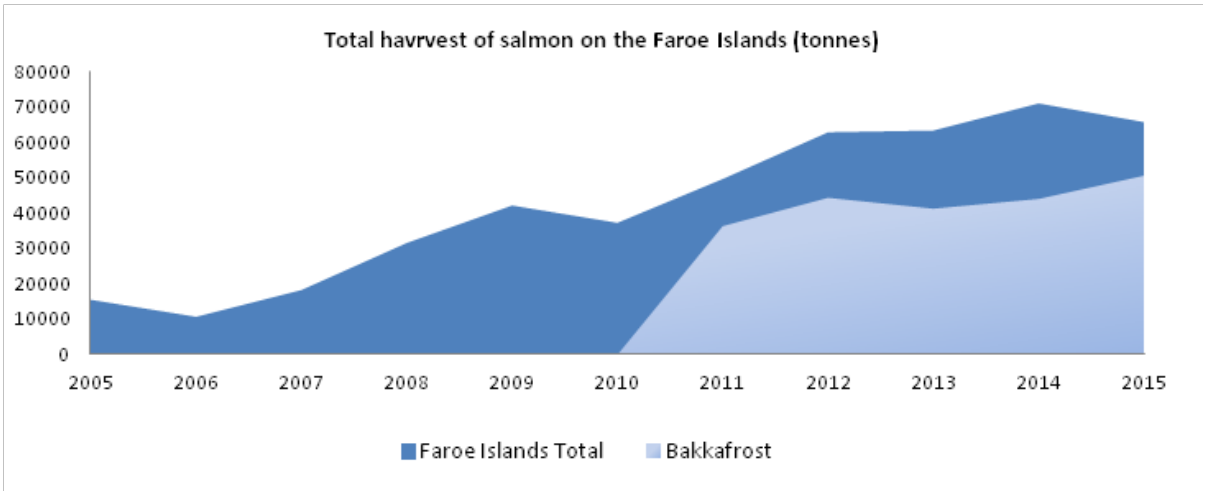
The salmon is primarily marketed as a fresh product, so a relatively high price differential is required to justify trade across longer distances, for example cross Atlantic sales from a producer such as BAKKA would require the use of airfreight. Such trades tend to vary from time to time, depending on arbitrage opportunities arising from unmet demand or excess supply from the various producing countries (marineharvest.com, 2015).

Bakkafrost

BAKKA has in recent years grown into one of the largest Faroese companies, and today BAKKA represents the largest salmon farmer on the Islands, whose business environment has become highly influenced by the fishery industry, representing more than 95 percent of total Faroese exports, and approximately 20 percent of the Faroese GDP (visitfaroeislands.com, 2015). With the business idea of catching herring, a fish commonly found in the northern Atlantic Ocean, the BAKKA business was established in 1968 by the brothers Hans and Roland Jacobsen, who built the first processing plant the same year. The company started fish farming in 1979, restructured in 1992, and merged with Vestlax in 2010 to become the largest Faroe producer, shortly after this it listed on the Oslo Stock Exchange where it traded for NOK 261.80 at the valuation date of 31/12/2015, with approximately 48.86 million common shares outstanding. BAKKAs management is led, since 1989, by CEO Regin Jacobsen who also accounts for one of BAKKAs largest shareholder with a 9.2 percent stake in the company. The management team is further presented in exhibit 1N.

In 2013, BAKKA announced its 5-year investment plan to make the onshore operations more efficient, to increase organic growth and to reduce the biological risk. The investment program includes the introduction of a new hatchery, a new harvest/VAP plant, and a new well boat.

Today BAKKA operated 19 farming sites, employs around 700 employees, and is known as one of the most vertically integrated salmon farming groups in the industry. The company controls the value chain from the sourcing of raw materials for fishmeal and oil to finished value added salmon products. The graph 1 illustrates how the company has come to dominate the salmon industry on the island.



Graph 1, source: Bakkafrost F/S

BAKKA prides itself on the company's integration of its value chain. BAKKA controls the chain from the sourcing of raw materials to the sale of its finished value added salmon products making it less dependent on the outside market and able to adequately maintain control of its standards for cost and quality, adding significant value to shareholders. The figure below illustrates BAKKAs fully integrated structure.

Figure 4, source: Bakkafrost F/S

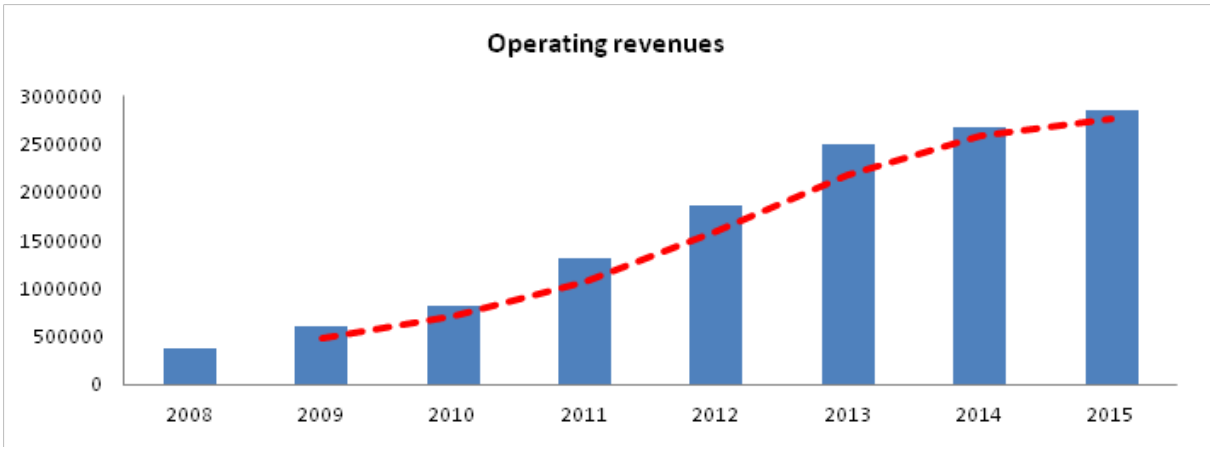
The company has three main strategic business areas in aquaculture, consisting of three segments: fish farming, value added products (VAP) and production and sales of fishmeal, fish oil and fish feed (FOF). The fish farming consists of the breeding and on-growing the salmon as well as the slaughter, sales and distribution of the finished product. The industrial production of the salmon from egg to market has a production cycle lasting about 3 year

Farming segment	VAP segment	FOF segment
The farming segment produces high quality Atlantic salmon from juveniles to harvest size salmon. The salmon is sold to fresh fish markets globally and to the internal VAP production	The VAP (value added products) segment produces skinless and boneless portions of salmon. The main market for the VAP products is Europe, and the product is sold on long-term contracts.	The FOF (fishmeal, -oil and feed) segment produces fishmeal, fish oil and fish feed. The majority of the production is used for fish feed, which is used internally in the farming segment, but also sold externally.

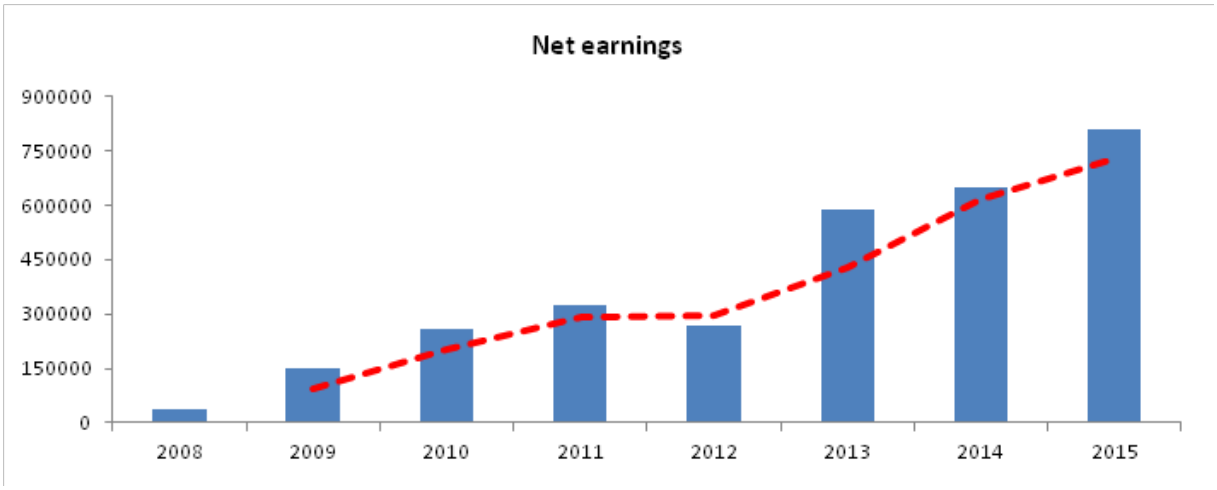
Figure 5, source: bakkafrost.com

The company has proved itself to be a solid player in the industry as they continue to report good financial results. With management's aim of running BAKKA responsibly and sustainably, focusing on long-term value creation for its shareholders, the company seems well adequate to compete at a high level for many years to come.

BAKKA has shown significant top-line growth as well as bottom-line growth since 2008, as illustrated in the graphs below, where the dotted line represents the 2-year moving average.

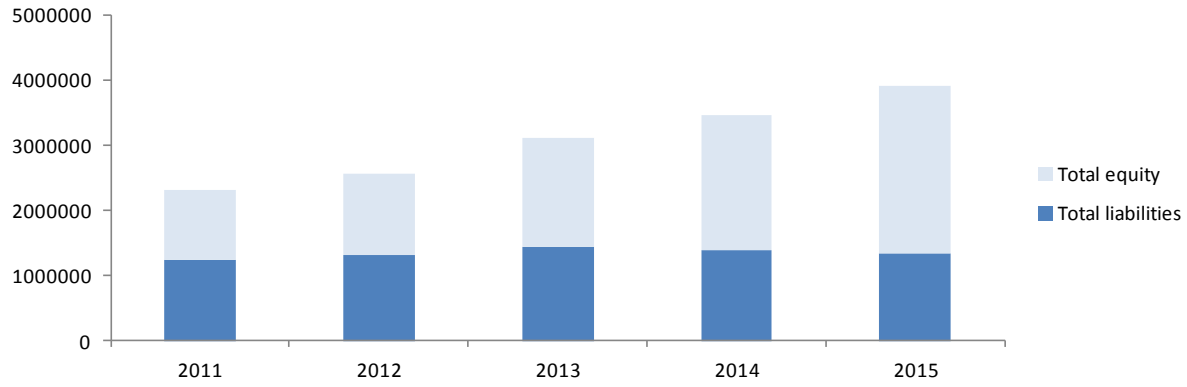


Graph 2, source: Bakkafrost F/S



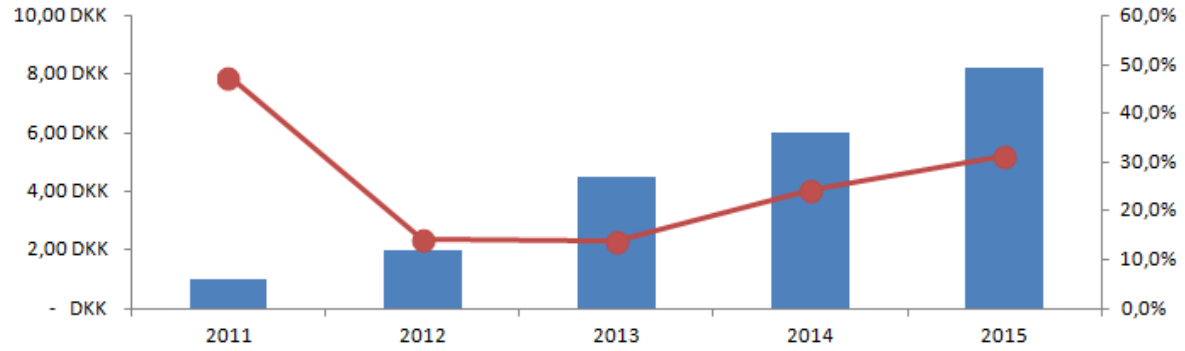
Graph 3, source: Bakkafrost F/S

As a result of its solid financial performance, the company has been able to increase its asset-base while maintaining a stable liability balance as depicted in the graph below.



Graph 4, source: Bakkafrost F/S

BAKKA has further provided its investors with a growing stream of dividend payments, as illustrated in the graph 5, where the columns represent the evolution of dividends per share and the related growth rate is represented by the red line.



Graph 5, source: Bakkafrost F/S

The shareholder base is relatively dispersed, with no single investor holding more than 10 percent of the company's shares. Further, the 20 largest shareholders hold approximately 55 percent of the shares as represented in exhibit 1O.

Industry analysis

Industry analysis is a critical early step for valuation, as it provides valuable information on growth opportunities, competitive dynamics, and business risks, and is a prerequisite for the company analysis. I apply the PEST- and SWOT-Analysis framework to get an overview of the potential factors affecting the valuation, starting with the PEST-Analysis.

PEST Analysis

In an industry affected by political conflicts, changing socioeconomic trends, technological advances, biological risks and supply limitations, getting a full understanding of the business environment and furthermore, how each factor affects the valuation of BAKKA, can be tedious. To help counter this obstacle, I analyze the main macroeconomic factors affecting the industry by using a PEST-analysis, to further use the results when predicting future performance. I only consider the factors I believe to have a material effect on the valuation process.

Political analysis

Trade regulations

As a self-governed nation under the sovereignty of Denmark, the Faroe Islands are suited to legislate and govern a wide range of commercial areas on the island, this including the conservation and management of living marine resources covering its 200 mile fishery zone, protection of the marine environment, trade and much more. The Faroe Islands have chosen to remain outside the EU, despite Denmark's membership, allowing for their own trade and fishery agreements to be made with the EU and other countries (Faroe Island Fisheries & Aquaculture report, 2015). This choice has proven to be of value to BAKKA, and other farmers on the island as Russia, in August 2014, introduced a ban on imports of food products, including salmon, from European Union member states, the USA, Australia, Canada and

Norway. The ban was further extended in June 2015, and has had a substantial effect on Norway, whose products have been replaced by salmon from other countries such as the Faroe Islands, who have increased their exports of mostly fresh, whole salmon to Russia to 9'000MT (gaalliance.org, 2016). It is certain that the earnings of BAKKA have been boosted by the political tensions and resulting ban on imports, as illustrated in the graph named "Trade Shifts" presented above, we see how BAKKA has been able to shift its sales from the lower margins earned in the US, due to high freight costs, to a geographically closer Russian market who are lacking potential fresh salmon suppliers. I factor this into my revenue projections when forecasting BAKKAs future growth in a later chapter.

Tax and license policy

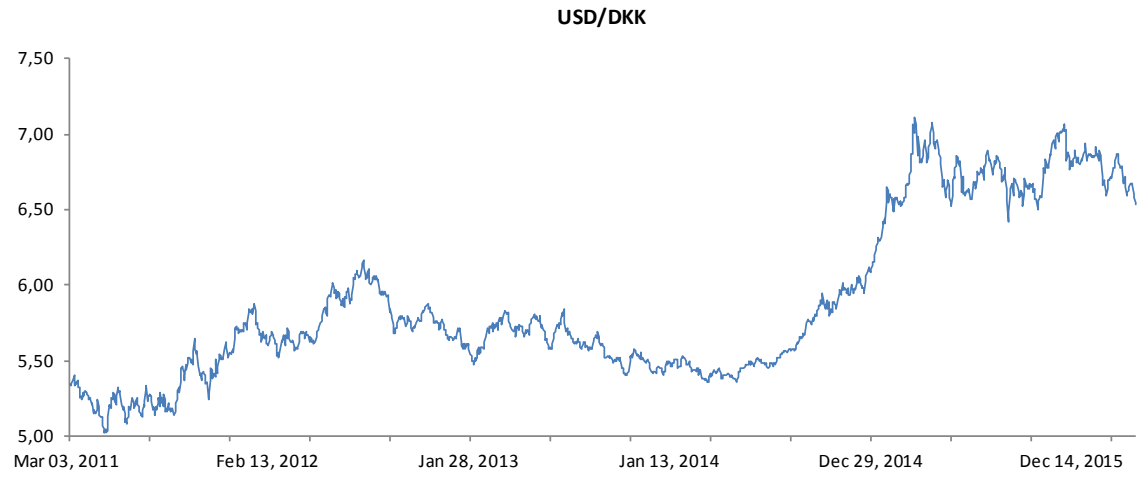
Besides regular taxes paid, the Faroese salmon farming industry has a license tax that was stipulated as a permanent tax on the industry in 2014. A new government with heightened focus on following through with Faroese welfare program have recently changed its taxation policy in hopes to raise money from the seafood sector where BAKKA, as a major player, is expected to pay most of the bill (seafoodsource.com, 2015). The change took effect from January 1st 2016, and stipulates that the license farming tax on income is removed, in favor of increasing the license revenue tax from 0.5 percent to 4.5 percent (bakkafrost.com, 2016). The corporate tax rate on the Faroe Islands currently stands at 18 percent (fas.fo, 2016). I make the assumption that the current tax policy will remain unchanged in the future.

To maintain a sustainable aquaculture, licenses are required in order to build, prepare, restructure, expand, buy or operate a fish farm. To prevent negative environmental impact, ensure responsible working conditions, and maintain the required high standards for animal welfare and hygiene, licenses are only issued when minimum requirements regarding these issues have been met. BAKKA currently holds 13 such licenses, seven acquired by the government and six through acquisition of Vestlax Group and the Havsbrun Group. The licenses are valuable to the company as they serve as an entry barrier to potential future competitors, but the restrictions set by the government also limits the company's potential growth which in turn affects my assumptions on the future growth of BAKKA.

Economic analysis

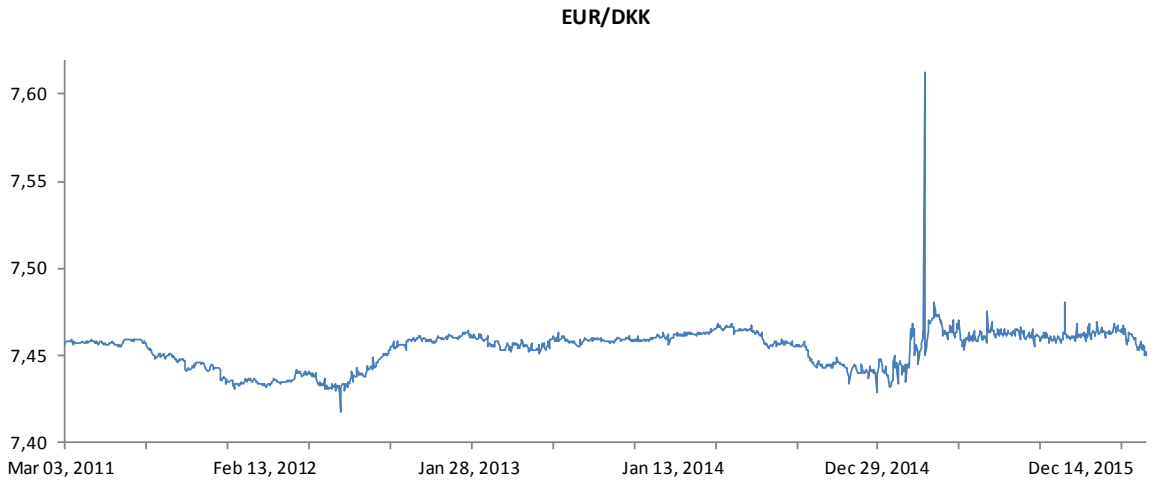
As already mentioned in the introduction of this paper, the salmon market is set to grow in the coming years. According to FAO and as presented in exhibit 2A, consumption of fish from aquaculture is expected to grow at an annual rate of 3.6 percent from now until 2022, exceeding the growth of dairy, meat and fish captured. This strong market fundamental will allow BAKKA to sustain future growth if it is able to adequately supply the demand, given the industry-regulation and geographical limitations.

To reduce the company's exposure to specific geographical market risk, BAKKA sells its products to several large salmon markets around the world. With this diversification comes foreign exchange risk on the company's revenues and accounts receivables, which are predominantly denominated in EUR and USD, as well as the increased presence of RUB. The graph bellow illustrates how the USD has appreciated against the Danish Crown the last couple of years.



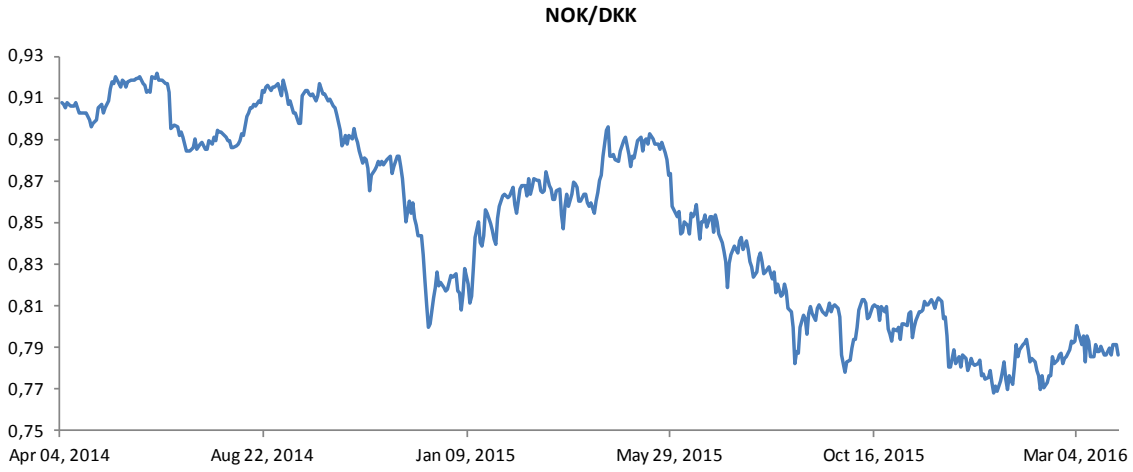
Graph 6, source: Investing.com

As the Danish Crown is pegged to the Euro, as illustrated in the graph 7, BAKKAs receivables from the Euro zone is hedged for currency risk. This has however impacted the currency's strength to the US dollar, as mentioned above. Recent policy easing has weakened the DKK to the USD as policymakers resolve to keep the currency pegged to the Euro, a currency which has weakened to the USD as escalating violence in the Middle East and concerns regarding the financial situation in Greece, as it has rallied the Dollar as investors are seeking safe haven assets outside Europe.



Graph 7, source: Investing.com

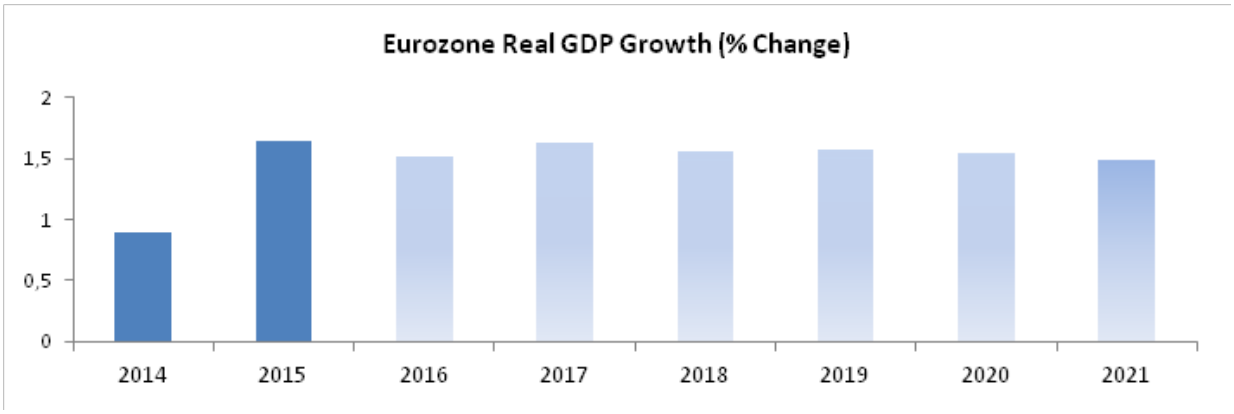
Another important rate movement is one we see between the Danish and the Norwegian currency. Norway's economy has been hit hard by the recent oil crisis, which in turn has weakened the country's currency. This can prove advantages to Norwegian salmon producers, BAKKA's main competitors, who will profit from their exports, possibly putting BAKKA at a disadvantage. The graph 8 illustrates the Norwegian Crowns depreciation against the DKK.

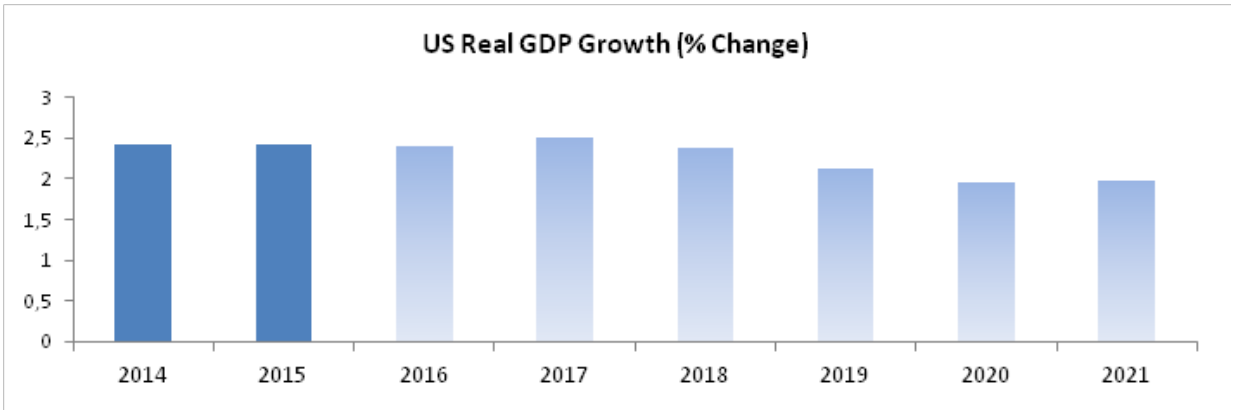


Graph 8, source: Investing.com

I believe the future GDP growth of BAKKAs main selling markets can be a good benchmark when assuming future top-line growth for the company. Europe serves as the largest market for BAKKAs value-added-product, meanwhile Russia, USA, and to a lesser degree, China, are large markets for the farming segment. Having endured turbulent years, the Euro-zone seems set for a more stable period of economic recovery in the coming years, powered by investment spending, growing exports and rebounding domestic demand (EY Eurozone

Forecast, 2015). The forecasted GDP predictions by IMF for the Euro-zone, as well as Russia, China and the US, are graphically displayed below.





Graph 9-12, source: knoema.com, 2016

The critical role that the government bond yields play as a proxy for risk-free rates when calculating the cost of capital poses a challenge given the general trends in bond yields. Exhibit 2B illustrates how the spot yields on 10-year government bonds drastically decreased universally, with the exception of Greece, from the end of 2013 to the end of 2014. The lowered risk-free rates used in the DCF methodology results in an inflated valuation result. Exhibit 2C illustrates how the change in rates have affected the values calculated in an exemplified valuation using the DCF, and it is evident that the impact is not only limited to countries experiencing financial distress, but also countries such as Denmark, who saw a 35.9 percent rise in value. Despite the advantages of using the spot-rate as a proxy for the risk-free rate, such as it being directly observable and quoted by a number of sources, it is essential to consider whether the current spot yield actually serves as a reliable indicator when conducting a valuation using the DCF methodology (EY, 2015).

Social analysis

Another key driver for demand for aquaculture products is the increased focus on healthy food and for fresh food. The increased demand, and willingness to pay premiums for such products, can in part be attributed to the "health trend" we have seen evolve in the western world. This is no new phenomenon, but it is believed to be continuously relevant for decades to come. On the other hand we see increased demand from developing countries, where more and more people are entering the middle class, hence the potential customer base for fresh salmon producers such as BAKKA.

The salmon farming industry has also entered the line-of-sight of several NGOs as many marine stocks are being pushed to, or above, their natural limits. Early this year, Marine

Harvest, a competitor of BAKKA, has been receiving much negative publicity for its alleged pollution of its operating environment (nmf.no, 2016).

Technological analysis

Being a relatively young industry with limited expansion opportunity due to regulation and geographical limitation, I believe much of the future growth will come through innovating existing processes, justifying a continuous investment in future R&D. As mentioned in the company introduction, BAKKA is in the middle of a major 5-year CAPEX program.

Biological risks from viruses, bacteria or predators are key risks to BAKKA, as to its competitors. Salmon competes to a certain degree with other protein products, and consumers could easily shift consumption to other products should a biological crisis hit the company. Biological issues in Chile have left many large retail customers fleeing to other markets, as Chilean salmon farmers have been unable to effectively fight the bacteria known as SRS, a bacteria causing damage to the salmons kidneys and spleens and eventually killing the fish. Unable to develop an effective vaccine against this lethal bacteria, Chile's salmon farmers have resulted in using record-high levels of antibiotics as treatment, this causing concern as overuse may diminish its effectiveness in fighting disease in humans. This has lead to a supply limitation, as Chile is the world's second largest producer of salmon; the fall in Chile's production has raised market prices (reuters.com, 2015). It is hard to say long the recovery process will take, but for the purpose of the valuation, the long term predictions for BAKKA must account for a loss of market share to the second-largest salmon producing country Chile once they solve their technical and commercial issues. I will further consider the effect of Chiles return to the market in a separate scenario analysis.

SWOT-analysis

I conduct a SWOT analysis to develop a fuller awareness of the company's strengths and weaknesses, as well as existing opportunities and threats. The results of my analysis are given in the table 5 below.

Internal	
Strengths	Weaknesses
- Competent board and management - Has VAP production - Has internal production of fish feed, the biggest cost related to salmon production - Has internal production of fishmeal and oil, two most expensive components of fish feed - Strong, long-term relationships with many of its customers - Well placed to access the US, China and Russia - One of the industry's best Feed Conversion Ratios, a key indicator for fish welfare and low production costs	- Highly dependent on one major customer in VAP segment (63% of total VAP revenue) - Geographically limited presence of production facilities (Faroe Islands only) - Relies on external purchase of salmon eggs, relying on suppliers to provide BAKKA with a product of sufficient quality and performance - Limited flexibility of adjustment to fluctuations in demand due to long processing time (lead time)
External	
Opportunities	Threats
- Company acquisition both on and of the Faroe Islands - Strong demand growth - Increasing focus on healthy foods - Possibilities of differentiation of Faroese products - Demand growth could outgrow growth in global supply due to biological limitations along with governmental regulations, mitigating the intensity of competition in the industry	- High biological risk - Chiles return to the market could spark price reductions - Lack of growth opportunities

Table 5

Peer analysis

An analysis of peer companies is a vital part of establishing a peer group further used in the relative valuation. The peer-group should be fairly similar to the firm being valued, in

particular with regard to the company's main business areas, size or market capitalization, and geographical location.

When defining the peer group, it is also important to understand that different countries or regions progress through various stages of the business cycle at different times. The comparison of two companies in the same industry, but one operating in Europe, the other in South America, certain ratios may have different meaning, especially for companies with high operational- or financial leverage. This is particularly the case when comparing BAKKA with its competitors located in Chile, where its Chilean competitors are facing a more troubling demand environment due to the ongoing biological issues in the region.

Based on a peer group analysis conducted, and presented in exhibit 2D, the peers I have selected are listed in the table 6 below.

Peer group
- Marine Harvest ASA
- Salmar ASA
- Lerøy Seafood Group ASA
- Grieg Seafood ASA
- Norway Royal Salmon ASA
- Austevoll Seafood ASA
- Havfisk ASA

Table 6

As presented in the analysis of the specific peer company represented in exhibit 2D, the peers display similar business activities, operate in the same geographic region as well as serving similar markets.

The industry participants forming my peer-group have long history relative to the young industry, with the youngest company established in 2006. A reason for this can be the difficulty for new entrants to compete with the existing players currently operating on a relatively effective cost structure, with the result of hindering new entrants; industry growth tends to be limited to replacement demand and population growth. Increased focus on healthy living/eating did enhance growth significantly affecting the shape the pattern of a typical industry life cycle, but much of this effect, from developed countries, has leveled off, but the effect should still be felt as developing country's economies improve. Due to the relatively stable competitive environment, the same major players have been around for many years,

and I believe the companies collected for my analysis are suitable for a relative valuation, as they portray the salmon farming industry as well as inheriting similar growth prospects. Despite the comparable companies having operations in various geographical regions, all the companies chosen to represent the peer-group are listed in Norway, thereby eliminating major discrepancies regarding the use of different accounting standards.

One main player in the industry that was not added to the peer-group, namely Cermaq, was one of the largest producers of salmon is the world, with operations in the main global farming regions of Chile, Canada and Norway. The company employed approximately 4000 people. The company was however acquired by Mitsubishi in late 2014, making it irrelevant for the peer analysis.

Company valuation

As seen in the literature review, there is no shortcoming of models to choose from when valuing a company. The first model I have decided to use for this valuation is the Discounted Cash Flow method, using FCFF discounted at WACC, using forecasts based on the analysis covered in earlier chapters, and the company's financial data presented in exhibit 3A, 3B and 3C. An advantage I see in using this approach is the models focus on what drives BAKKAs core business activities and how it takes into account macro- and industry-specific factors affecting the value through assumptions made based on an analysis of the surrounding business environment and of the company itself. The model is also widely used by analysts, and I believe its focus on cash flow projection through projections on the income statement contributes to a more realistic value of the company, given that the cash flows are projected thoroughly.

FCFF

Explicit forecast

I have set the explicit forecast period to last 6 years, from 2016 to 2021. The reason for this relatively long period is due to the company's significant growth in recent years, thereby allowing growth to stabilize in a more subtle manner to growth prospects better representing a sustainable long-term rate. The explicit forecast period also allows the ongoing capital expenditure program to complete and its effects materialize, as well as allowing the sensitivity- and scenario analysis to consider a longer time-horizon.

I will first present the calculation of the WACC used to discount the future cash flows in the explicit forecast period, before I present my projection of cash flows.

WACC

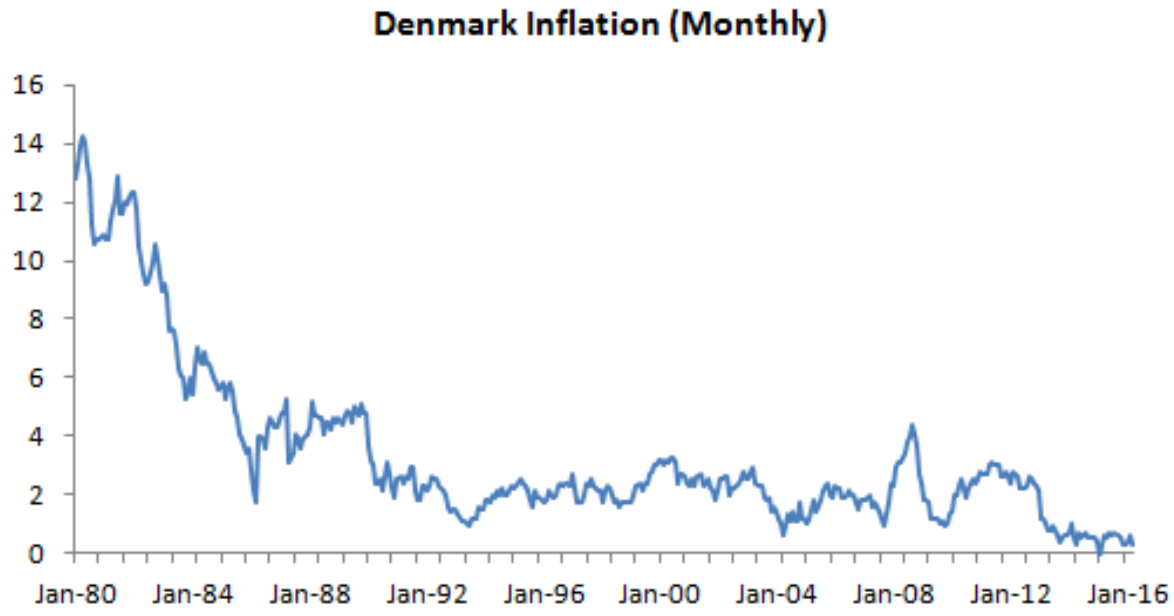
Tax rate

Given that the cash flows used in the DCF model are used on an after-tax basis, a relevant tax rate must be assumed. According to the latest annual report, the normal company tax rate on the Faroes is 18 percent. The company also pays additional taxes such as the industry-specific license revenue tax, and may be taxed differently depending on where it conducts its business.

This, as well as differences in reporting for tax purposes, results in a varying effective tax rate from year to year compared to the stated corporate tax rate. For my future predictions I use a 3 year average of the effective tax rates paid from 2013 to 2015, resulting in an annual effective rate of 19.8 percent.

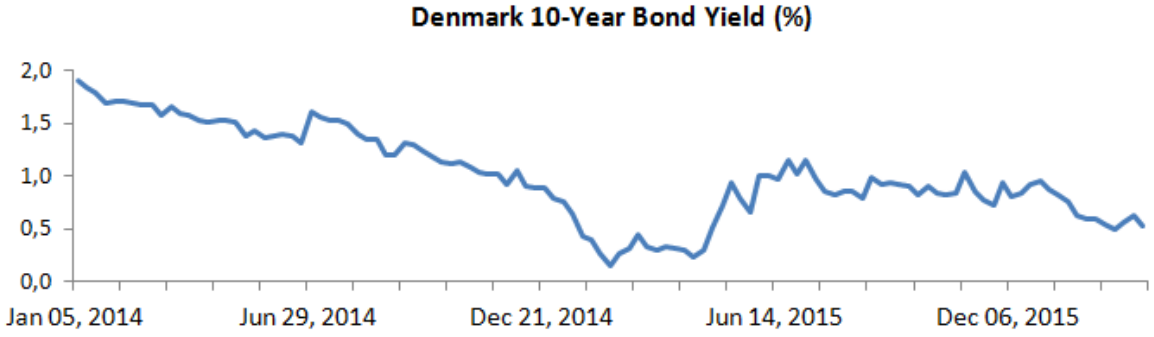
Risk-free rate

As the cash flows of the company are estimated in DKK, the risk-free rate I use is the 10-year government bonds issued by Danish government. As Denmark has shown historically low and stable inflation since the late eighties, early nineties, as shown in the graph 13, I use the nominal risk-free rate.



Graph 13, source: Inflation.eu

The inflation rate has been in line with the Danish Central Banks monetary policy, whose objective is to ensure stable prices through low inflation (nationalbanken.dk, 2016). The inflation has reached record low levels, below the monetary-policy target of 2 percent. Given Denmark's high sovereign rating of AAA from all the major credit rating agency's I do not adjust the rate for any default spread, but use the rate taken from TWJ as of 31/12/2015 of 0.954 percent (quotes.wsj.com, 2016).



Graph 14, source: Quotes.wsj.com

Market risk premium

As an estimate for the market risk premium, I use the risk premium for a mature equity market of 6.25% found on Damodaran's website, updated in February 2016. This rate is unadjusted for country risk premium, as the thought of the stock's beta capturing the country risks is well supported in empirical studies examining developed nations (Curtois, Lai and Drake, 2011), and the notion of a country spread to the market risk premium is non-existent for the major Scandinavian countries.

Beta

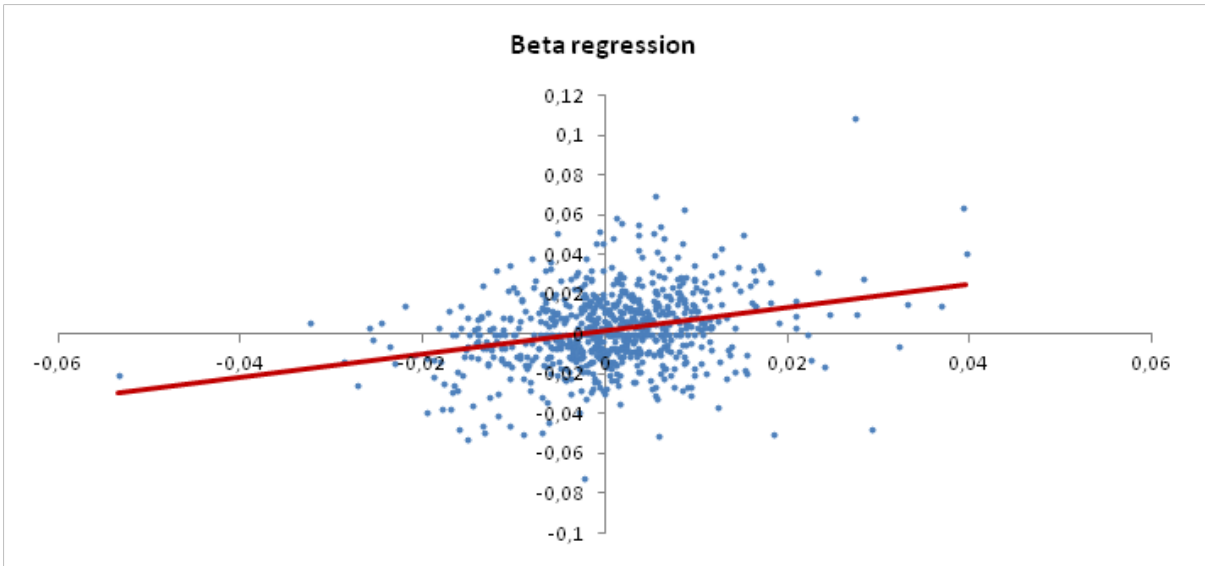
For computing the company beta, I perform a regression of BAKKAs historical stock returns on the Oslo Stock Exchange All Share Index (OSEAX), using daily data spanning a three year period from 31/12/2012 to 31/12/2015, excluding non-trading days. The results of the regression are shown in the table 7.

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	0,0018	0,0007	2,7660	0,0058
Return (BAKKA)	0,5849	0,0728	8,0388	0,0000

Table 7, Regression results

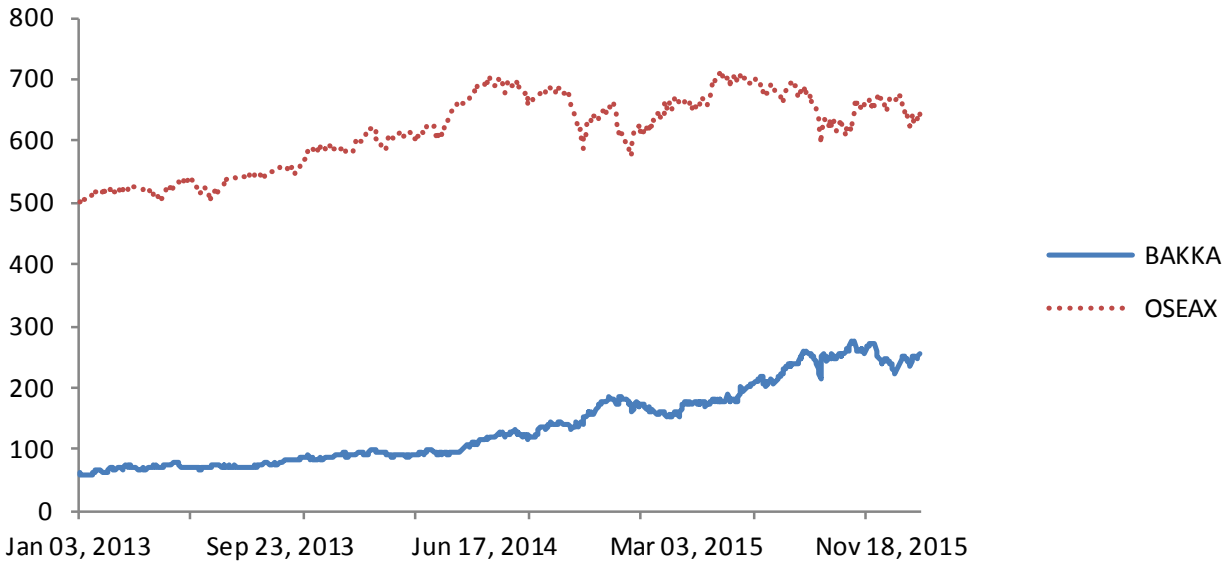
The slope of the regression is approximately 0.585, which constitutes BAKKAs beta. The standard error statistic implies that the true beta for the company could range between 0.51 and 0.66 with 95 percent confidence. The R-squared of the regression, not shown in the table above, suggests that approximately 8 percent of the movements of BAKKAs stock price can be explained by movements in the benchmark index. The low R-squared is visualized by plotting the correlation between the index and the stock price in the scatter plot graph below,

showing the Y-axis representing the returns of BAKKA, and the X-axis representing the index. The red line represents the linear regression with the slope equaling the calculated beta.



Graph 15

The aquaculture industry is considered to be an industry with a low beta, and hence a low correlation to publicly-traded stocks and bonds (fishfarming.com, 2016). The graph below shows the evolution of the index and the stock price of BAKKA. The graph illustrates how the stock price is less sensitive to economic conditions and business cycles, resulting in a relatively low beta compared to that found in other industries (stern.nyu.edu, 2016).



Graph 16, source: Thomson Reuters Eikon

Despite having a low beta in line with what could be expected from a typical salmon farming company, BAKKAs beta is however inferior to average levered beta of its peers, as presented in the table below.

Industry average:	Beta	D/E
Marine Harvest ASA	0,62	56,6%
Salmar ASA	0,72	56,4%
Lerøy Seafood Group ASA	0,84	48,7%
Grieg Seafood ASA	0,85	104,6%
Norway Royal Salmon ASA	0,80	62,8%
Austevoll Seafood ASA	0,61	80,9%
Havfisk ASA	0,82	123,7%
Average	0,75	76,2%

Table 8, source: Thomson Reuters Eikon

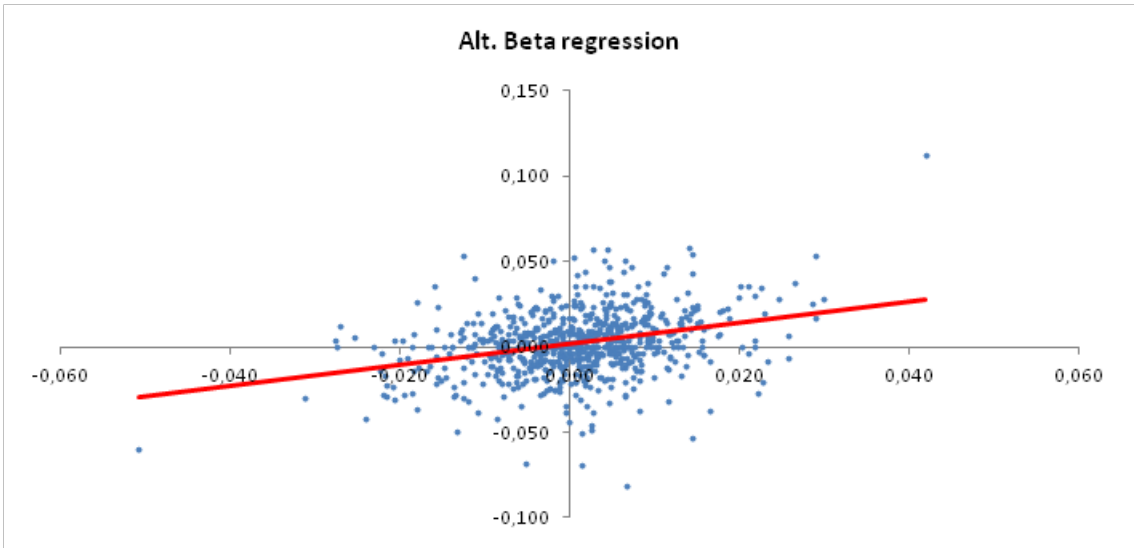
A possible reasoning for this may be the differences in capital structure found among companies in the industry. As can be observed in the table above, companies with a higher amount of debt to equity, tend to have a relatively higher beta, as a higher degree of financial leverage increases the volatility of earnings. Given that BAKKA has a much lower D/E ratio than the industry average, the calculated beta seems to make more sense.

A possible bias in the estimation of the company beta, however, is the dominance of the oil and gas industry in the index used. The Oslo stock exchange has a history of attracting many international companies within petroleum, shipping and other related business areas, and today it includes 51 oil and gas companies, among them Statoil, which currently holds the largest market capitalization of all listed OSEAX firms (oslobors.no, 2016). This could lead to a bias when calculating the beta, as the specific sectors mentioned account for a large part of the "market" the beta is based on. As BAKKA represents a lower-end midcap European company, I calculate an alternative beta by regressing BAKKAs returns to the returns of the FTSE Euromid, a benchmark for midcap European equities.

The results, as presented in the table 9 and graph 17 below, are relatively similar when regressing against a regional index as opposed to the national OSEAX, with the alternative beta slightly higher, and a minor increase in the models explanatory power.

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	0,0018	0,0006	2,7666	0,0058
Return (BAKKA)	0,6170	0,0686	8,9966	0,0000

Table 9



Graph 17

I use the average of the two betas calculated above when determining the CAPM in the next subchapter.

Cost of equity

Using the values computed above, I calculate the cost of equity. The table 10 displays the result of the CAPM calculation.

CAPM	
Risk-free rate:	0,95%
Beta:	0,60
Market Risk Premium:	6,25%
Cost of Equity:	4,710%

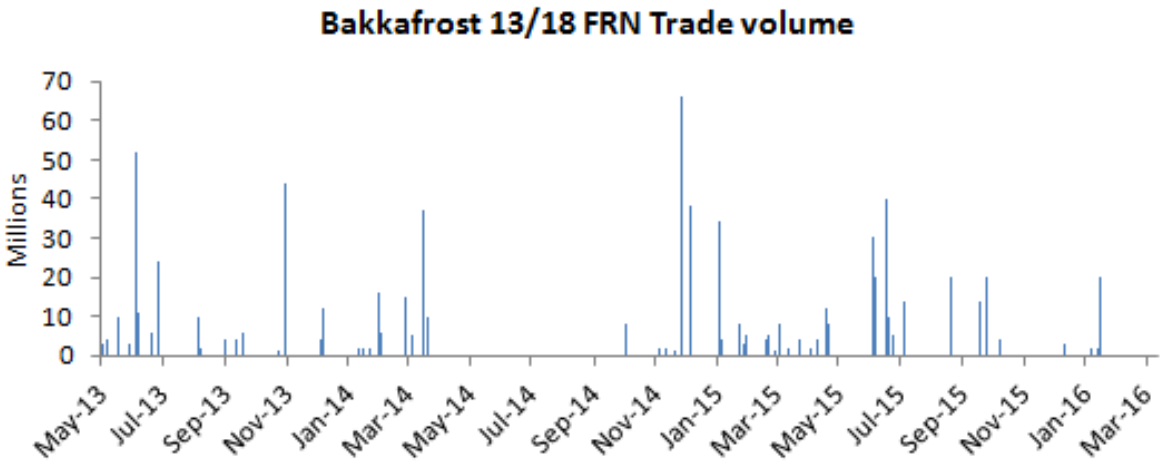
Table 10

A cost of equity of 4.71 percent is relatively low, but I believe that the rate is justifiable in the short- to medium-term due to the company's strong financial fundamentals and the anticipated sustainability of a future industry and its market, furthermore the low interest-rate environment coupled with the low market risk premium typically found in the Scandinavian countries keeps the equity's required rate of return low.

Cost of debt

BAKKA currently has unsecured bonds issued on the Norwegian market with five-year tenor, as well as a newly entered multicurrency revolving credit facility spanning a five year period, both loan agreements explained in greater detail in exhibit 3D. As the bonds have no official

credit rating, nor are they traded on a regular basis as shown in the diagram below, I calculate the cost of debt by dividing the annual interest payment of the debt by its book value.



Graph 18, source: Euroinvestor.no, 2016

I calculate the cost of debt by dividing the interest expense with the average long-term debt held in 2015, the results are given below.

Cost of debt	
Average debt (15/14)	599342000
Interest paid	24622000
Cost of debt	4,11%

Table 11

To better understand the underlying risk inherent in the cost of debt, I assess BAKKAs business and financial risks qualitatively, in accordance with the Expanded Rating Matrix presented by Standard & Poor's (maalot.co.il, 2016). I illustrate the main underlying factors affecting the cost of debt, and present my findings in exhibit 3E and 3EE. This qualitative assessment of risk factors, combined with a set of key liquidity and leverage ratios such as current ratio, times interest earned and debt/equity, which all portray BAKKA as more financially secure than the industry median, makes it reasonable to assume the relatively low cost of debt of 4.11 percent.

WACC

In table 12 I present the calculation of the weighted average cost of capital, using the methodology presented in the literature review.

WACC	
Cost of Equity	4,71%
Cost of Debt	4,11%
Equity	12409948510
Debt	1339904000
D/(E+D)	9,74%
Tax rate	19,80%
WACC	4,57%

Table 12

Capital structure

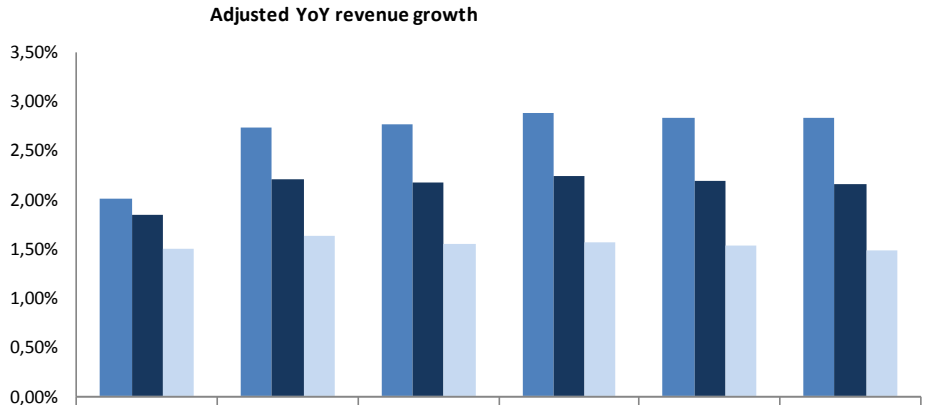
The annual report of BAKKA states that the company's objective with regard to its capital management is to maintain a structure adequate to support operations, ensure a good credit rating in order to achieve favorable borrowing terms, and to maximize shareholder value (Annual report, 2015). This provides a minimum of concrete information regarding its target capital structure. With no initial information regarding the company's future D/E development, in accordance to the theory presented in the literature review, I assume that the company will keep the current capital structure stable throughout the explicitly forecasted period.

Cash flow projection

Revenue

I calculate the top-line revenue growth separately for the three main operating segments, basing the future growth on a weighted average GDP growth of the main markets supplied by BAKKA, and then adjusting the rate for an industry-specific premium growth based on future predictions of the salmons supply growth. Annual growth predictions for farmed Atlantic salmon supply from 2014 to 2020 has been projected to be 3 percent, a weaker growth than what the industry has been experiencing the last decade as illustrated in exhibit 3F.

The calculated growth rates are presented in the graph and table below.



	2016	2017	2018	2019	2020	2021
Farming sales revenue growth	2,01%	2,74%	2,77%	2,89%	2,84%	2,83%
VAP sales revenue growth	1,84%	2,21%	2,18%	2,24%	2,20%	2,17%
FOF sales revenue growth	1,51%	1,63%	1,56%	1,57%	1,54%	1,49%

Table 13, Based on calculations presented in exhibit 3G

To implement the effects of the Russian trade-restraint discussed in the industry analysis earlier, I factor this into future assumptions of predicted revenues by assuming that BAKKA currently is earning a 20 percent premium for their sales to Russia, 5 percent lower than the premium BAKKA received for sales in Russia in the first 4 months following the trade-restriction according to the WSJ (wsj.com, 2015). I lower the premium as I factor in the possibility of increased Russian production and increased supply from other minor producers not affected by the embargo. However, I do not believe the ban will last forever, but I make the assumption for the base case that it will last out 2017, and that the company can carry the premium price until December 2017, thereby taking a relatively conservative approach, thereafter testing the assumptions in a separate scenario analysis in a subsequent chapter.

Based on the percentage of sales to Russia, I calculate the loss of premium when the trade embargo ends, as presented in table 14.

Segment	Price premium (w/ embargo)	percentage sales to Russia (2015)	Price premium loss (w/o embargo)
Farming	20%	45,0%	9,0%
VAP	20%	20,4%	4,1%

Table 14

The revenues are also adjusted for intercompany eliminations. The historical data has demonstrated a negative trend, and I assume the trend to continue using the average YOY growth from 2014 and 2015 as presented in table 15.

	2012 (H)	2013 (H)	2014 (H)	2015 (H)	2016	2017	2018	2019	2020	2021
Elimination / sales	33,9%	33,4%	33,4%	32,6%	32,3%	31,9%	31,5%	31,1%	30,8%	30,4%
yoy growth		*-1,3%*	*-0,1%*	*-2,3%*	*-1,2%*	*-1,2%*	*-1,2%*	*-1,2%*	*-1,2%*	*-1,2%*

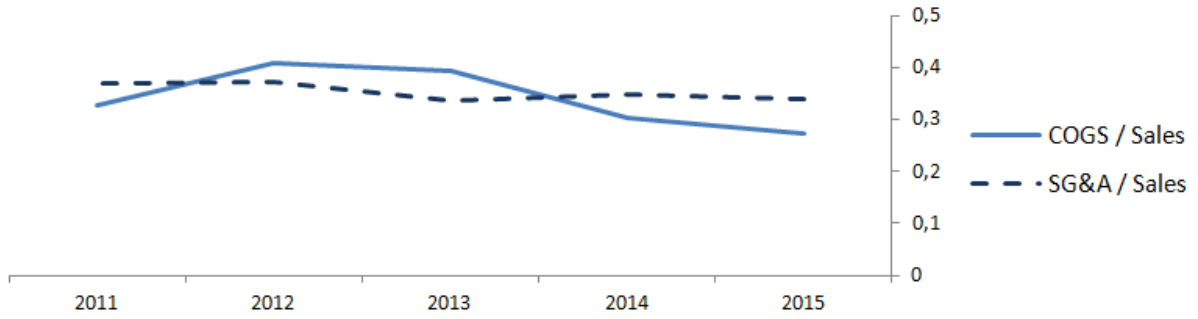
Table 15

Costs

I assume future COGS as a percentage of sales (2015), and further adjust the future COGS for cost savings following the implementation of the ongoing CAPEX program. BAKKAs management makes assumptions on the magnitude and estimated time of completion of the CAPEX program in the annual report. These estimated savings are predicted to range from 70 to 90 million DKK per year, as stated in the annual report. The average, 80 million, represents a 10.3 percent cost reduction when compared to the historical COGS of 2015, which is what I use as a basis when adjusting the future COGS for the ensuing effects of the unfolding CAPEX program. I assume that the effects are gradually implemented from 2016 throughout 2018, in line with statements made in the annual report, before the full cost-reducing effect is realized in 2018, as presented in the table 16.

CAPEX program	2016	2017	2018	2019	2020	2021
Effect	0,1	0,8	1	1	1	1
COGS savings	1,0%	8,2%	10,3%	10,3%	10,3%	10,3%

Table 16



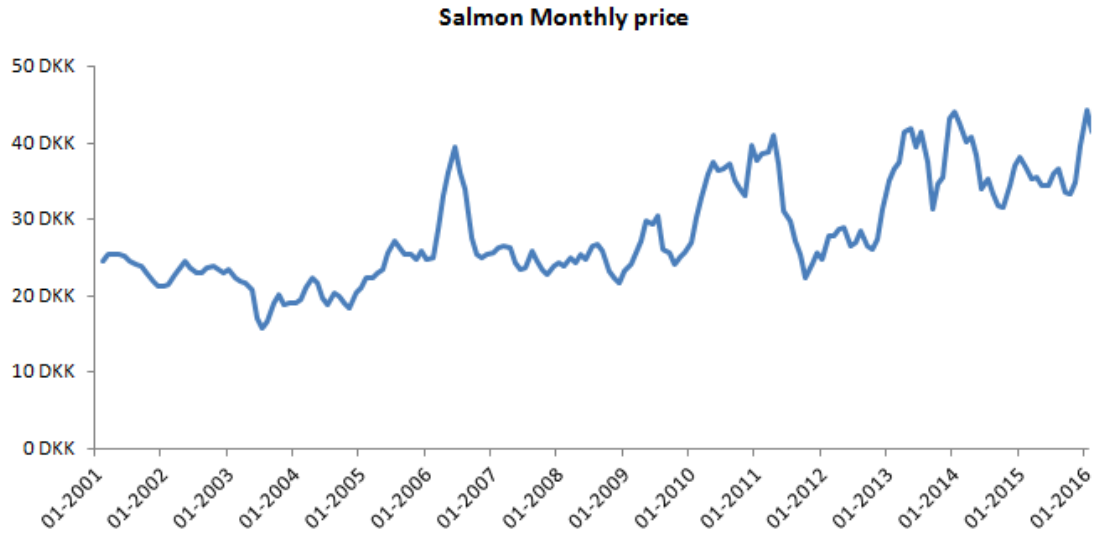
Graph 19, source: Indexmundi.com

Studying graph 19 we see how SG&A exhibits a higher degree of historic stability. I therefore project future SG&A as a fixed rate of sales based on the 3 year average assuming that these costs remain constant relative to sales.

I project future depreciation by a fixed rate based on the most recent revenue, as I assume that the depreciable asset base changes in line with the company´s revenue growth. Amortization, on the contrary, is not driven by sales. Rather, I project future amortization as a

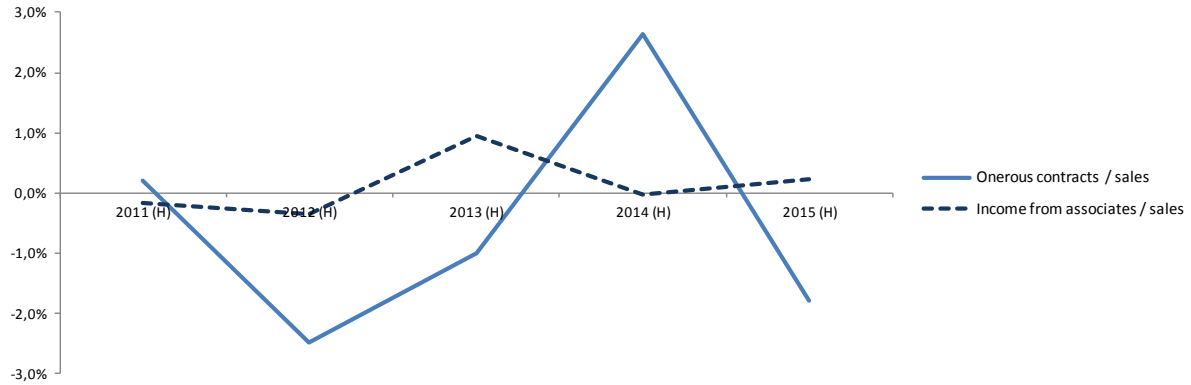
discrete monetary value based on historical amortization expenses to reflect the fact that the amortized intangibles are created from non-recurring events such as company acquisition.

The specificity of the accounting policies for the agricultural industry, namely fair value adjustments on biological assets, must be accounted for when forecasting the income statement. As stated in IAS 41, a company is generally required to value their biological assets at fair value less cost to sell, consequently requiring BAKKA to value its biological assets based on the spot price of salmon specified by the market. Due to the volatile nature of salmon spot prices, as illustrated in graph 20, I assume that future value adjustments are zero as opposing price movements cancel each other out.



Graph 20, source: indexmudni.com

I address the income statement items regarding onerous contracts and income from associates in a similar fashion as for fair value adjustments, as their historical values are volatile as seen in graph 21 I assume the aggregate effect of these items to be zero throughout the forecasted period. Income statement items regarding acquisitions and sale of subsidiaries are disregarded as they are non-recurring.



Graph 21

Financial income and expenses are forecasted as a percentage of sales, using a 3 year average for future income and expenses. Net capital expenditures are also forecasted as a percentage of sales, keeping the rate stable throughout the CAPEX program period to represent the intensified spending during this specific period, thereafter lowering the rate to the 3 year average calculated using the years before the CAPEX program was initiated. A summary of the performance drivers used are presented in exhibit 3GG

Working capital

When forecasting the drivers for future working capital needs, I base the rates on 3 year averages, with rates presented in the table "performance metrics & drivers" in exhibit 3H. The projected net working capital is presented below.

Working capital	2015	2016	2017	2018	2019	2020	2021
Accounts receivable	199263	221218,3	228570,3	222339,7	216662,8	211251,4	206144,5
Biological assets & other inventory	1482239	1108786,5	830905,6	720784,4	702381,1	684838,1	668282,7
Other current assets	179971	124997,3	93670,8	81256,5	79181,8	77204,1	75337,8
Non-cash current assets	1861473	1455002,0	1153146,7	1024380,6	998225,7	973293,6	949765,0
Accounts payable	413995	267982,3	200821,4	174206,2	169758,3	165518,3	161517,1
Non-debt current liabilities	413995	267982,3	200821,4	174206,2	169758,3	165518,3	161517,1
Net working capital	1447478	1187019,7	952325,3	850174,4	828467,4	807775,2	788247,9

Table 17

Perpetual forecast

Given the perpetual nature of this discount rate, it is not unreasonable to assume that the company will tend to drift towards the industry's average capital structure as time goes by. For this reason I assume the peer-average D/E of 76.2 percent, or the equivalent debt ratio of 0.433, as presented in the table below.

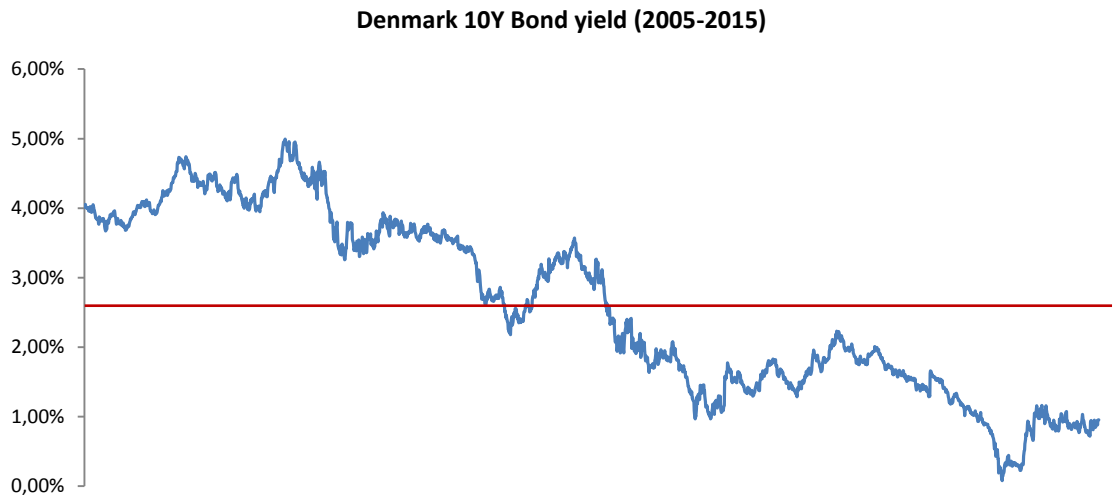
Industry average:	Levered beta	D/E	Tax rate	Unlevered beta
Marine Harvest ASA	0,62	56,6%	27%	0,44
Salmar ASA	0,72	56,4%	27%	0,51
Lerøy Seafood Group ASA	0,84	48,7%	27%	0,62
Grieg Seafood ASA	0,85	104,6%	27%	0,48
Norway Royal Salmon ASA	0,80	62,8%	27%	0,55
Austevoll Seafood ASA	0,61	80,9%	27%	0,38
Havfisk ASA	0,82	123,7%	27%	0,43
Average	0,75	76,2%		0,49

Bakkafrost	0,79

Table 18

The beta will naturally be affected by the change in capital structure, hence the increased leverage effect. To account for this, I raise the beta to 0.79. I calculate this by levering the average unlevered beta of the industry to account for the difference in taxation.

Regarding the risk-free rate, I do not assume the current low interest-yield environment will remain depressed in the long run, therefore, using the current risk-free rate would lead to an overstatement of the terminal value. This is in line with the report "estimating risk-free rates for valuation" issued by EY, on estimating risk free rates, which states that government bonds are likely to increase as governments unwind their QE policies, hence causing values to decrease when the risk-free rate is used as a proxy. To solve this issue, I use an alternative presented in the EY report mentioned above, which states that an average government risk-free yield can be used as a proxy for the risk-free rate when the current yield is deemed as inappropriate. I therefore look to the past, by averaging the Danish 10-year government bonds yield over a period spanning from 2005 to 2015. The period used is displayed graphically below, as well as the average rate represented by the red line, 2.61 percent, used as the risk-free rate when calculating the terminal values discount rate.



Graph 22

The perpetual cost of equity is calculated using the CAPM, as presented in the table 19. I assume the market risk premium provided by Damodaran remains unchanged.

CAPM	
Risk-free rate:	2,61%
Beta:	0,79
Market Risk Premium:	6,25%
Cost of Equity:	7,519%

Table 19

For the WACC calculation, I assume a debt ratio equal to the peer-average. Due to the increased leverage, I anticipate the cost of debt to increase, hence reflecting the heightened level of risk associated with increasing debt payments on the company's solvency. I adjust the cost of debt so that it represents the equal percentage change difference as the cost of equity and debt calculated for the explicit period. I further assume that the tax rate remains unchanged.

WACC	
Cost of Equity	7,52%
Cost of Debt	6,56%
D/(E+D)	0,428571
Tax rate	19,80%
WACC	6,55%

Table 20

The perpetuity growth rate is typically set between the inflation rate and the GDP growth rate. I account for growth due to inflation by using the inflation rate target of 2 percent, set by Denmark's National Central bank, as a basis for the perpetuity growth rate. I therefore add a spread reflecting the real growth of the future cash flows. According to Trading Economics global macro models and analysts expectations, the estimated GDP Growth Rate in Denmark is projected to trend around 1.1 percent (tradingeconomics.com, 2016); however, due to biological and regulatory factors limiting the company's organic growth, I do not believe this rate is sustainable. By studying growth rates in population among the major markets (exhibit 3I) which are inferior to the growth in GDP for most cases, I assume the spread to account for 0.5 percent, resulting in a perpetuity growth rate of 2.5 percent.

DCF valuation

To calculate the FCFF, I adjust the forecasted unlevered net income for depreciation, capital expenditure and changes in working capital.

The terminal value and the explicitly forecasted free cash flows are then discounted to and added at the valuation date. I deduct the value of debt to get the value of equity, and then divide by the number of shares outstanding to get the intrinsic price per share of approximately DKK 371.54. The process is illustrated below.

Discounted Cash Flow Analysis DKK 1,000	2015	2016	2017	2018	2019	2020	2021	TV
Assumptions								
Net debt	1339904							
Shares outstanding	48858065							
Tax rate	19,8%							
Change in licence revenue tax (2016)	4,0%							
WACC	4,57%							
Perpetual WACC	6,55%							
Terminal growth rate	2,50%							
Free Cash Flow to Firm								
EBITDA	1108682,0	1066983,9	1297696,5	1313010,6	1275104,8	1239197,6	1205476,1	
YoY growth		*-3,8%*	*21,6%*	*1,2%*	*-2,9%*	*-2,8%*	*-2,7%*	
EBIT	1000584,0	965040,4	1192761,7	1211302,7	1176333,2	1143207,4	1112098,0	
(-) Tax	198080,2	229645,5	283835,1	288247,2	279925,7	272042,9	264639,9	
Unlevered Net Income	802503,8	735395,0	908926,6	923055,5	896407,5	871164,5	847458,0	
(+) Depreciation	108098,0	101943,4	104934,8	101707,9	98771,7	95990,2	93378,1	
(-) Capital expenditures	602826,0	568504,1	585186,0	191202,1	185682,2	180453,4	175542,8	
(+/-) Change in working capital	-	-265145,2	-237339,4	-104393,8	-24267,6	-22988,1	-21588,8	
(+) Terminal value	-	-	-	-	-	-	-	19911639,0
Free Cash Flow to Firm	307775,8	533979,5	666014,9	937955,1	833764,5	809689,4	786882,1	19911639,0
YoY growth	-	-	*24,7%*	*40,8%*	*-11,1%*	*-2,9%*	*-2,8%*	-
Years from date of valuation	-	1	2	3	4	5	6	7
Discount factor	-	1,046	1,094	1,144	1,196	1,250	1,308	1,367
PV (FCFF)	-	510632,2726	609047,7089	820225,2721	697233,4019	647495,7796	601744,0894	14561055,79
NPV (FCFF)	18447434,31							
Share price	**350,1475205**							

Table 21

As this analysis is subject to many assumptions and thereby a high degree of uncertainty, I analyze the results further in the chapter on sensitivity- and scenario analysis.

Multiples

When selecting my peer group, I choose companies operating in the same sub-industry of aqua-cultural producers. As the industry is quite distinct and peculiar, the players in the sector tend to have a relatively similar business model as they all are selling a relatively commoditized product in the global marketplace. For this reason the peers tend to have similar prospects for ROIC and future growth.

I use forward-looking multiples, as recommended both by the principals of valuation and empirical evidence. These multiples are derived from Thomson Reuters. I focus mainly on enterprise value multiples due to the large variation in capital structure among the peer companies, and present the results in the table 22.

Forward multiples

EV Multiple	*Fundamental (in 1000)*	*EV*	*Price per share*
EV / Revenue	2688079	5207086134	106,58
EV / EBITDA	1066984	8186449561	167,56
EV / EBIT	965040	17025661344	348,47
Average			207,53

Table 22

The price / earnings ratio, being the most widely adopted and reported multiple used in relative valuation among professionals and the investing public alike, however, the multiple may be inappropriate if the leverage differs among the comparable firms as is the case for BAKKA's peer group. For this reason I do not rely on its result, however, I present the multiple in the appendix (exhibit 3J), using the forward-looking P/E ratio derived from Thomas Reuters.

Lastly, I present an industry-specific multiple, namely EV / Harvested weight (kg), using each peer-companies total harvest weight acquired from the individual companies annual report.

Industry specific multiple

EV multiple	*Fundamental*	*EV*	*Price per share*
EV / Harvested weight (kg)	50565000	8462434628	173,20

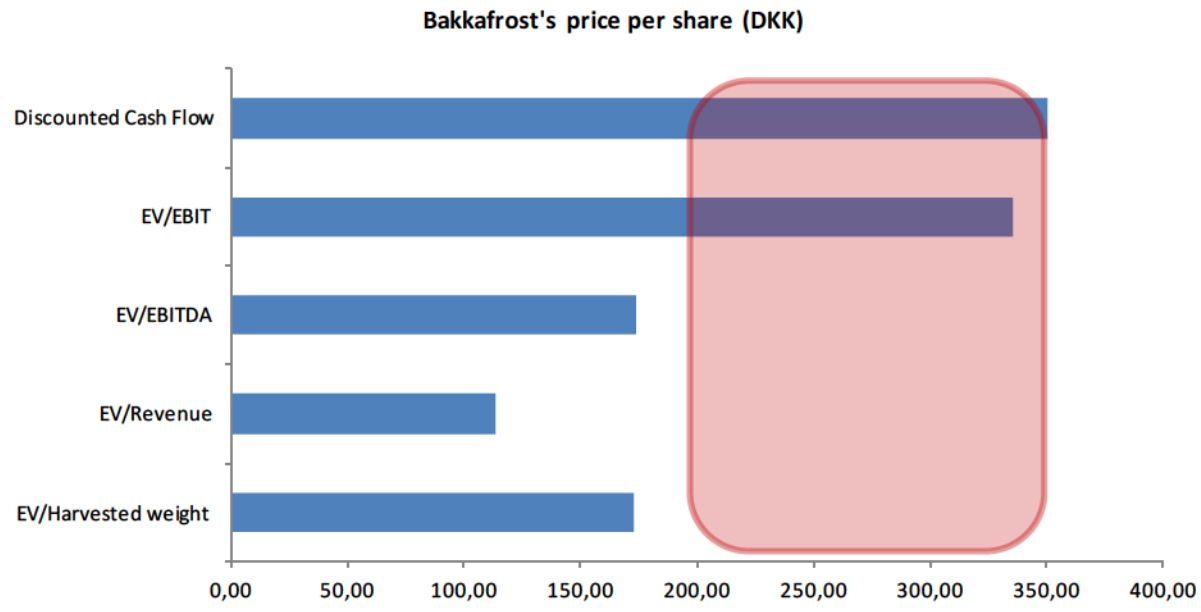
Table 23

I also present a set of forward-looking price multiples as well as a set of historically calculated EV multiples for comparative reasons, the results can be found in exhibit 3K, along with the individual company's ratios and industry averages.

Results

The multiples, being convenient and simple to calculate, reflect what the market is willing to pay for BAKKA based on its comparables. Their results are valuable as BAKKA is not in a steady state, and its future is uncertain. The multiples however, are exceeded by the results from the DCF analysis. A reason for this may lie in the choice of peer-companies, as the comparables might not truly compare to BAKKA despite their similar business models. This combined with the positive outlook, which I do believe is truly applicable given the industry and company analysis conducted, for the future prospects for BAKKA leading to a relatively high valuation, does give a significant disparity in the valuation results among the different valuation methods.

In the graph 23, I present the main results of the prior valuations. The shaded area illustrates the variation in valuation results, where the lower bound represents the average share price based on the multiples approach of approximately DKK 200 and the upper bound of approximately DKK 350 set by the DCF technique.



Graph 23

Sensitivity analysis

The predicted future cash flows serve as the fundamental basis for the DCF analysis; however, the analysis is shrouded with a high degree of uncertainty due to the models reluctance on numerous assumptions about the future. The valuation is particularly sensitive to changes in the discounting of the terminal value, as the terminal value accounts for approximately 80 percent of the total free cash flows in my DCF valuation.

		Perpetual WACC						
	350,15	6,06%	6,16%	6,26%	6,36%	6,46%	6,56%	6,66%
	2,20%	349,3	342,2	335,3	328,8	322,6	316,7	311,0
	2,30%	357,1	349,6	342,4	335,6	329,1	322,9	316,9
Terminal	2,40%	365,4	357,4	349,9	342,7	335,9	329,4	323,1
Growth	2,50%	374,0	365,7	357,7	350,2	343,0	336,2	329,6
Rate	2,60%	383,2	374,4	366,0	358,0	350,5	343,3	336,4
	2,70%	392,8	383,5	374,7	366,3	358,3	350,8	343,6
	2,80%	403,1	393,2	383,8	375,0	366,6	358,6	351,1

Table 24

The table above illustrates how the Gordon Growth model used when calculating the terminal value is extremely sensitive to both changes in the growth rate and discount rate. If the terminal growth rate increases by only 10 basis points, and the perpetual WACC decreases by the equivalent, the intrinsic value of the stock jumps approximately 4.5 percent to DKK 366.0 as highlighted in the red circle above, i.e. 48 times the magnitude of the individual changes in either the growth rate or the discount rate.

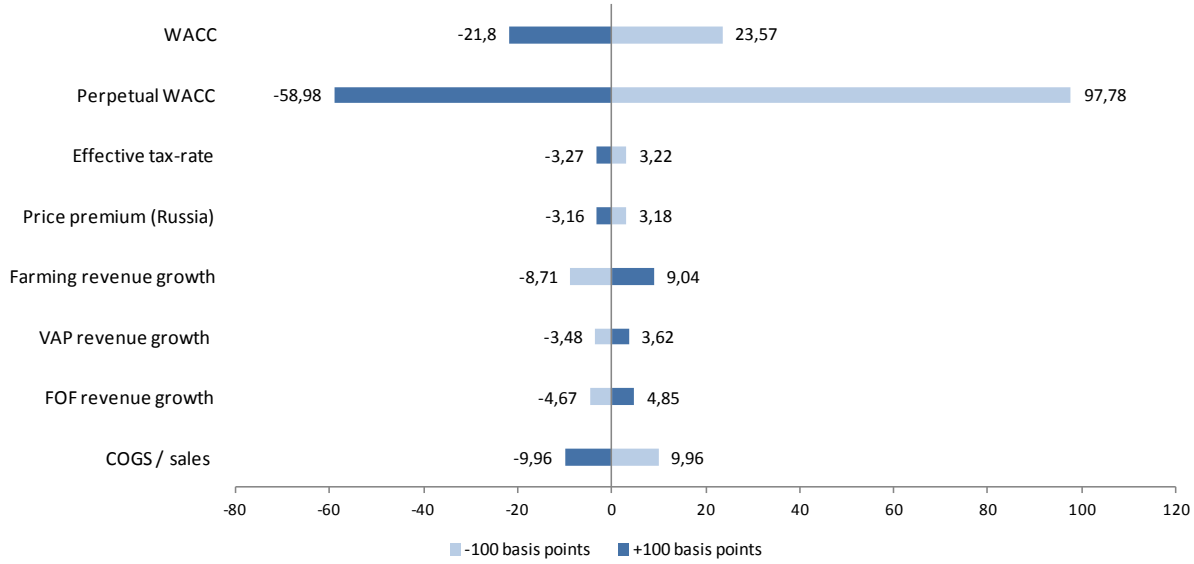
Another factor affecting the terminal value is the choice of risk-free rate and beta, affecting the calculation of the cost of equity, thus affecting the perpetual WACC. As can be observed in the table below, a changing of these factors also gives rise to a large fluctuation in the stock price.

		Risk-free rate						
	350,15	2,31%	2,41%	2,51%	2,61%	2,71%	2,81%	2,91%
	0,49	605,7	584,4	564,8	546,5	529,4	513,5	498,7
	0,59	495,1	481,4	468,5	456,3	444,9	434,1	423,8
	0,69	421,3	411,7	402,6	394,0	385,8	377,9	370,4
Beta	0,79	368,6	361,6	354,8	348,3	342,1	336,2	330,5
	0,89	329,1	323,7	318,4	313,4	308,6	303,9	299,4
	0,99	298,3	294,0	289,9	285,9	282,0	278,2	274,6
	1,09	273,7	270,2	266,8	263,6	260,4	257,3	254,3

Table 25

In the tornado diagram presented as graph 24, I illustrate the effect on the stock price of a 100 basis point increase and decrease for a set of key factors affecting the company value. The graph verifies the substantial effect a change in the perpetual WACC has on the DCF

valuation. A 1 percentage point decrease of the perpetual WACC would lead to an increased intrinsic value of the BAKKAs share of DKK 97.78, which is the equivalent of a 28 percent price increase.



Graph 24

Scenario analysis

As emphasized in the industry analysis, the political uncertainty regarding the Russian trade embargo brings added uncertainty to the true value of BAKKAs future cash flows.

As a best case, I assume that the embargo lasts twice as long as initially predicted. I also assume that the implied price premium for sales to Russia is lower than predicted, resulting in a lower "lost premium" when the embargo finally does end. The worst case, however, assumes that the trade restrictions end on the valuation date, and that the company loses the implied premium from day one, which in the worst case scenario is assumed to be 5 percent higher than in the base case. The results of the analysis are presented below, with prices stated in DKK.

Political uncertainty regarding Russian trade embargo	*Variables*	Change in share price
Best case		
Trade embargo lasting (years)	4	
Actual price premium recieved for sales to Russia	15%	
Share price	396,21	**46,06**
Base case		
Trade embargo lasting (years)	2	
Actual price premium recieved for sales to Russia	20%	
Share price	350,15	**0,00**
Worst case		
Trade embargo lasting (years)	0	
Actual price premium recieved for sales to Russia	25%	
Share price	294,36	**-55,78**

Table 26

Emphasis was also placed on the effects of biological threats, particularly how these threats have negatively impacted salmon farmers in Chile, hence decreasing the market share of the world's second largest salmon supplying region. The best case naturally refers to the best case for BAKKA, not the Chilean salmon farmers.

In the base case I do not assume any abnormal growth in market share due to the Chile situation, thereby taking the conservative approach. In the table below however, I present a set of scenarios where I test with a varying degree of BAKKAs percentage gain of US market share and by varying the length of the recovery process. I call this the "Wall-Mart Effect", as Wal-Mart is one of the two largest sellers of salmon in the US, together with Costco. Wal-Mart buys all its salmon from Chile, accounting for one third of the annual harvest that Chile sells to the US (Fishman, C., 2007). The results of my analysis are presented below.

		Sales increase due to gained market share			
		5%	10%	15%	20%
Chilean recovery (years)	0	0,000%	0,000%	0,000%	0,000%
	1	0,014%	0,028%	0,042%	0,056%
	2	0,038%	0,076%	0,114%	0,152%
	3	0,084%	0,167%	0,251%	0,334%
	4	0,124%	0,248%	0,373%	0,497%

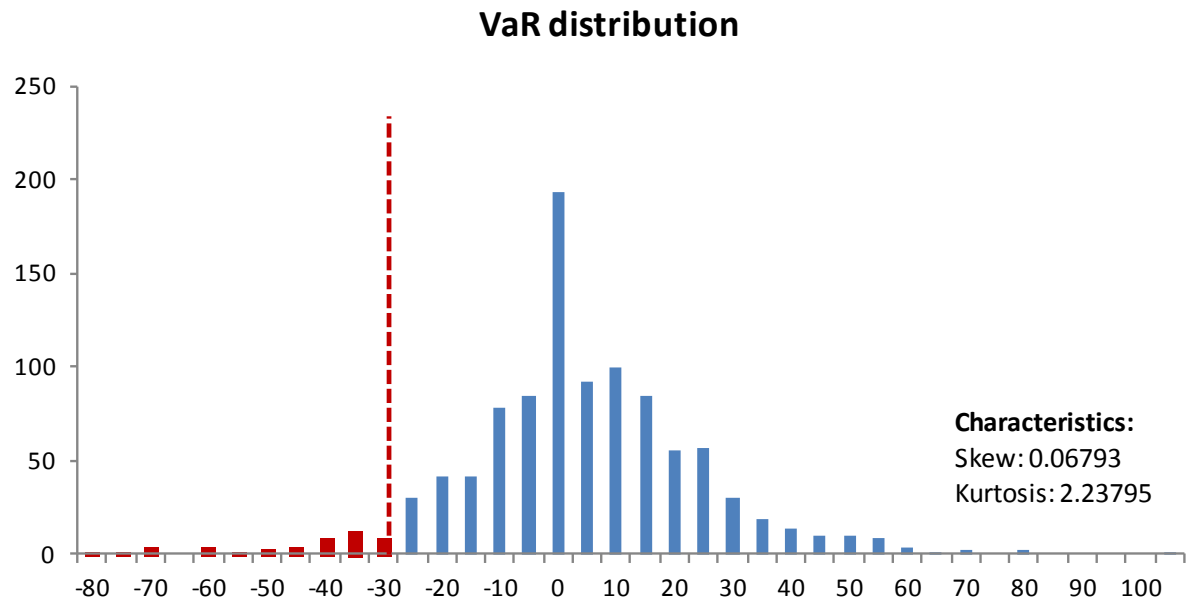
Table 27

As the result summarized in the table show, the share price is insensitive to the changes conducted in the various scenarios. In the "best case scenario" highlighted by the red circle, exhibiting the longest recovery process for Chilean salmon farmers and the largest market share gain for BAKKA, the share price only grows by 0.497 percent. The reason for the

limited effect on BAKKAs share price is the high transportation cost associated with sales to the US, particularly for sales of fresh product.

Value at Risk

As an alternative way of illustrating the stocks risk exposure, I run a historical simulation using 4 years of daily data given a 95 percent confidence level. The graph below illustrates an example of a DKK 1000 investment in BAKKAs stock over the period ranging from 31/12/12 to 31/12/15. There was a 5 percent chance that the value of the stock fell by more than DKK 28.6 in any given day, as illustrated by the red dotted line.



Graph 25

Analyzing the characteristics of the distribution as a gauge of the asset's level of risk, we can see that the distribution is leptokurtic given its excess kurtosis; characterized by its fat tails we see clear evidence of in the graph. The distribution also has a slight positive skew, meaning that large returns have been more likely to be positive than negative. A study by Cooley (1977) indicates a preference among investors for positive skew, as investors associated increases in risk with increases in negative skewness (Hueng and Yau, 2006).

Valuation limitations

As presented in the previous chapter, the DCF valuation is highly sensitive to certain valuation parameters, for which reason the share price can fluctuate drastically with slight changes in the underlying assumptions. The value of the company is also based on a set of biological, regulatory and political factors, which are all subject to a high degree of uncertainty (Hueng and Yau, 2006). The multiples approach is limited mainly due to the difficulty of establishing an appropriate peer-group, however, even with applicable comparables the market may still fail to value the assets correctly, deeming the results of the multiples-approach deficient.

Comparison with research note

As my cash flows and value drivers are denominated in DKK, the share prices calculated so far have all been in the same currency. However, to make the share price comparable to that of my analyst report and the current market price, I convert the stock price from DKK to NOK using the spot exchange rate at the valuation date as presented in the table below (ex.com, 2016)

	Share price (DKK)	Share price (NOK)	Exchange rate (DKK/NOK)
DCF Worst case	294,36	228,73	1,28694
DCF Base case	350,15	272,08	1,28694
DCF best case	396,21	307,87	1,28694
EV/Revenue	106,58	87,81	1,28694
EV/EBITDA	167,56	135,29	1,28694
EV/EBIT	348,47	260,60	1,28694
EV/Harvested weight	173,20	134,59	1,28694

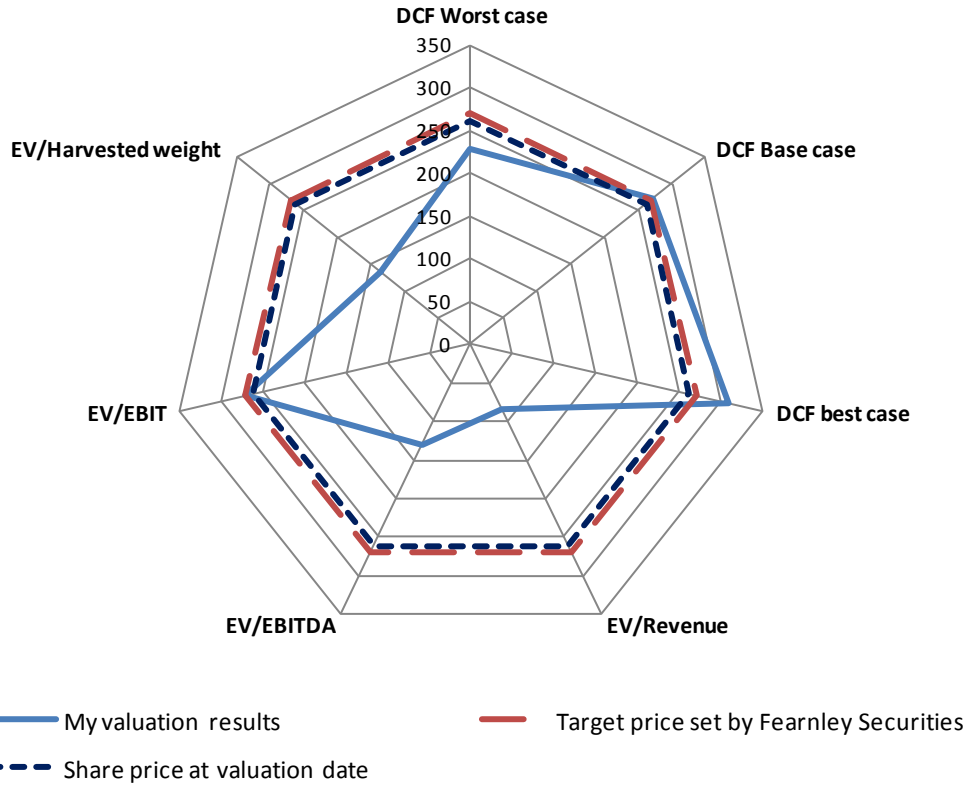
Table 27

Fearnley Securities initiate coverage in December on BAKKA with an accumulate recommendation and a target price of NOK 270 represented by the solid red line in the same chart. Fearnley Securities values BAKKA using a sum-of-the-parts valuation representing an EV/EBITDA multiple of about 10, a forward PE of about 13, and a dividend yield of about 3 percent. The ratios were derived using a peer-group consisting of similar comparables used in my multiples analysis. Information regarding the valuation can be found in exhibit 4A-D.

BAKKA is followed by many other analysts, but their recommendations vary widely from sell to buy (exhibit 2H).

Conclusion

My valuation results in NOK are illustrated graphically below. My result is represented by the solid blue line, along with the target price set by Fearnley Securities illustrated with the red line. The dotted line represents the shares spot price at the valuation date of NOK 261.8



Graph 26

As already mentioned, and as illustrated in graph 26, despite the peer-group being defined based on resemblance of growth prospects and similarity in business activities, hence their valuations should be influenced by closely related factors, there is a high dispersion of value among the various multiple approaches. According to the general multiples, BAKKA is currently overvalued. The valuation result of the DCF methodology however perceives BAKKA as slightly undervalued, a result appearing more appropriate given my confidence in the company's future prospects, as well as being in line with the price estimate given by Fearnley Securities, as opposed to the heterogeneous results of the relative valuation. I thereby conclude that BAKKAs intrinsic value is approximately NOK 272, thereby setting the target price slightly above the market price at the valuation date.

References

Reference list for websites

Accountingtools.com, (2012). *How to calculate the market value of equity.* [Online] Available at: http://www.accountingtools.com/questions-and-answers/how-to-calculate-the-market-value-of-equity.html [Accessed 05 May. 2016]

Bakkafrost.com, (2016). *Interest bearing debt.* [Online] Available at: http://www.bakkafrost.com/en/investor-relations/interest-bearing-debt/ [Accessed 20 Mar. 2016]

Bakkafrost.com, (2016). *Bakkafrost: Changes in license tax on salmon farming in the Faroe Islands.* [Online] Available at: http://news.cision.com/bakkafrost/r/bakkafrost--changes-in-license-tax-on-salmon-farming-in-the-faroe-islands,c9889658 [Accessed 31 Mar. 2016]

Boundless.com, (2015). *Cost of debt* [Online] Available at: https://www.boundless.com/finance/textbooks/boundless-finance-textbook/introduction-to-the-cost-of-capital-10/valuing-different-costs-88/the-cost-of-debt-375-10512/ [Accessed 10 May. 2016]

Cdn.lms.fo, (2015). *Faroe Islands Fisheries & Aquaculture Report.* [Online] Available at: http://cdn.lms.fo/media/6850/final_070408.pdf [Accessed 04 Mar. 2016]

Damodaran, A. (2016). *Country Default Spreads and Risk Premiums.* [Online] Stern.nyu.edu. Available at: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html [Accessed 18 Mar. 2016]

Damodaran, A. (2016). *Total Betas by Sector.* [Online] Stern.nyu.edu. Available at: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/totalbeta.html [Accessed 18 Mar. 2016]

Damodaran, A. (2016). *The adjusted present value approach.* [Online] Stern.nyu.edu. Available at: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/valquestions/apv.htm [Accessed 06 Apr. 2016]

Damodaran, A. (2016). *Growth in FCFE versus growth in FCFF.* [Online] Stern.nyu.edu. Available at: http://people.stern.nyu.edu/adamodar/pdfiles/fcff.pdf [Accessed 06 Apr. 2016]

Data.oecd.org, (2016). *OECD CPI Forecast.* [Online] Available at: https://data.oecd.org/price/inflation-cpi.htm [Accessed 19 Mar. 2016]

Ec.europa.eu, (2016). *Winter 2016 Economic Forecast: Weathering new challenges.* [Online] Available at: http://ec.europa.eu/economy_finance/eu/forecasts/2016_winter_forecast_en.htm [Accessed 03 Apr. 2016]

Fas.fo, (2016). *FAS ownership & dividend.* [Online] Available at: http://www.fas.fo/Default.aspx?pageid=6752 [Accessed 03 Apr. 2016]

Fearnleysecurities.no, (2016). *Monetary policy.* [Online] Available at: http://fearnleysecurities.no/ [Accessed 04 May. 2016]

Fishfarming.com, (2016). *Fishing for solid returns: A few keys to successful investments in aquaculture.* [Online] Available at: http://www.fishfarming.com/fishing-solid-returns-few-keys-successful-investments-aquaculture.html [Accessed 19 Mar. 2016]

Fishpool.eu, (2016). *Salmon forward prices* [Online] Available at: http://fishpool.eu/price-information/forward-prices-3/ [Accessed 18 Mar. 2016]

Ftpress.com, (2013). *Valuation Methods: An overview.* [Online] Available at: http://www.ftpress.com/articles/article.aspx?p=2109325&seqNum=6 [Accessed 22 Mar. 2016]

Gaalliance.org, (2016). *Russian food embargo: Who's been hurt?*. [Online] Available at: http://advocate.gaalliance.org/russian-food-embargo-whos-been-hurt/ [Accessed 31 Mar. 2016]

Globalsalmoninitiative.org, (2015). *About Farmed Salmon* [Online] Available at: http://globalsalmoninitiative.org/about-us/about-farmed-salmon/ [Accessed 01 Apr. 2016]

Hagstova.fo, (2016). *Statistics Faroe Islands* [Online] Available at: https://statbank.hagstova.fo/pxweb/en/H2/H2__VV__VV02/hav_tikin.px/table/tableViewLayout1/?rxid=ad845ad2-8d3e-4c15-b8be-50216f04b8f7 [Accessed 10 May. 2016]

Independentsciencenews.org, (2014). *What will the world inherit from GE Salmon.* [Online] Available at: https://www.independentsciencenews.org/environment/what-will-the-world-inherit-from-ge-salmon/ [Accessed 10 Apr. 2016]

Indexmundi.com, (2016). *Fish (salmon) monthly price* [Online] Available at: http://www.indexmundi.com/commodities/?commodity=fish&months=180&currency=dkk [Accessed 18 Mar. 2016]

Knoema.com, (2016). *Russia GDP growth forecast.* [Online] Available at: http://knoema.com/mgarnze/russia-gdp-growth-forecast-2015-2020-and-up-to-2060-data-and-charts [Accessed 19 Mar. 2016]

Knoema.com, (2016). *Euro area GDP growth forecast.* [Online] Available at: http://knoema.com/iuacek/euro-area-gdp-growth-forecast-2015-2020-and-up-to-2060-data-and-charts [Accessed 19 Mar. 2016]

Knoema.com, (2016). *US GDP growth forecast.* [Online] Available at: http://knoema.com/qhswwkc/us-gdp-growth-forecast-2015-2019-and-up-to-2060-data-and-charts [Accessed 19 Mar. 2016]

Knoema.com, (2016). *China GDP growth forecast.* [Online] Available at: http://knoema.com/loqqwx/china-gdp-growth-forecast-2015-2020-and-up-to-2060-data-and-charts [Accessed 19 Mar. 2016]

Kislingerová, E. (2000). *Using of the Economic Value Added model for valuation of a company* [Online] Nbs.sk. Available at: http://www.nbs.sk/_img/Documents/BIATEC/kislan.pdf [Accessed 22 Mar. 2016]

Leadingalliance.com, (2016). *An Overview of Valuation Methods and Their Applications.* [Online] Available at: http://www.leadingedgealliance.com/thought_leadership/How%20a%20Company%20is%20Valued%20-%20An%20Overview%20of%20Valuation%20Methods%20and%20Their%20Application.pdf [Accessed 19 Mar. 2016]

Maalot.co.il, (2016). *Criteria Methodology: Business Risk / Financial Risk Matrix Expanded* [Online] Available at: http://www.maalot.co.il/data/uploads/pdfs/1.Criteria_Methodology_Business_Risk_Financial%20Risk_Matrix_Expanded.pdf [Accessed 20 Mar. 2016]

Macabacus.com, (2016). *Weighted-Average Cost of Capital.* [Online] Available at: https://macabacus.com/valuation/dcf/wacc [Accessed 05 May. 2016]

Nasdaqomxtrader.com, (2016). *NASDAQ Salmon Index Historical Prices* [Online] Available at: https://salmonprice.nasdaqomxtrader.com/public/report;jsessionid=891E4D44EC6446D73A1B029A8A7B2E61?0 [Accessed 10 May. 2016]

Nasdaqomx.com, (2016). *NQSALMON* [Online] Available at: http://www.nasdaqomx.com/transactions/markets/commodities/markets/seafood [Accessed 10 May. 2016]

Nationalbanken.dk, (2016). *Monetary policy.* [Online] Available at: http://www.nationalbanken.dk/en/monetarypolicy/Pages/Default.aspx [Accessed 22 Mar. 2016]

Nmf.no, (2016). *Marine Harvest salmon farm pollutes Sognefjorden* [Online] Available at: http://www.nmf.no/default.aspx?pageId=352&articleId=3404&news=1 [Accessed 03 Apr. 2016]

Oslobors.no, (2016). *NIBOR 3 month.* [Online] Available at: http://www.oslobors.no/markedsaktivitet/#/details/NIBOR3M.NIBOR/overview [Accessed 19 Mar. 2016]

Oslobors.no, (2016). *OSEAX.* [Online] Available at: http://www.oslobors.no/markedsaktivitet/#/details/OSEAX.OSE/overview [Accessed 19 Mar. 2016]

Ospo.noaa.gov, (2016). *Sea surface temperature* [Online] Available at: http://www.ospo.noaa.gov/data/sst/contour/global_small.cf.gif [Accessed 31 Mar. 2016]

Reuters.com, (2015). *Addicted to antibiotics, Chile's salmon flops at Costco grocers* [Online] Available at: http://www.reuters.com/article/us-chile-salmon-antibiotics-feature-idUSKCN0PX1IG20150723 [Accessed 01 Apr. 2016]

Seafoodsource.com, (2016). *Higher taxes hit Faroese fish farming sector.* [Online] Available at: http://www.seafoodsource.com/news/aquaculture/higher-taxes-hit-faroese-fish-farming-sector [Accessed 31 Apr. 2016]

Tradingeconomics.com, (2016). *Denmark Inflation Rate Forecast* [Online] Available at: http://www.tradingeconomics.com/denmark/inflation-cpi/forecast [Accessed 13 May. 2016]

Un.org, (2015). *Salmon Farming Industry Handbook 2015* [Online] Available at: https://www.un.org/development/desa/en/news/population/2015-report.html [Accessed 02 Mar. 2016]

Visitfaoreislands.com, (2016). *About the Faroe Islands.* [Online] Available at: http://www.visitfaroeislands.com/en/about-the-faroe-islands/trade-and-industry/ [Accessed 03 Apr. 2016]

Worldwildlife.org, (2016). *Threat of overfishing* [Online] Available at: http://www.worldwildlife.org/threats/overfishing [Accessed 17 Mar. 2016]

Wsj.com, (2015). *Faeroe Islands boom by selling salmon to Russia.* [Online] Available at: http://www.wsj.com/articles/faeroe-islands-boom-by-selling-salmon-to-russia-1424483776 [Accessed 31 Mar. 2016]

Xe.com, (2016). *XE Currency Charts (DKK/NOK).* [Online] Available at: http://www.xe.com/currencycharts/?from=DKK&to=NOK&view=5Y

Reference list for reports

EY.com, (2015). *EY Eurozone Forecast: A broad recovery points to a bright future* [Online] Available at: http://www.ey.com/Publication/vwLUAssets/EY-eurozone-forecast-december-2015/$FILE/EY-eurozone-forecast-december-2015.pdf [Accessed 04 Apr. 2016]

EY.com, (2015). *Estimating Risk-Free Rates for Valuations* [Online] Available at: http://www.ey.com/Publication/vwLUAssets/EY-estimating-risk-free-rates-for-valuations/$FILE/EY-estimating-risk-free-rates-for-valuations.pdf [Accessed 08 May. 2016]

Marineharvest.com, (2015). *Salmon Farming Industry Handbook 2015* [Online] Available at: http://www.marineharvest.com/globalassets/investors/handbook/2015-salmon-industry-handbook.pdf [Accessed 02 Mar. 2016]

Reference list for articles

Asquith, P., Au, A. and mikhail, M. (2005) Information Content of Equity Analyst Reports. *Journal of Financial Economics*, [online] Volume 75(2), p. 245-282. Available at: http://www.nber.org/papers/w9246 [Accessed 02 Mar. 2016]

Bilan, A. and Fernández, P. (2007) Capital Structure. *The Journal of Economic Perspectives*, [online], p. 559-572. Available at: http://www.ulb.ac.be/cours/solvay/farber/Ofin/Reading%204%20Capital%20Structure.pdf [Accessed 21 Feb. 2016]

Bilan, A. and Fernández, P. (2007) 110 common errors in company valuations. *IESE Research Papers*, [online], p. 559-572. Available at: https://core.ac.uk/download/files/153/6626547.pdf [Accessed 21 Feb. 2016]

Clough, E. and Rotkowski, A. (2013) How to Estimate the Long-Term Growth Rate in the Discounted Cash Flow Method. *Insights Journal*, [online], p. 9-19. Available at: http://www.willamette.com/insights_journal/13/spring_2013_2.pdf [Accessed 27 Feb. 2016]

Cooper, S., Deng, Z., Suozzo, P. and Sutherland, G. (2001) Valuation Multiples: A Primer. *UBS Warburg*, [online], p. 3-41. Available at: http://pages.stern.nyu.edu/~ekerschn/pdfs/readingsemk/EMK%20NYU%20S07%20Global%20Tech%20Strategy%20Valuation%20Multiples%20Primer.pdf [Accessed 05 Mar. 2016]

Daves, P., Ehrhardt, M. and Kunkel, R. (2000) Estimating systematic risk: The choice of return interval and estimation period. *Journal of Financial and Strategic Decisions*, [online] Volume 13(1), p. 7-12. Available at: https://www.researchgate.net/publication/2800886_Estimating_Systematic_Risk_The_Choice_Of_Return_Interval_And_Estimation_Period [Accessed 02 Mar. 2016]

Dittmann, I. and Weiner, C. (2005) Selecting Comparables for the Valuation of European Firms. *Economic Risk, Berlin*, [online], p. 2-14. Available at: http://edoc.hu-berlin.de/series/sfb-649-papers/2005-2/PDF/2.pdf [Accessed 29 Feb. 2016]

Fernández, P. (2004) Market risk premium: required, historical and expected. *IESE Business School*, [online], p. 1-24. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=601761 [Accessed 26 Feb. 2016]

Gentry, J., Reilly, F. and Sandretto, M. (2005) Learning About Intrinsic Valuation With the Help of an Integrated Valuation Model, [online]. Available at: https://business.illinois.edu/working_papers/papers/03-0108.pdf [Accessed 22 Mar. 2016]

Goedhart, M., Koller, T. and Wessels, D. (2005) The right role for multiples in valuation. *McKinsey on Finance*, [online]. Available at: http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-right-role-for-multiples-in-valuation [Accessed 16 Mar. 2016]

Henschke, S. and Homburg, C. (2009) Equity Valuation Using Multiples: Controlling for Differences Between Firms. *University of Cologne*, [online]. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1270812 [Accessed 10 Mar. 2016]

Hueng, C. and Yau, R. (2002) Investor Preferences and Portfolio Selection: Is Diversification an Appropriate Strategy? *Quantitative Finance*, [online] Volume 6(3), p. 255-271. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=906688

Liu, J., Nissim, D. and Thomas, J. (2002) Equity Valuation Using Multiples. *Journal of Accounting Research*, [online] Volume 40(1), p. 135-163. Available at: https://www0.gsb.columbia.edu/mygsb/faculty/research/pubfiles/318/Equity_Valuation_Using_Multiples.pdf [Accessed 05 Mar. 2016]

Luehrman, A. (1997) Using APV: A Better Tool for Valuing Operations. *Harvard Business Review*, [online], p. 3-10. Available at: http://ecsocman.hse.ru/data/797/126/1231/Luehrman_-_APV_1997.PDF [Accessed 19 Mar. 2016]

Mayers, S. (2001) The superiority of FCFF over EVA and FCFE in capital budgeting. *Economic Research – Ekonomska Istrazivanja*, [online] Volume 15(2), p. 81-102. Available at: http://www.tandfonline.com/doi/pdf/10.1080/1331677X.2014.974916 [Accessed 19 Feb. 2016]

Mielcarz, P. and Mlinaric, F. (2014) The superiority of FCFF over EVA and FCFE in capital budgeting. *Economic Research – Ekonomska Istrazivanja*, [online] Volume 27(1), p. 1-31. Available at: http://www.tandfonline.com/doi/pdf/10.1080/1331677X.2014.974916 [Accessed 19 Feb. 2016]

Minjina, D. (2008) Multiples and their use for equity valuation on European capital markets. *Academy of Economic Studies*, [online], p. 220-226. Available at: http://www.asociatiaeconomistilor.ro/documente/Conferinta_FABBV_engleza.pdf [Accessed 26 Feb. 2016]

Reference list for books

Courtois, Y., Lai, G. and Drake, P. (2011). *Corporate Finance*. Virginia, USA, CFA Institute

Damodaran, A. (2011). *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*. Wiley Finance

Ferris, K. and Petitt, B. (2013). *Valuation for Mergers and Acquisitions*. New Jersey, USA: Pearson Education Inc, p.17.

Nagorniak,J. and Wilcox, S. (2011). *Equity Valuation: Concepts and Basic Tools*. Virginia, USA, CFA Institute

Appendix

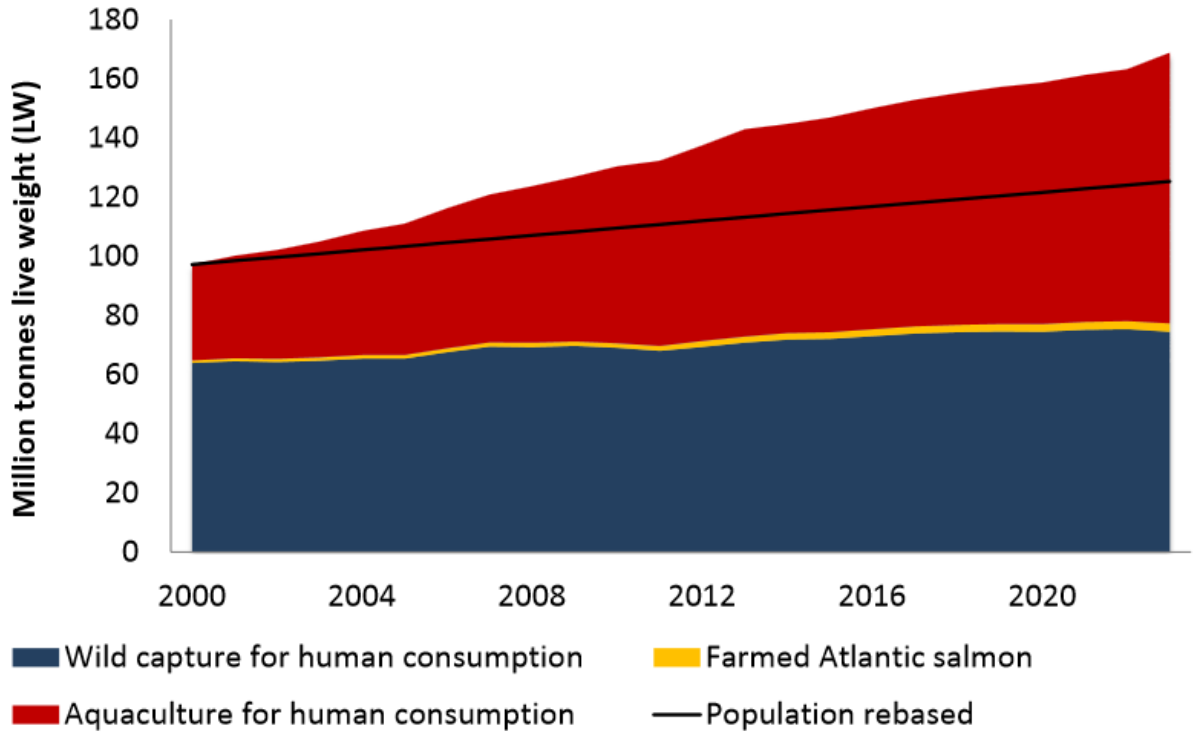


Exhibit 1A: Source: Marine Harvest - Salmon industry handbook

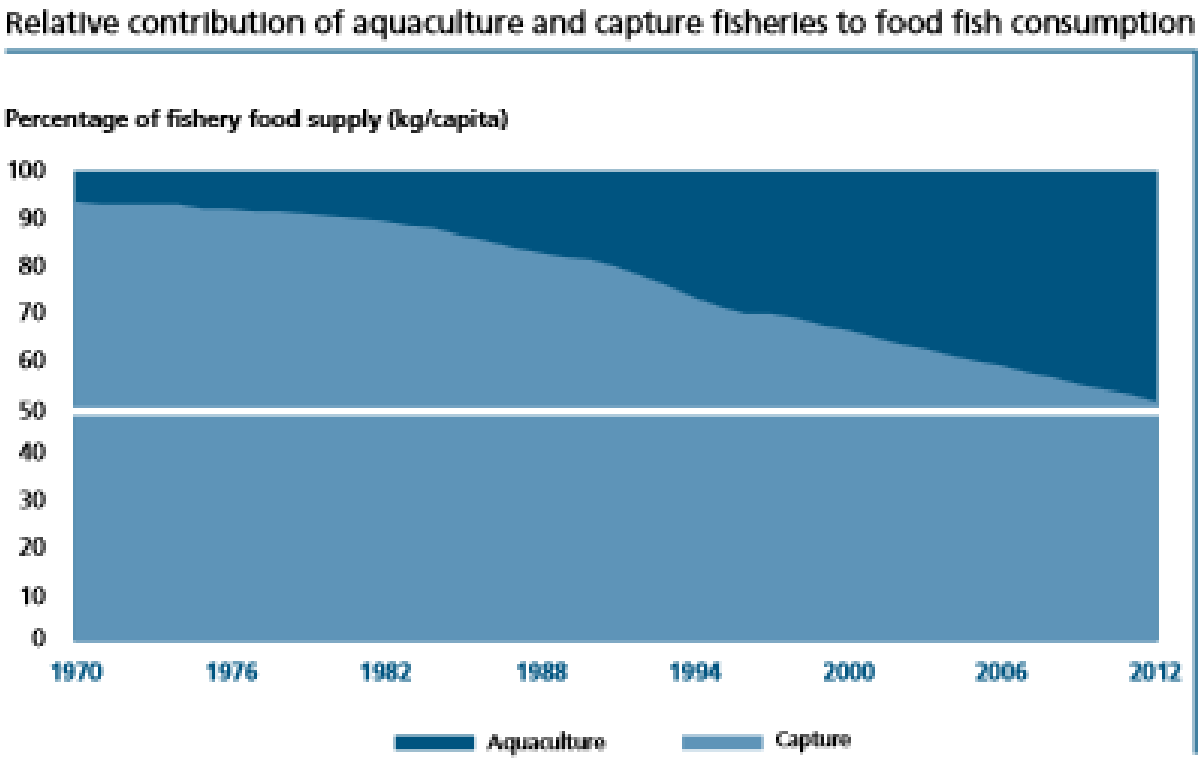
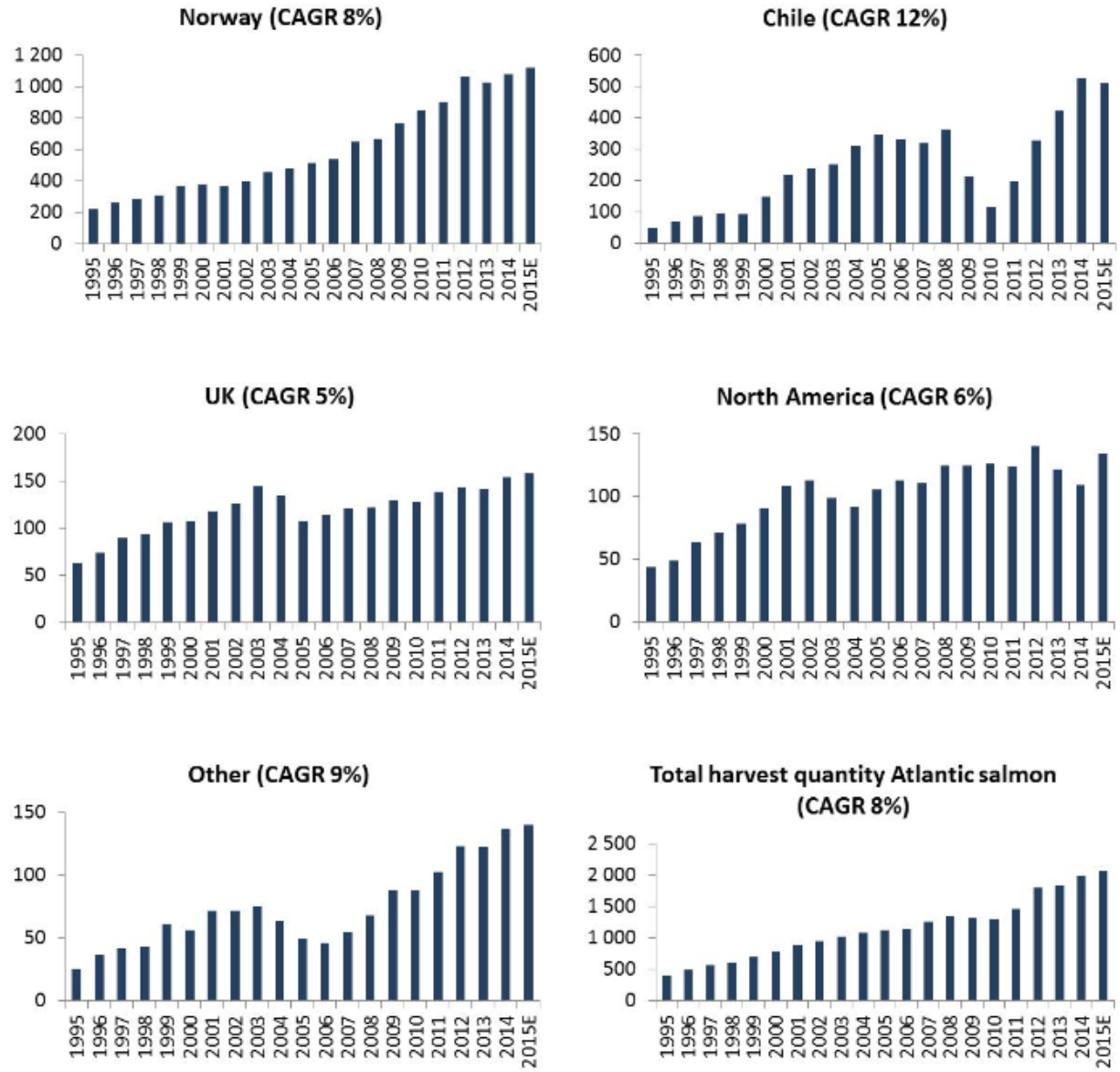


Exhibit 1B: source: FAO.org

	Top 10 Norway	Harvest	Top 5 UK [1)]	Harvest	Top 5 North America [1)]	Harvest	Top 10 Chile	Harvest
1	Marine Harvest	258 000	Marine Harvest	48 900	Cooke Aquaculture	34 000	Marine Harvest	67 500
2	Salmar	141 000	The Scottish Salmon Com	30 200	Marine Harvest	26 700	Salmones Multiexport	54 200
3	Lerøy Seafood	133 000	Scottish Seafarms	27 600	Cermaq	19 000	Empresas AquaChile	52 000
4	Cermaq	53 000	Grieg Seafood	19 200	Northern Harvest	15 000	Cermaq	49 000
5	Nordlaks	38 000	Cooke Aquaculture	17 400	Grieg Seafood	6 300	Pesquera Los Fiordos	47 000
6	Nova Sea	38 500					Camanchaca	35 400
7	Grieg Seafood	37 500					Blumar	34 900
8	Alsaker Fjordbruk	25 500					Australis Seafood	25 500
9	Norway Royal Salmon	22 500					Salmones Humboldt	19 500
10	Sinkaberg-Hansen	20 500					Cooke Aquaculture	18 000
	Top 10	767 500	Top 5	143 300	Top 5	101 000	Top 10	403 000
	Market size	1 079 100	Market size	154 350	Market size	109 260	Market size	524 610
	Market share top 10	71%	Market share top 5	93%	Market share top 5	92%	Market share top 10	77%

Exhibit 1C: Source: Marine Harvest – Salmon industry handbook



Figures are in 1000 tones GWE (gutted weight)

Exhibit 1D: Source: Marine Harvest – Salmon Industry Handbook; Historic total harvest of Atlantic salmon

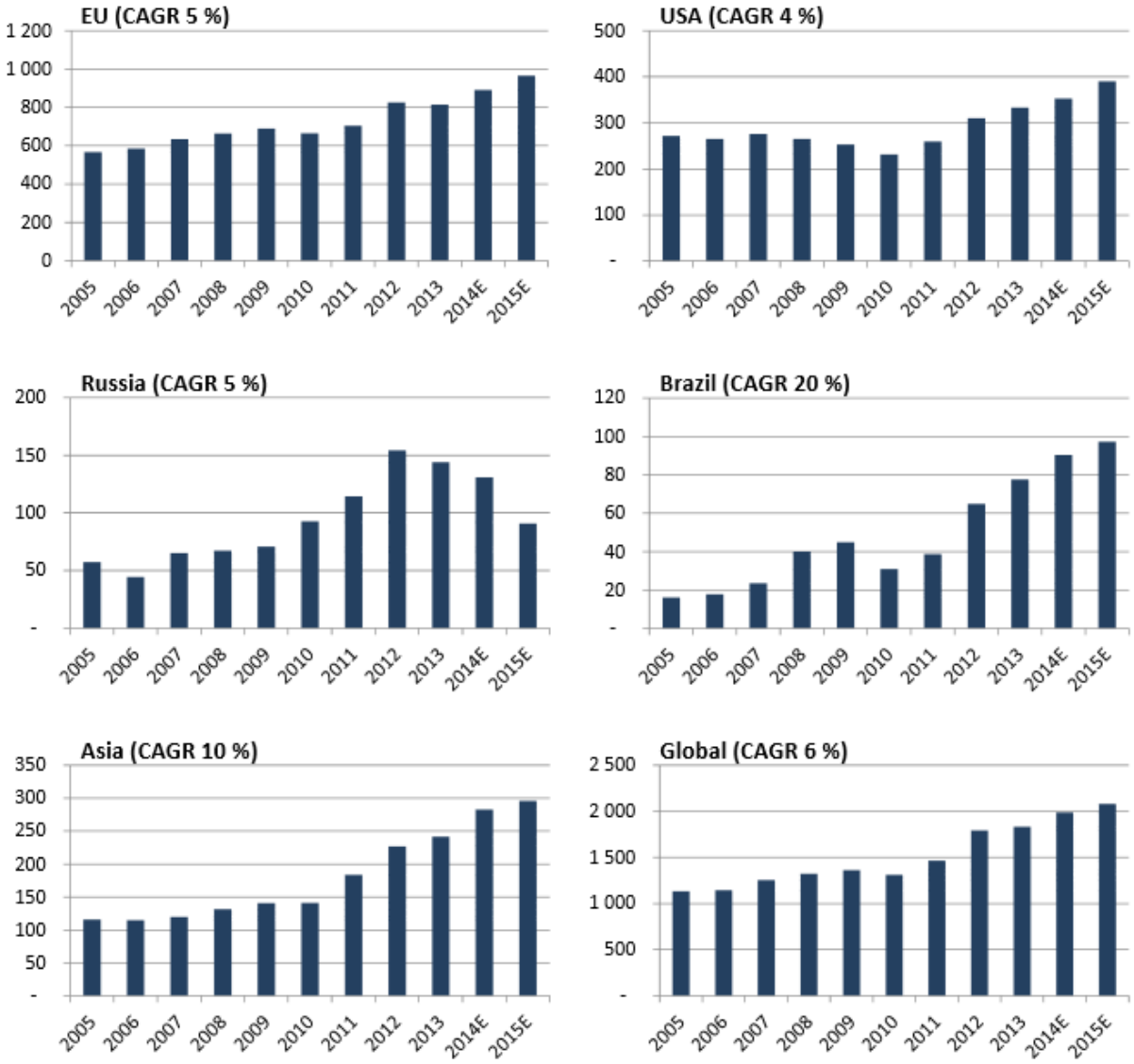


Exhibit 1E: Source: Marine Harvest – Salmon Industry Handbook; Farmed Atlantic salmon by marked

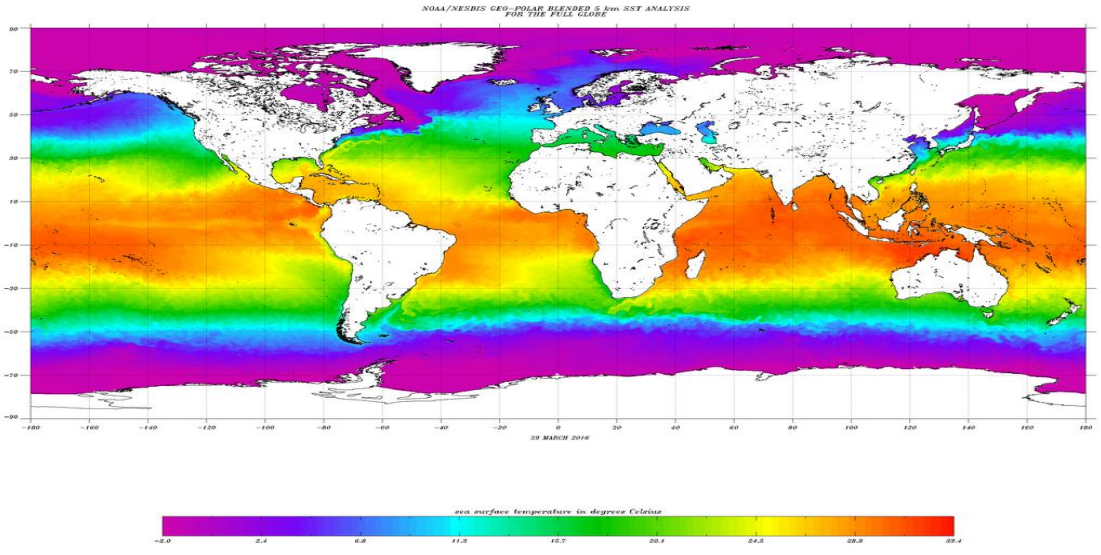


Exhibit 1F: source:[*http://www.ospo.noaa.gov/data/sst/contour/global_small.cf.gif*](http://www.ospo.noaa.gov/data/sst/contour/global_small.cf.gif)

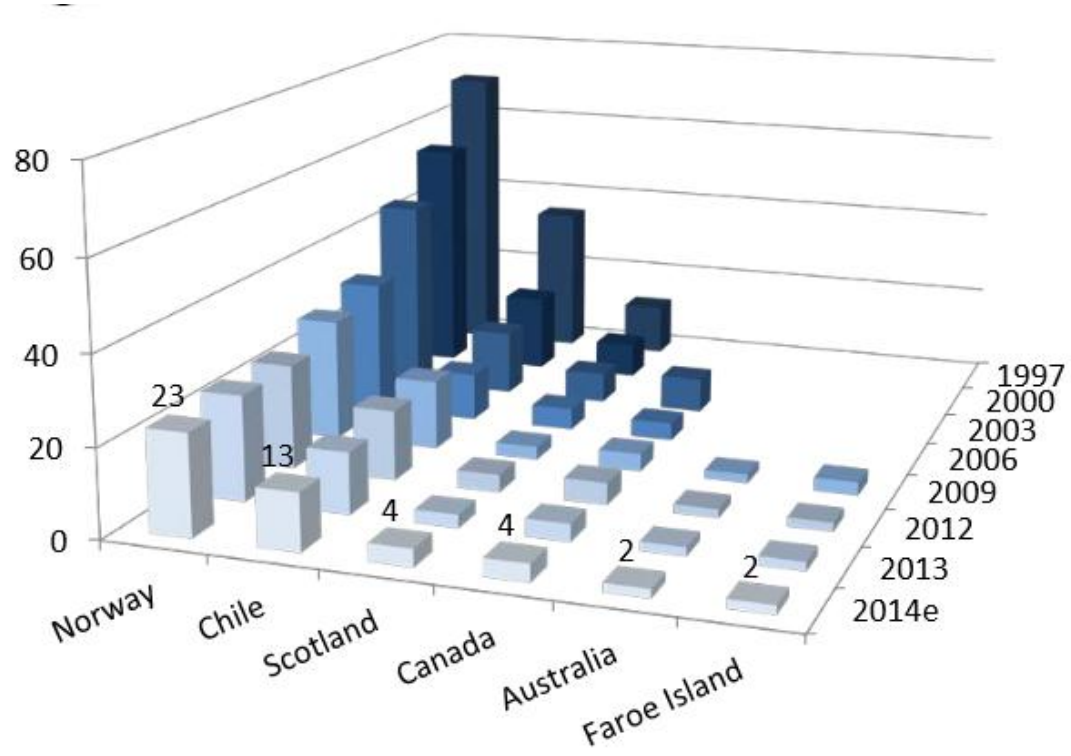


Exhibit 1G: source: Marine Harvest – Salmon Industry Handbook; Illustrates the nr of firms in the major producing countries producing 80 percent of the farmed salmon and trout

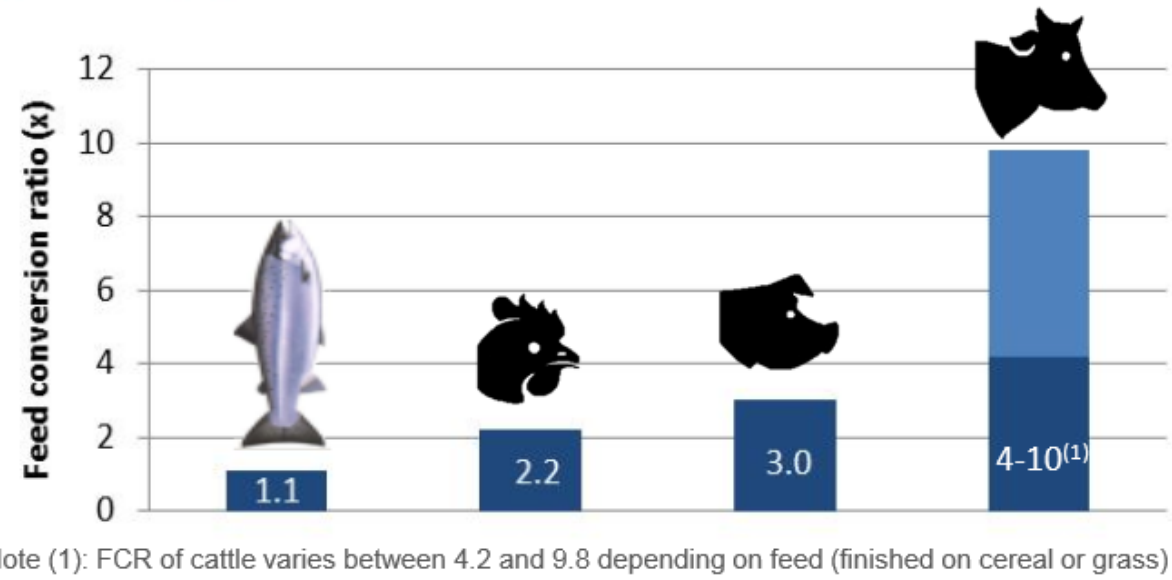


Exhibit 1H: Source: source: Marine Harvest – Salmon industry handbook

Carbon footprint kg CO2/kg edible meat	2.9 kg	3.4 kg	5.9 kg	30 kg
Water consumption litre/kg edible meat	1,400 litre [(1)]	4,300 litre	6,000 litre	15,400 litre

Exhibit 1I: source: Marine Harvest – Salmon industry handbook

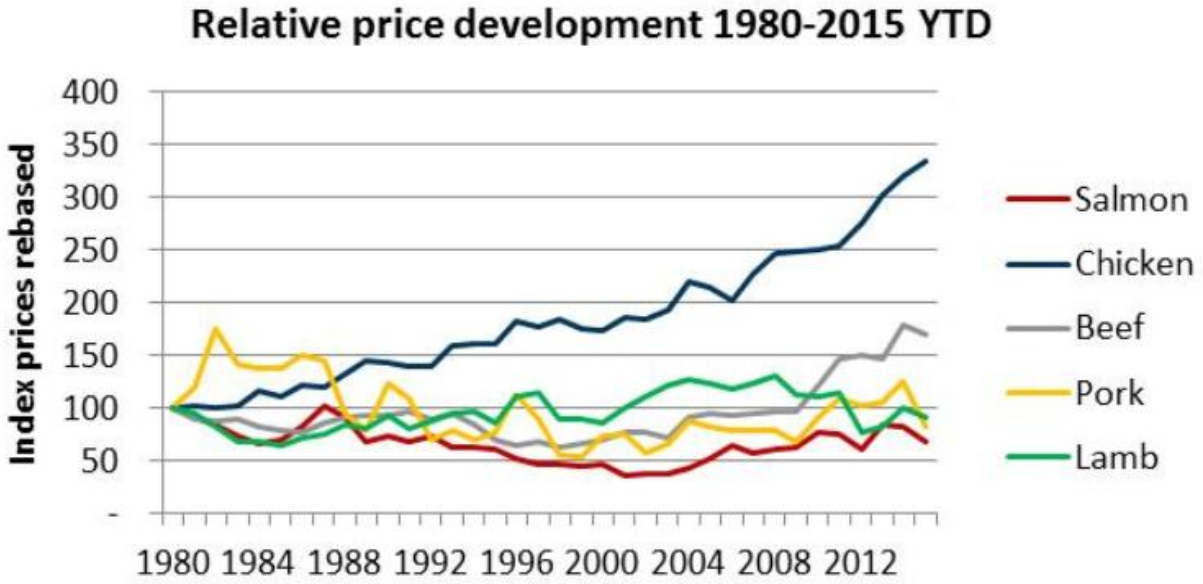


Exhibit 1J: source: Marine Harvest – Salmon Industry Handbook

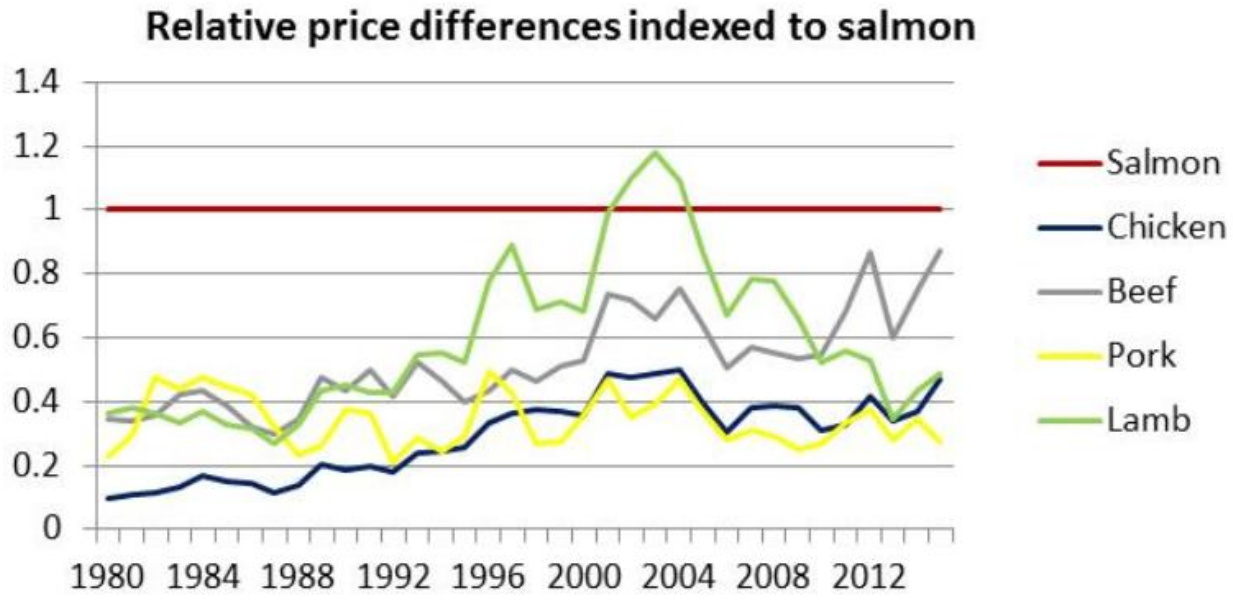


Exhibit 1K: source: Marine Harvest – Salmon Industry Handbook; Relative shelf price

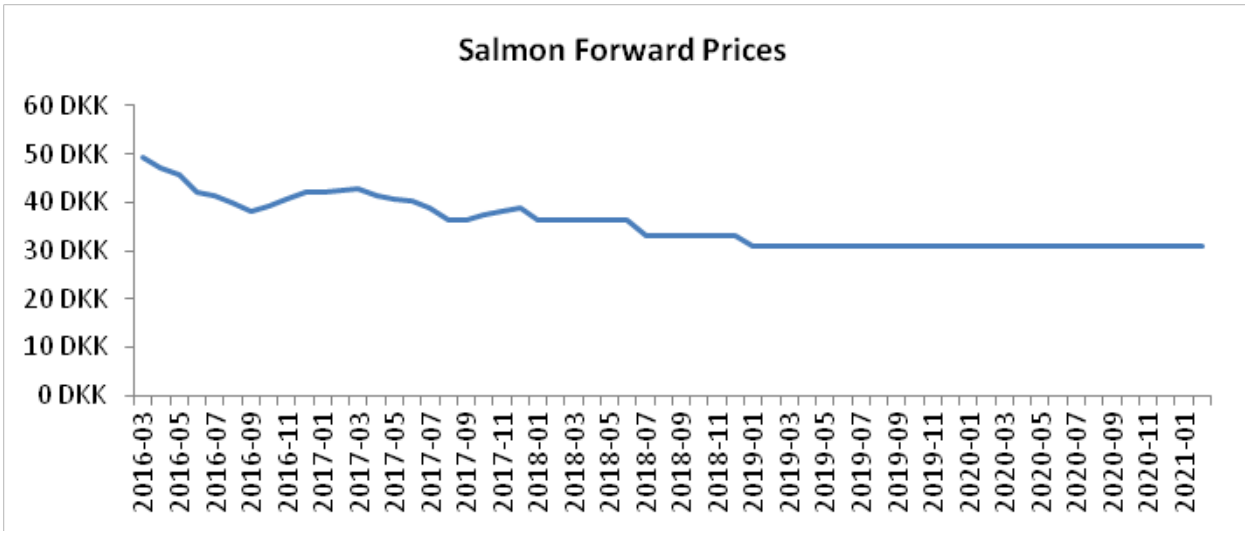


Exhibit 1L: source: fishpool.eu

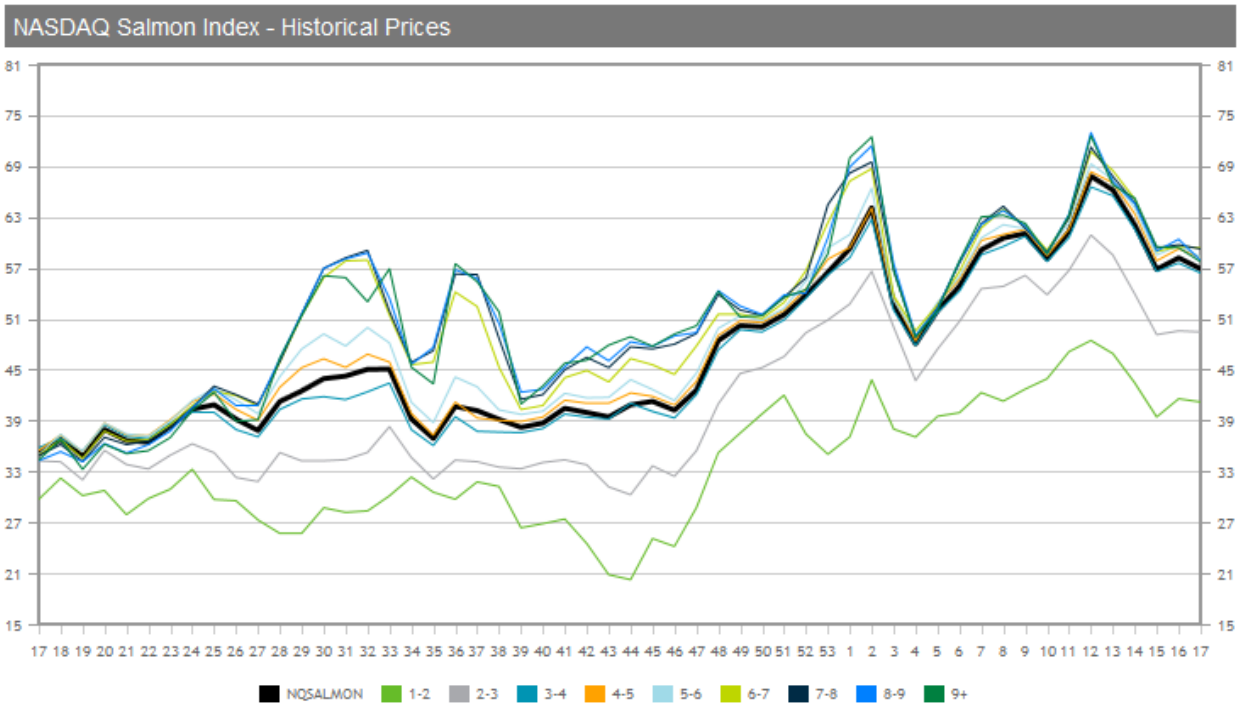


Exhibit 1M: source: nasdaqomxtrader.com

REGIN JACOBSEN
Chief Executive Officer
Born 1966. Faroese citizen.
Has been Chief Executive Officer of Bakkafrost since 1989.

Education: Graduate Diploma in Business Administration and Accounting (HD-R), Aarhus School of Business.
Number of shares in Bakkafrost: Holds 4,493,014 shares – changes in portfolio in 2015: +803 shares.

Mr. Jacobsen has extensive experience from the salmon industry and finances. Mr. Jacobsen was Financial Manager of P/F Bakkafrost before he became Chief Executive Officer of P/F Bakkafrost.

GUNNAR NIELSEN
Chief Financial Officer
Born 1977. Faroese citizen.

Education: Graduate Diploma in Business Administration and Accounting (HD-R), Aarhus School of Business. MSc in Business Economics & Auditing, Copenhagen Business School.
Number of shares in Bakkafrost: Holds 317 shares – changes in portfolio in 2015: +317 shares.

Mr. Nielsen has experience in the finance sector. Mr. Nielsen has held positions as corporate finance advisor and auditor. Before joining Bakkafrost, Mr. Nielsen held different positions in the TF Group, including being advisor and CEO in TF Íløgur.

ODD ELIASEN
Managing Director of Havsbrún
Born 1965. Faroese citizen.

Education: Teacher Certificate Exam, Faroese Teacher Training College.
Number of shares in Bakkafrost: Holds 171,332 shares – changes in portfolio in 2015: +651 shares.

Mr. Eliasen has broad experience from the fish farming industry and has been an active player in restructuring the fish farming industry in the Faroe Islands. Mr. Eliasen has been responsible for Havsbrún's farming activities and has held various board positions in the industry. Mr. Eliasen was board member of Bakkafrost from 2006 to 2012, when he was appointed Managing Director for Havsbrún and member of the Bakkafrost Group Management.

SÍMUN P. JACOBSEN

Senior Sales Manager

Símun P. Jacobsen (born 1963), was appointed Senior Sales Manager for the Bakkafrost Group in 2012. Mr. Jacobsen holds a Graduate Diploma in Business Administration and Accounting (HD-R) from Handelshøjskolen Syd in Denmark. Mr. Jacobsen has an extensive career within the business of sales and management in the white fish industry as well as sales of salmon products to European supermarket chains. He was sales manager for United Seafood from 1998 and for Faroe Seafood from 2005.

KÁRI JACOBSEN

Manager – VAP Production and Processing

Kári Jacobsen (born 1963) has been Manager of VAP Production and Processing since 2008. He was educated at Statens Fagskole for Fiskeindustri in Vardø (1982/1983). Kári Jacobsen was production manager for Tavan from 1984 to 1994 and from 1999 to 2008. Kári Jacobsen was production manager for United Seafood from 1994 to 1998.

ANDRIAS PETERSEN

Harvest Manager

Andrias Petersen (born 1973) holds a BSc in Chemical Engineering from the Technical University of Denmark (2001), and has since then completed courses in general-, project- and quality management. From 2002–2008, he worked with the Faroese Food, Veterinary and Environmental Agency in positions as official supervisor, quality manager and head of the department of fish health, where he obtained a thorough knowledge of the Faroese fish farming industry. From 2008, Mr. Petersen was production manager at the former Vestsalmon, and following the merger of the Vestlax Group with the Bakkafrost Group, Mr. Petersen has been Harvest Manager.

JÓN PURKHÚS

Farming Manager (North region)

Jón Purkhús (born 1958) has been Farming Manager at Bakkafrost since 2006. Mr. Purkhús has extensive experience in the salmon farming industry, as he founded and has been Director of Bakkafrost Farming North since 1988.

ODDVALD OLSEN

Farming Manager (West region)

Oddvald Olsen (born 1964) has been Farming Manager at Bakkafrost Farming West since 2011. Mr. Olsen has extensive experience in the salmon farming industry, where he started in 1985.

HARTVIG JOENSEN

Manager, Fishmeal and Fish oil

Hartvig Joensen (born 1967) has been Manager of Havsbrún's Fishmeal and Fish oil Department since 2005. He was educated at Copenhagen University College of Engineering as a Technical Assistant in 1995 and holds a Diploma in Leardership from the Faroese Business School from 2005.

RÚNI WEIHE

Manager, Feed

Rúni Weihe (born 1980) holds an MSc in Fisheries from the University in Tromsø, Norway (2008). From 2001-2003, Mr. Weihe worked as fish farmer for Vestlax. In 2008, Mr. Weihe became the RnD Manager of Havsbrún's Feed Division. He was appointed Division Manager in 2014 and holds both managerial positions.

ANNA JOHANSEN

Senior Quality Manager

Anna Johansen (born 1974) holds a cand.scient in biology from the University of Copenhagen, Denmark (2002). From 2003-2007, she worked with the Faroese Food, Veterinary and Environmental Agency as an environmental supervisor and a project manager. Anna Johansen has been quality manager for P/F Vestlax and P/F Vestsalmon since 2007 until the merger with Bakkafrost, when she started as Senior Group Quality Manager.

LEIF AV REYNI

Fresh Water Manager

Leif av Reyni (born 1976) holds a BSc in Aquaculture from Høgskolen in Sogndal, Norway (1999-2002) and an MSc degree in Aquaculture from Stirling University, Scotland. From 2003-2004, Mr. Reyni worked for Vestlax and from 2004-2005, Mr. Reyni worked as project manager for the local Aquaculture Research Station in the Faroe Islands. From 2005 to 2009, he was production manager at Vestlax and responsible for sea sites and hatcheries. Following the merger of the Vestlax Group with the Bakkafrost Group, Mr. Reyni has been Freshwater Manager responsible for the hatcheries. Since 2006, he has been on the board of the Faroese Aquaculture Research Station.

GUÐRUN OLSEN

HR Manager

Guðrun Olsen (born 1964) holds a BA from the Copenhagen Business School and a MA degree in International Corporate Communication from the University of Southern Denmark in Odense. From 1994 to 2004, Mrs. Olsen held positions as company secretary and HR & adm. manager at Faroe Seafood. Guðrun Olsen has been Group HR Manager of Bakkafrost since 2012.

Exhibit 1N: source: bakkafrost.com

	20 Largest Shareholders		Origin	No. of shares	Share
1	JACOBSEN Oddvør		FRO	4.594.437	9,4%
2	JACOBSEN Johan Regin		FRO	4.493.140	9,2%
3	NORDEA BANK DANMARK A/S	NOM	DNK	3.429.742	7,0%
4	SKANDINAVISKA ENSKILDA BANKEN AB	NOM	SWE	1.812.188	3,7%
5	FOLKETRYGDFONDET		NOR	1.660.873	3,4%
6	CLEARSTREAM BANKING	NOM	LUX	1.395.291	2,9%
7	STATE STREET BANK AND TRUST CO.	NOM	USA	940.425	1,9%
8	SWEDBANK ROBUR SMABOLAGSFOND		SWE	926.904	1,9%
9	JP MORGAN BANK LUXEM JPML SA RE CLT ASSET	NOM	LUX	907.878	1,9%
10	J.P. MORGAN CHASE BANK Ba A/C US REDIDENT NON	NOM	USA	839.108	1,7%
11	The Bank of New York BNY MELLON	NOM	USA	821.756	1,7%
12	VERDIPAPIRFONDET DNB		NOR	815.573	1,7%
13	STATE STREET BANK AN A/C CLIENT OMNIBUS F	NOM	USA	809.683	1,7%
14	UBS (LEUXEMBOURG) S.A. UBS(LUXEMBOURG)S.A.-	NOM	LUX	692.194	1,4%
15	STATE STREET BANK & A/C CLIENT FUND NUMB	NOM	USA	523.318	1,1%
16	SKANDINAVISKA ENSKIL SEB S.A. CLIENT ASSE	NOM	LUX	461.066	0,9%
17	VERDIPAPIRFONDET HAN NORGE		NOR	440.000	0,9%
18	DEUTSCHE BANK AG		GBR	421.042	0,9%
19	VERDIPAPIRFONDET DEL JPMORGAN EUROPE LTD,		NOR	417.329	0,9%
20	STATE STREET BANK & S/A SSB CLIENT OMNI	NOM	USA	408.338	0,8%
	Total share of the 20 largest shareholders			**26.810.285**	**54,9%**

Exhibit 1O: source: Bakkafrost.com

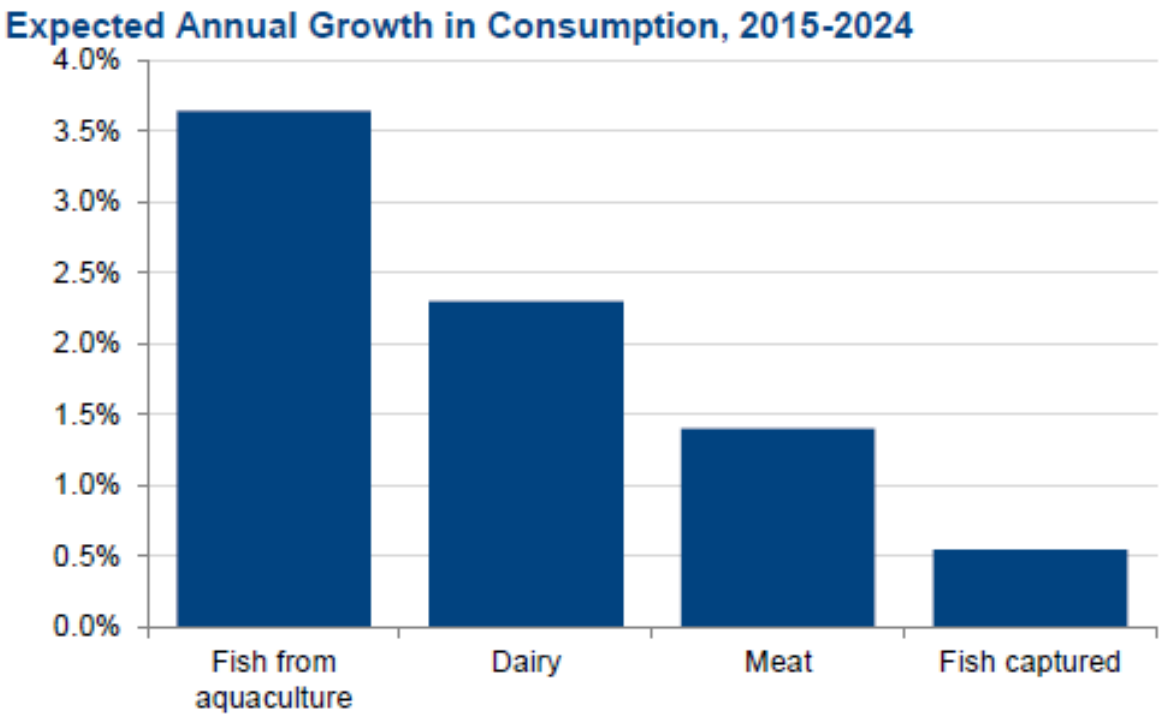


Exhibit 2A: source: FAO

Country	Spot yield on 10 year Government bond as at 31 Dec 2013	Spot yield on 10 year Government bond as at 31 Dec 2014	Change to 31 Dec 2014	Standard deviation in yield over 2014
Austria	2.3%	0.7%	-1.6%	0.4%
Belgium	2.5%	0.8%	-1.7%	0.5%
Denmark	2.0%	0.8%	-1.1%	0.3%
Finland	2.1%	0.6%	-1.5%	0.4%
France	2.6%	0.8%	-1.7%	0.5%
Germany	1.9%	0.5%	-1.4%	0.4%
Greece	8.3%	9.4%	1.1%	1.0%
Ireland	3.4%	1.2%	-2.2%	0.7%
Italy	4.1%	1.9%	-2.2%	0.6%
Netherlands	2.2%	0.7%	-1.6%	0.4%
Norway	3.0%	0.0%	-3.0%	0.4%
Portugal	6.0%	2.7%	-3.4%	0.8%
Spain	4.1%	1.6%	-2.5%	0.6%
Sweden	2.5%	0.9%	-1.6%	0.4%
Switzerland	1.2%	0.3%	-0.9%	0.3%
UK	3.0%	1.8%	-1.3%	0.3%
Mean	**3.2%**	**1.6%**	**-1.7%**	**0.5%**
Median	**2.6%**	**0.8%**	**-1.6%**	**0.4%**

Exhibit 2B: source: EY analysis

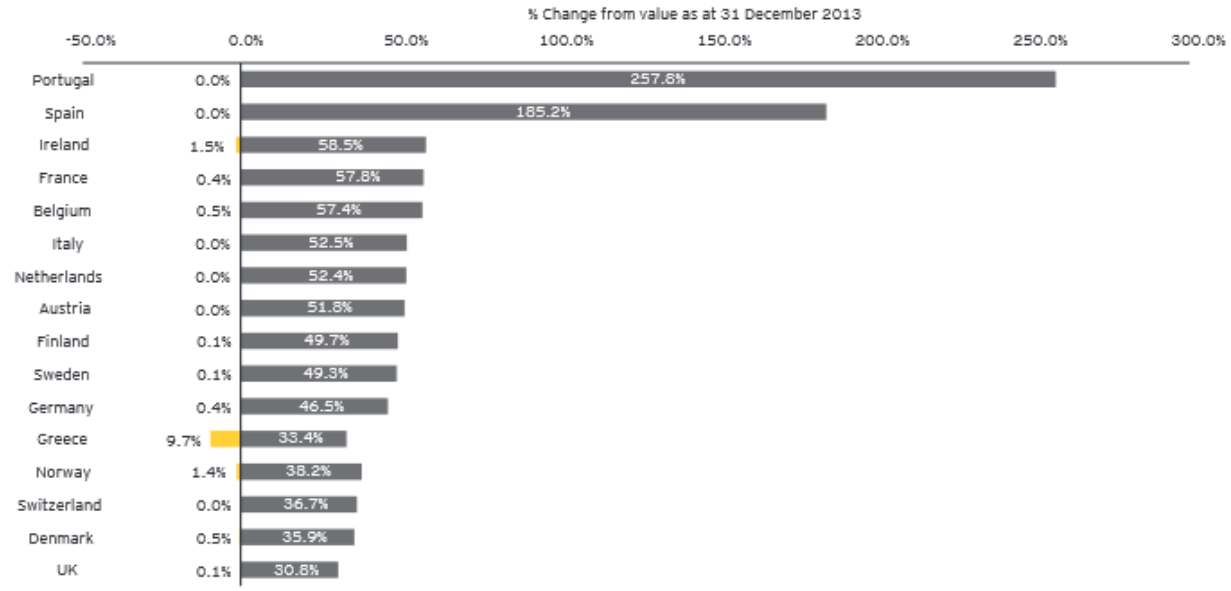


Exhibit 2C: source: EY analysis

Marine Harvest ASA

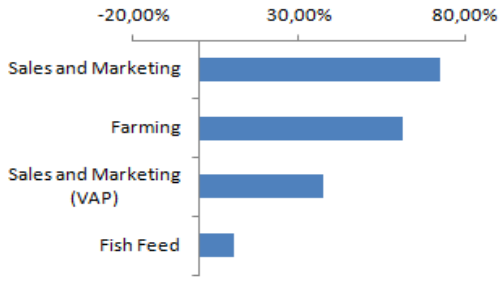
Marine Harvest ASA is a Norway-based company engaged in the production and marketing of seafood. The company operates in the farming, sales and VAP-segments. Its farming activities are located in Norway, Scotland, Canada, Chile, Ireland and the Faroe Islands. The company's product portfolio comprises salmon, halibut, coated-, smoked- and elaborated seafood, among others. The company has a market cap of NOK 57.59 billion and a beta of 0.62.

Fundamentals

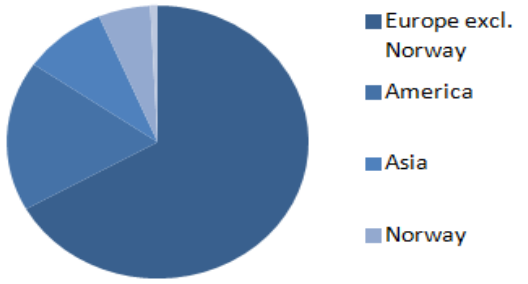
- Gross margin: 40.70%
- Operating margin: 22.20%
- Net margin: 10.36%
- Asset turnover: 0,21
- Return on Equity: 4.60%
- Debt / Equity: 56.56%

Segments

Business (revenue 2015)



Geographic (revenue 2015)



Austevoll Seafood ASA

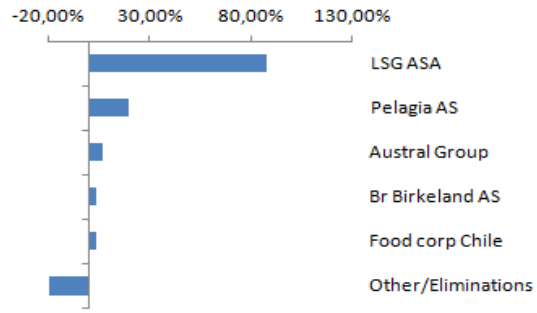
Austevoll Seafood ASA is a Norway-based company engaged in the ownership and operation of fishing vessels, fishmeal-, canning- and freezing plants, salmon farming and marketing. The company engages in the production and distribution of salmon, trout and other seafood, as well as the production of fishmeal and oil. The company has a market cap of NOK 13.73 billion and a beta of 0.61.

Fundamentals

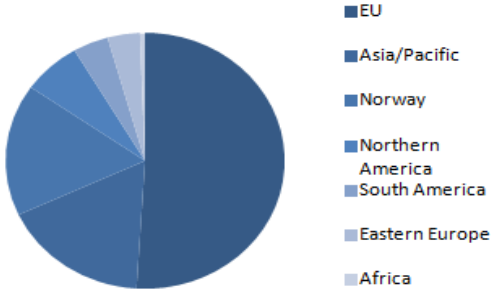
- Gross margin: 38.09%
- Operating margin: 24.81%
- Net margin: 21.32%
- Asset turnover: 0,15
- Return on Equity: 4.35%
- Debt / Equity: 80.88%

Segments

Business (revenue 2015)



Geographic (revenue 2015)



Salmar ASA

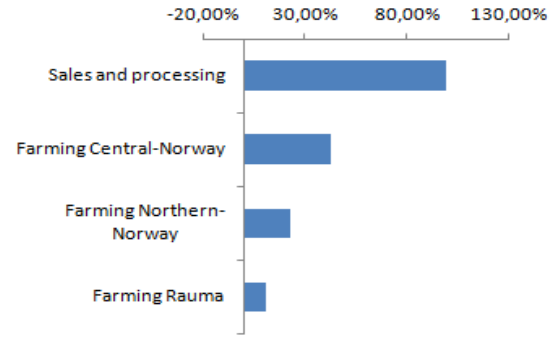
Salmar ASA is a Norway-based company active in the fish farming and processing sector. The company is primarily engaged in the production of farmed salmon. The company's main business segments are fish farming and sales/processing, which is divided into various regions in Norway. The company has a market cap of NOK 23.08 billion and a beta of 0.72

Fundamentals

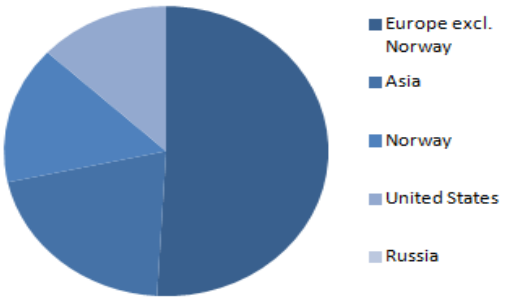
- Gross margin: 50.03%
- Operating margin: 19.30%
- Net margin: 19.01%
- Asset turnover: 0,19
- Return on Equity: 7,63%
- Debt / Equity: 56.37%

Segments

Business (revenue 2015)



Geographic (revenue 2015)



Lerøy Seafood Group ASA

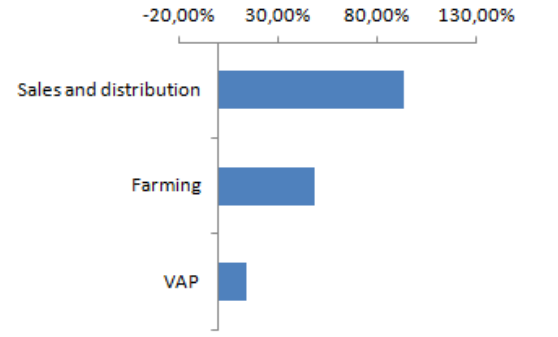
Lerøy Seafood Group ASA is a Norway-based company active in the seafood industry. The company is engaged in the farming, processing, packaging and marketing of seafood, mainly Atlantic salmon and trout. The company has a market cap of NOK 2.65 billion and a beta of 0.82

Fundamentals

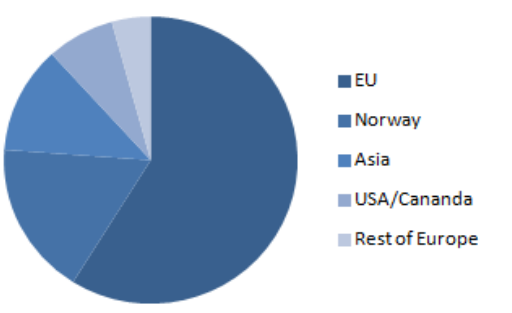
- Gross margin: 35.70%
- Operating margin: 29.23%
- Net margin: 24.65%
- Asset turnover: 0.23
- Return on Equity: 11.08%
- Debt / Equity: 48.72%

Segments

Business (revenue 2015)



Geographic (revenue 2015)



Havfisk ASA

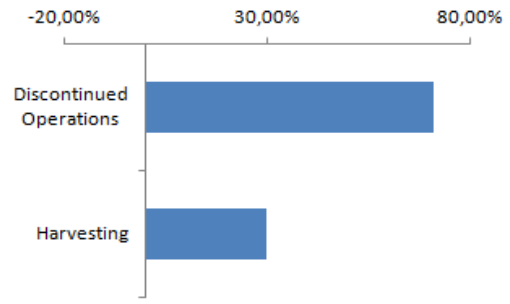
Havfisk ASA, formerly known as Aker Seafoods ASA, is a Norway-based seafood company engaged in producing and distributing seafood products, primarily focusing on white fish. Its business areas include harvesting, processing, as well as sales and marketing. It has a fleet of 12 trawlers operating in Norway, as well as 2 in Spain. Its seafood processing plants are located in Norway, Denmark and France. The company has a market cap of NOK 2.65 billion and a beta of 0.82

Fundamentals

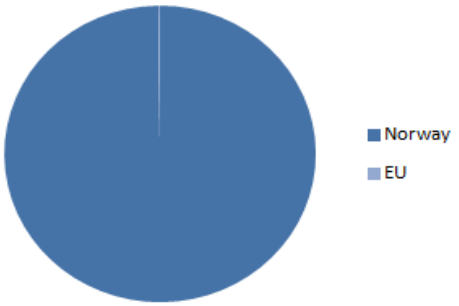
- Gross margin: 89.72%
- Operating margin: 30.83%
- Net margin: 21.67%
- Asset turnover: 0.14
- Return on Equity: 8.15%
- Debt / Equity: 123.67%

Segments

Business (revenue 2015)



Geographic (revenue 2015)



Grieg Seafood ASA

Grieg Seafood ASA is a Norway-based fish farming company active in the seafood industry. Its business activities relate to the production and trading in the sustainable farming of salmon and trout. The company has operations in Norway, Canada and the United Kingdom, and holds 100 licenses for salmon production. The company has a market cap of NOK 4.58 billion and a beta of 0.85

Fundamentals

- Gross margin: 36.40%
- Operating margin: 17.79%
- Net margin: 13.56%
- Asset turnover: 0.20
- Return on Equity: 7.11%
- Debt / Equity: 104.59%

Grieg Seafood ASA	
	Grieg Seafood ASA is a Norway-based fish farming company active in the seafood industry. Its business activities relate to the production and trading in the sustainable farming of salmon and trout. The company has operations in Norway, Canada and the United Kingdom, and holds 100 licenses for salmon production. The company has a market cap of NOK 4.58 billion and a beta of 0.85
Fundamentals	
• Gross margin: 36.40% • Operating margin: 17.79% • Net margin: 13.56%	• Asset turnover: 0.20 • Return on Equity: 7.11% • Debt / Equity: 104.59%

Norway Royal Salmon ASA	
	Norway Royal Salmon ASA is a Norway-based fish farming company. The company has activities in two main segments, namely fish farming and sales, which includes salmon farming and harvesting activities. Norway Royal Salmon's product offering includes fresh and frozen salmon and trout, and the company is involved in all stages of the production process. The company has a market cap of NOK 4.66 billion and a beta of 0.8
Fundamentals	
• Gross margin: 16.87% • Operating margin: 9.17% • Net margin: 19.74%	• Asset turnover: 0.36 • Return on Equity: 18.19% • Debt / Equity: 62.84%

Exhibit 2D

INCOME STATEMENT DKK 1000	2015	2014	2013	2012	2011
Farming	2273595	2099471	1991552	1371660	982157
External operations	1763498	1412509	1373238	1015496	643031
Europe	823401	500242	467582	499094	275528
USA	430503	387392	376908	242249	275441
China	296396	328252	367354	165097	84142
Other	213198	196623	161394	109056	7920
Internal operations	510097	686962	618314	356164	339126
Value Added Products	736657	913406	666172	526256	507242
External operations	736657	913406	666172	526256	507242
Europe	682319	860411	646440	513668	498193
USA	41741	35680	7178	1541	0
China	4476	8988	3905	9165	4582
Other	8121	8327	8649	1882	4467
Internal operations	0	0	0	0	0
Fishmeal, oil and feed	1048053	970730	1083009	889337	508717
External operations	350209	357404	451671	313790	170821
Europe	350209	357404	451671	313790	170821
USA	0	0	0	0	0
China	0	0	0	0	0
Other	0	0	0	0	0
Internal operations	697844	613326	631338	575547	337896
Eliminations	-1207941	-1300288	-1249652	-931711	-677022
External operations	0	0	0	0	0
Internal operations	-1207941	-1300288	-1249652	-931711	-677022
Total revenue	**2850364**	**2683319**	**2491081**	**1855542**	**1321094**

Purchase of goods	-1201208	-913130	-1064666	-835494	-450815
Change in inventory and biological assets	424143	96560	81924	75990	19796
COGS	-777065	-816570	-982742	-759504	-431019
Salary and personnel expenses	-281085	-263897	-232871	-210115	-168144
Other operation expenses	-683532	-671908	-601799	-482641	-319458
EBITDA	1108682	930944	673669	403282	402473
Depreciation	-108098	-97169	-86659	-80244	-67325
EBITA	**1000584**	**833775**	**587010**	**323038**	**335148**
Fair value adjustments on biological assets	-27578	-11547	115352	90546	-45882
Onerous contracts	-51004	70908	-24830	-46078	2856
Income from associates	6757	-845	23788	-6442	-2021
Acquisiton costs	0	0	0	0	-16019
Loss from sale of subsidery	0	0	0	-17546	0
Badwill related to acquisitions	0	0	0	0	126618
Earnings before interest and taxes (EBIT)	**928759**	**892291**	**701320**	**343518**	**400700**
Financial income	3599	4575	6239	3436	2835
Net interest expenses	-24622	-32376	-28929	-20924	-30830
Net currency effects	23350	40448	53151	-145	-609
Other finacial expenses	-6614	-5747	-4430	-2206	-1898
Earnings before taxes (EBT)	**924472**	**899191**	**727351**	**323679**	**370198**
Taxes	-114296	-252086	-138133	-55806	-46779
Profit/Loss Continuing operations	**810176**	**647105**	**589218**	**267873**	**323419**
Profit/Loss Discontinued operations	0	0	0	13462	0
Profit/Loss for the year attributable to Non-controlling interests	0	0	0	0	-1971
Owners of P/F Bakkafrost	**810176**	**647105**	**589218**	**281335**	**325390**

Exhibit 3A

BALANCE SHEET	2015	2014	2013	2012	2011
ASSETS					
Non-current assets					
Intangible assets	294675	294675	294675	293675	369955
Goodwill	4537	4537	4537	3537	3537
Acquisitions	0	0	1000	0	0
Disposals	0	0	0	0	0
Licences	290138	290138	290138	290138	366418
Acquisitions	0	0	0	0	233710
Disposals	0	0	0	-76280	0
Total intangible assets	294675	294675	294675	293675	369955
Land buildings and other real estate	585741	400271	390997	360451	366468
Plant machinery and operating equipment	797450	491462	465247	413189	446403
Other operating equipment	44094	35002	25839	22448	15652
Prepayments for purchase of PP&E	104208	114513	34613	16680	0
Total property, plant and equipment	1531493	1041248	916696	812768	828523
Non-current financial assets					
Investments in associated companies	105785	100130	113711	88867	33635
Investments in stocks and shares	25108	25289	1593	2345	2220
Long-term receivables	0	1291	1504	0	0
Total non-current financial assets	130893	126710	116808	91212	35855
TOTAL NON-CURRENT ASSETS	1957061	1462633	1328179	1197655	1234333
Current assets					
Biological assets (biomass)	1060273	1013959	965896	746958	700336
Inventory	421966	266960	235489	242898	179179
Total inventory	1482239	1280919	1201385	989856	879515
Accounts receivables	199263	172360	278432	212357	154496
Other receivables	179971	141912	122153	145998	16562
Total receivables	379234	314272	400585	358355	171058
Cash and cash equivalents	101852	405109	182077	25045	16868
TOTAL CURRENT ASSETS	**1963325**	**2000300**	**1784047**	**1373256**	**1067441**
TOTAL ASSETS	**3920386**	**3462933**	**3112226**	**2570911**	**2301774**

EQUITY AND LIABILITIES					
Equity					
Share capital	48858	48858	48858	48858	48858
Other equity	2531624	2014795	1616419	1214054	977596
Non-controlling interests	0	0	0	0	34557
Total equity	2580482	2063653	1665277	1262912	1061011
Liabilities					
Non-current					
Deferred taxes	349546	414014	310925	258441	256023
Long-term interest bearing debts	447559	505393	685151	731948	733693
Derivatives	128804	116928	74889	0	0
Total non-current liabilities	925909	1036335	1070965	990389	989716
Current					
Short-term interst bearing debt	0	100000	100000	100000	100000
Accounts payable and other debt	413995	262945	275984	217610	151047
Total current liabilities	413995	362945	375984	317610	251047
Total liabilities	**1339904**	**1399280**	**1446949**	**1307999**	**1240763**
TOTAL EQUITY AND LIABILITIES	**3920386**	**3462933**	**3112226**	**2570911**	**2301774**

Exhibit 3B

CASH FLOW STATEMENT DKK 1000	2015	2014	2013	2012	2011
Cash flow from operations					
Operating profit (EBIT)	928759	892291	701320	343518	400700
Adjustments for write-downs and depreciation	112812	104476	96878	83224	67325
Adjustments for value adjustments on biomass	27578	11547	-115352	-90546	45882
Adjustments for income from associates	-6758	845	-23788	6442	2021
Adjustments for currency effects	27138	40452	53151	3078	0
Adjustment for loss from sale of subsidiary	0	0	0	17546	0
Adjustments for badwill	0	0	0	0	-126618
Provision for onerous contracts	51004	-70908	24830	46078	-2856
Taxes paid	-148225	-81381	-46620	-72612	-32490
Changes in inventory	-228898	-91084	-96179	-84929	24455
Changes in receivables	-60296	152166	-109359	-86437	32081
Changes in current debt	64725	-81166	32952	120236	-598
Cash flow from operations	767839	877238	517833	285598	409902
Cash flow from investments					
Aquisition/sale of subsidiaries and activities, etc., net	0	2450	0	46843	-976770
Proceeds from sale of fixed assets	4801	8227	1776	541	1436
Proceeds from sale of financial assets	0	0	0	0	349530
Payments made for purchase of fixed assets	-607627	-237255	-199821	-114250	-98009
Purchase of shares and other investments	0	-13409	-7253	0	-700
Change in long-term receivables	1314	181	909	0	796
Cash flow from investments	-601512	-239806	-204389	-66866	-723717
Cash flow from financing					
Proceeds from issuing bonds	0	0	505051	0	0
Repayment of long-term debt	-100000	-100000	-100000	-100000	0
Change in revolving credit facilities	-51076	-71850	-445727	98255	543094
Acquisition of minorities	0	0	0	-30000	0
Financial income	3601	4558	6239	3436	2835
Financial expenses	-31235	-38106	-33359	-26208	-33337
Proceeds/Acqusition of treasury shares	6092	3437	-28106	0	0
Financing of associates	-5981	5721	37392	-107182	0
Dividend paid	-290984	-218160	-97603	-48858	-191035
Cash flow from financing	-469583	-414400	-156113	-210557	321557
Net change in cash and cash equivalents in period	-303256	223032	157331	8175	7742

Exhibit 3C

Debt financing	
Listed bonds	Unsecured, 5 year tenor bonds issued by BAKKA in Feb 2013 at a total nominal value of NOK 500 million. Bonds listed on the market 03/05/2013, and measured at fair value at initial recognition. Interest rate equals 3-month NIBOR plus 4.15 percent margin. The bonds have no official credit rating. Following the issuance, BAKKA entered a currency/interest rate swap, switching 3-month NIBOR for 3-month CIBOR due to its exposure to DKK.
Bank financing	Multicurrency revolving credit facility of DKK 850 million for a five year period, entered in Dec 2015. Agreement has an accordion increase option of DKK 750 million maximum. Interest is based on reference interest rate for given currency plus a margin, based on BAKKAs leverage ratio. Agreement secured in PPE and other material and fixed assets, stock, farming licenses and insurance policies.

Exhibit 3D

Qualitative assessment of business and financial risks	
Supportive business risk profile elements	- BAKKA being a low-cost producer, with significantly higher operating margins than its fish farming peers - Solid demand/supply fundamentals in the salmon market - Currently strong farming conditions in the Faroe Islands - Strong business diversification, controlling the whole value chain - Favorable geographical location, providing ideal conditions for fish farming - Conservative financial profile
Challenging business risk profile elements	- Exposure to a highly volatile sales prices - Volatile raw material prices - Significant biological risk - No geographical diversification - Regulatory risk related to tax regime - Risk related to new operational practice imposed through the investment program

Exhibit 3E

	Industry Median	2015	2014	2013	2012	2011
Earnings Quality Score	43	46	74	69	63	37
− Liquidity						
Quick Ratio	1.04	1.16	1.98	1.55	1.21	0.75
Current Ratio	1.78	4.74	5.51	4.75	4.32	4.25
Times Interest Earned	12.6	38.6	28.0	19.6	13.5	13.5
Cash Cycle (Days)	95.3	619.1	545.0	397.2	413.7	534.5
− Leverage						
Assets/Equity	2.13	1.52	1.68	1.87	2.04	2.24
Debt/Equity	0.43	0.17	0.29	0.47	0.66	0.81
% LT Debt to Total Capital	16.6%	14.8%	18.9%	28.0%	34.9%	38.7%
(Total Debt - Cash) / EBITDA	1.34	0.26	0.40	1.09	2.27	1.09

Exhibit 3EE, source: Thomson Reuters Eikon

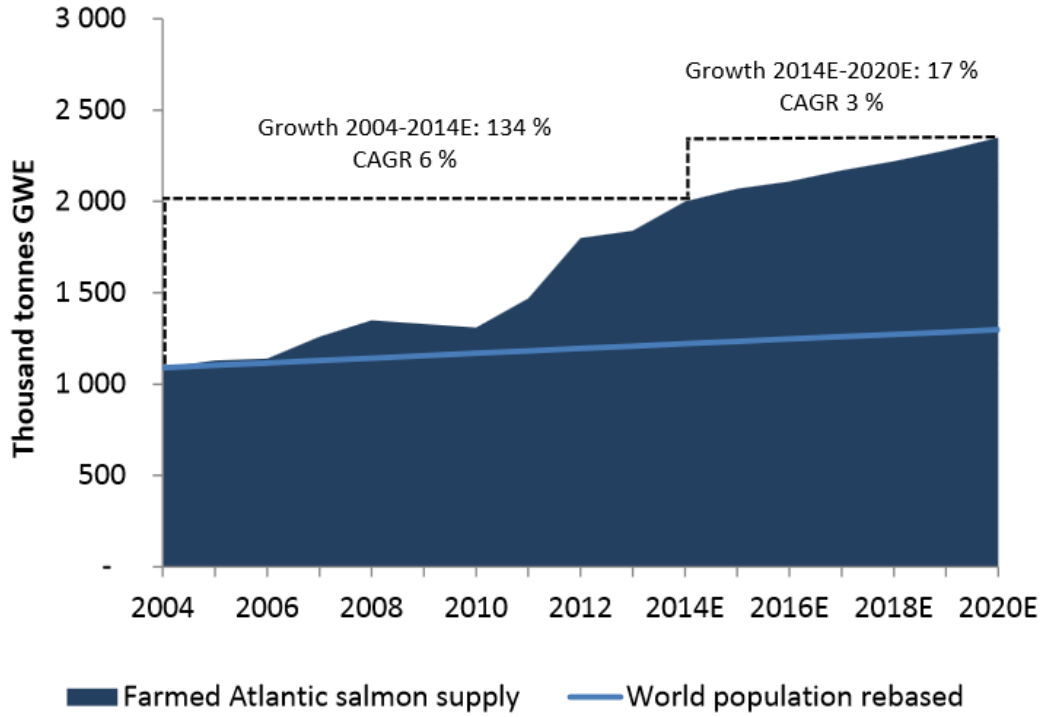


Exhibit 3F: source: marineharvest.com; *Salmon supply, salmon industry handbook*

Farming	2015	2014	2013	Sum	Average	Weight
Europe	163750	151906	467582	783238	261079,33	19,5%
Russia / Eastern Europe	659651	348336	127711	1135698	378566	28,2%
USA	430503	387392	376908	1194803	398267,67	29,7%
China	213198	328252	367354	908804	302934,67	22,6%
Sum					1340847,7	100,0%

Farming sales revenue growth		Industry-specific premium (+10bps)	Adj. Farming sales revenue growth	
2016	1,91%	0,10%	2016	2,01%
2017	2,64%	0,10%	2017	2,74%
2018	2,67%	0,10%	2018	2,77%
2019	2,73%	0,10%	2019	2,83%
2020	2,74%	0,10%	2020	2,84%
2021	2,73%	0,10%	2021	2,83%

VAP	2015	2014	2013	Sum	Average	Weight
Europe	642591	837419	646440	2126450	708816,67	64,9%
Russia / Eastern Europe	348336	22992	6349	377677	125892,33	11,5%
USA	387392	35680	1541	424613	141537,67	13,0%
China	328252	8988	9165	346405	115468,33	10,6%
Sum					1091715	100,0%

VAP sales revenue growth		Industry-specific premium (+10bps)	Adj. VAP sales revenue growth	
2016	1,74%	0,10%	2016	1,84%
2017	2,11%	0,10%	2017	2,21%
2018	2,08%	0,10%	2018	2,18%
2019	2,14%	0,10%	2019	2,24%
2020	2,10%	0,10%	2020	2,20%
2021	2,07%	0,10%	2021	2,17%

FOF	2015	2014	2013	Sum	Average	Weight
Europe	350209	357404	451671	1159284	386428	100,0%
Russia / Eastern Europe	0	0	0	0	0	0,0%
USA	0	0	0	0	0	0,0%
China	0	0	0	0	0	0,0%
Sum					386428	100,0%

FOF sales revenue growth		Industry-specific premium (0bps)	Adj. FOF sales revenue growth	
2016	1,51%	0%	2016	1,51%
2017	1,63%	0%	2017	1,63%
2018	1,56%	0%	2018	1,56%
2019	1,57%	0%	2019	1,57%
2020	1,54%	0%	2020	1,54%
2021	1,49%	0%	2021	1,49%

Exhibit 3G: Revenue growth for explicit forecast period

Perfomance metrics & drivers	2011 (H)	2012 (H)	2013 (H)	2014 (H)	2015 (H)	2016	2017	2018	2019	2020	2021
Operating revenue											
Revenue growth (Farming)		39,7%	45,2%	5,4%	8,3%	2,0%	2,7%	2,8%	2,9%	2,8%	2,8%
Revenue growth (VAP)		3,7%	26,6%	37,1%	-19,4%	1,8%	2,2%	2,2%	2,2%	2,2%	2,2%
Revenue growth (FOF)		74,8%	21,8%	-10,4%	8,0%	1,5%	1,6%	1,6%	1,6%	1,5%	1,5%
Elimination / sales		33,9%	33,4%	33,4%	32,6%	32,0%	31,3%	30,7%	30,1%	29,5%	28,9%
yoy growth			*-1,3%*	*-0,1%*	*-2,3%*	*-2,0%*	*-2,0%*	*-2,0%*	*-2,0%*	*-2,0%*	*-2,0%*
Operating costs											
COGS / sales	32,6%	40,9%	39,5%	30,4%	27,3%	26,2%	19,0%	17,0%	17,0%	17,0%	17,0%
SG&A / sales (3 year average)	36,9%	37,3%	33,5%	34,9%	33,8%	34,1%	34,1%	34,1%	34,1%	34,1%	34,1%
Depreciation / sales	5,1%	4,3%	3,5%	3,6%	3,8%	3,8%	3,8%	3,8%	3,8%	3,8%	3,8%
Fair value adj. (bio assets) / sales	-3,5%	4,9%	4,6%	-0,4%	-1,0%	-	-	-	-	-	-
Onerous contracts / sales	0,2%	-2,5%	-1,0%	2,6%	-1,8%	-	-	-	-	-	-
Income from associates / sales	-0,2%	-0,3%	1,0%	0,0%	0,2%	-	-	-	-	-	-
Financial income / sales (3 year average)	0,2%	0,2%	0,3%	0,2%	0,1%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%
Financial expenses / sales (3 year average)	-2,5%	-1,2%	-1,3%	-1,4%	-1,1%	-1,3%	-1,3%	-1,3%	-1,3%	-1,3%	-1,3%
Net currency effects / sales	0,0%	0,0%	2,1%	1,5%	0,8%						
Effective tax rate (3 year average)	-12,6%	-17,2%	-19,0%	-28,0%	-12,4%	-19,8%	-19,8%	-19,8%	-19,8%	-19,8%	-19,8%
Net capital expenditures / sales	7,3%	6,1%	8,0%	8,5%	21,1%	21,1%	21,1%	7,1%	7,1%	7,1%	7,1%

Working capital drivers	2011 (H)	2012 (H)	2013 (H)	2014 (H)	2015 (H)	2016	2017	2018	2019	2020	2021
Accounts receivalble / sales	11,7%	11,4%	11,2%	6,4%	7,0%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%
Biological assets & other inventory / COGS	204%	130%	122%	157%	191%	157%	157%	157%	157%	157%	157%
Other current assets / COGS	3,8%	19,2%	12,4%	17,4%	23,2%	17,7%	17,7%	17,7%	17,7%	17,7%	17,7%
Accounts payable / COGS	35,0%	28,7%	28,1%	32,2%	53,3%	37,9%	37,9%	37,9%	37,9%	37,9%	37,9%

Exhibit 3GG

Working capital drivers	2013 (H)	2014 (H)	2015 (H)	2016	2017	2018	2019	2020	2021
Accounts receivalble / sales	11,2%	6,4%	7,0%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%
Biological assets & other inventory / COGS	122%	157%	191%	157%	157%	157%	157%	157%	157%
Other current assets / COGS	12,4%	17,4%	23,2%	17,7%	17,7%	17,7%	17,7%	17,7%	17,7%
Accounts payable / COGS	28,1%	32,2%	53,3%	37,9%	37,9%	37,9%	37,9%	37,9%	37,9%

Exhibit 3H

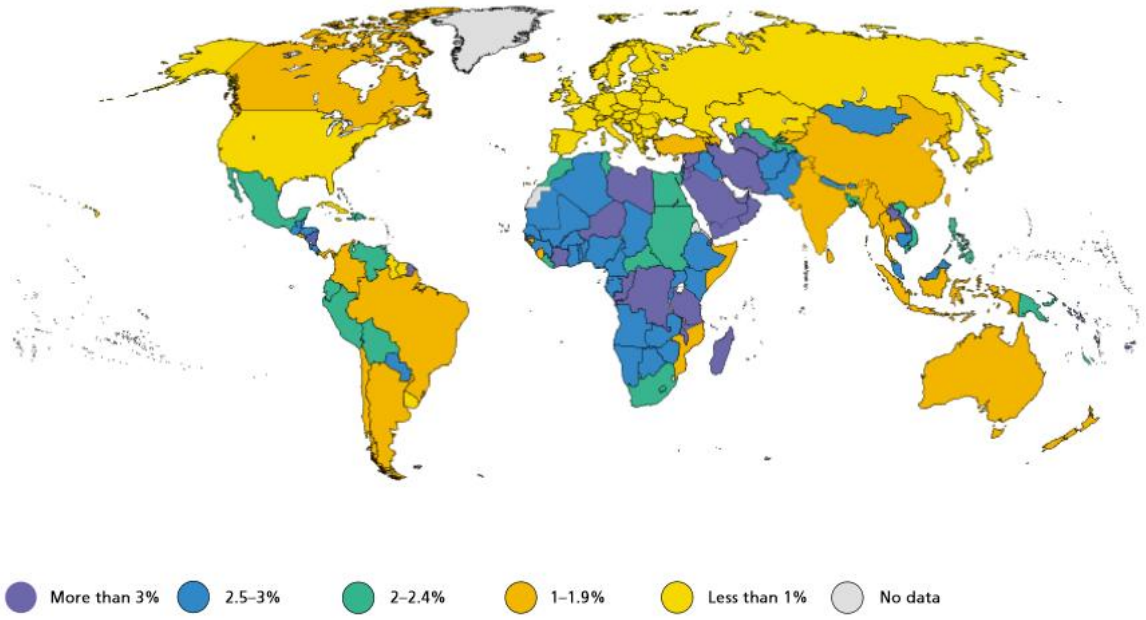


Exhibit 3I: source: http://www.worldbank.org/depweb/beyond/beyondco/beg_03.pdf

Forward multiples

Price Multiple	*Fundamental per share*	*Price per share*
P / E	16,58	178,56
P / OCF	15,72	125,82
P / B	52,82	128,40
Average		144,26

Exhibit 3J

Forward multiples

Price Multiple	*Fundamental per share*	*Price per share*
P / E	16,58	178,5614606
P / OCF	15,72	125,8225023
P / B	52,82	128,3977326
Average		144,2605652

Historical multiples

EV multiple	*Fundamental (in 1000)*	*EV*	*Price per share*
EV / Revenue	2850364	5328490954	109,0606219
EV / EBITDA	1108682	16467696861	337,0517613
EV / EBIT	928759	15471187231	316,6557503
EV / OCF	767839	13430553019	274,8891717
Average			259,4143263

Exhibit 3K

Bakkafrost
BAKKA NO/Seafood/Norway

Equity rating
ACCUMULATE / TP NOK 270

Credit rating
BB- / ACCUMULATE

The Faroese margin story

What's new: Initiating coverage
Our take: Optimal farming conditions in Faroese waters leave BAKKA with a competitive advantage, but rich pricing and operational risk curbs our enthusiasm. ACCUMULATE.

We initiate coverage on BAKKA with an accumulate recommendation and a target price of NOK 270. For the debt, we issue a BB- company rating and BB-/Accumulate on the Sr. Unsecured BAKKA01.

Our NOK 270 target represents an EV/EBITDA multiple, including working capital, of about 10, and a forward PE of about 13, and a dividend yield of about 3%.

World supply growth in salmon could rise 1% or less in 2016, and a more normal 3% in 2017. In line with supply tightness we see a strong market in the first half of 2016, and thus slightly stronger prices in 2016 (NOK 46) than in 2017 (NOK 45).

Fully vertically integrated value chain, optimal farming conditions, a premium product portfolio and benefits from access to the Russian market are all positives, but rich multiples and challenges related to new operational practices makes us hesitant to go all in at today's price. We estimate that Bakkafrost earned DKK 2.00/share extra in 2015 by being able to sell to Russia when Norway can't. We estimate a DKK 1.50/share boost from Russia in 2016, but no boost in 2017.

There is an upside potential to dividend estimates due to low gearing.

Some of the triggers for Bakkafrost are the opposite of its Norwegian and Chilean competitors – better biology in Norway (lice, ILA, PD) or Chile (SRS) could reduce some of the earnings outperformance that Bakkafrost has to peers.

We believe a premium is deserved compared to the average farmer, but see most of the margin- and Russia story to be priced in.

Exhibit 4A, source: fearnley securities research note

Bakkafrost (DKKm)	2015E	2016E	2017E	2018E
Operating revenues	2,816	2,627	2,662	2,784
EBITDA (adj.)	1,052	1,156	1,138	1,220
EBIT (adj.)	**942**	**1,019**	**990**	**1,067**
EBIT margin	33.5 %	38.8 %	37.2 %	38.3 %
Pre-tax profit	826	1,039	1,006	1,100
Minorities	0	0	0	0
Net income, reported	**647**	**795**	**769**	**841**
Net income, adjusted	**758**	**795**	**769**	**841**
EPS (adj)	15.52	16.26	15.74	17.22
DPS	6.00	7.00	8.00	9.00
No.shares in EPS calc	48.82	48.86	48.86	48.86

Cash Flow & Balance items	2015E	2016E	2017E	2018E
Cash flow from operations	862	925	900	918
Capex	-552	-340	-230	-239
Free cash flow	**311**	**585**	**670**	**679**
Net debt	261	21	-255	-491
Dividends	-295	-345	-394	-443
Net working capital	1,409	1,379	1,365	1,409

Revenue breakdown	2015E	2016E	2017E	2018E
Farming	2,278	2,397	2,357	2,487
Value-added products	749	666	716	766
Fish meal, fish oil and fish feed	1,045	904	922	903
Eliminations	-1,256	-1,341	-1,333	-1,371
Total	**2,816**	**2,627**	**2,662**	**2,784**

EBIT breakdown	2015E	2016E	2017E	2018E
Farming	831	963	873	942
Value-added products	73	42	95	111
Fish meal, fish oil and fish feed	161	123	122	121
Eliminations	-124	-109	-101	-106
SUM	**942**	**1,019**	**990**	**1,067**

Exhibit 4B, source: fearnley securities research note

VALUATION	Target 2016	Price/kg	Capacity
Fish farming	7,450	142	53
VAP	450	17	26
Net working capital	1,409	27	53
Havsbrun	1,340	17	80
FF Skagen (17% share)	120		
Faroe Farming (49% stake)	380	127	3
Eliminations	-720		
Gross value/EV	**10,429**	**9,573**	
Net debt	-21	-21	
NAV/Equity value	**10,409**	**9,552**	
Shares outstanding	48.9	48.9	
Value per share (DKK)	**213**	**195**	
DKKNOK, end	1.27	1.27	
Value per share (NOK)	**270**	**248**	

Exhibit 4C, source: fearnley securities research note

EV/ EBITDA (12m fwd), excl. working capital, minority						
Aquaculture	FS current	CS current	Min	Avg	High	Vs Ave
Austevoll Seafood ASA	4.3	4.4	2.8	5.3	10.8	-16%
Bakkafrost P/F	7.9	8.8	4.4	6.0	9.1	48%
Leroy Seafood Group ASA	7.3	7.5	3.9	6.2	10.8	20%
Marine Harvest ASA	9.4	9.3	4.9	7.4	13.6	26%
SalMar ASA	7.5	8.5	4.7	7.1	10.2	20%
Schouw & Co A/S	7.6	8.8	4.2	6.6	10.0	32%
Scottish Salmon Company Plc		5.9	3.1	4.7	7.4	27%
Grieg Seafood ASA		7.0	3.7	5.7	10.4	23%
Norway Royal Salmon ASA		10.3	3.7	6.0	10.0	70%
Tassal Group Limited		8.3	4.1	6.9	13.1	20%
Average	***7.9***	***8.3***	***4.1***	***6.3***	***10.5***	

Exhibit 4D, source: fearnley securities research note

COMPANY	ANALYST	COUNTRY	RATING
ABG Sundal Collier	*Vidar Kristoffer Strat*	Norway	Hold
Carnegie	*Salman Alam*	Norway	Hold
Danske Equities	*Knut-Ivar Bakken*	Norway	Sell
DNB	*Alexander Aukner*	Norway	Hold
Fearnley Securities	*Bruce Diesen*	Norway	Accumulate
Fondsfinans	*Bent Rølland*	Norway	N/A
Handelsbanken	*Kjetil Lye*	Norway	Accumulate
Nordea	*Kolbjørn Giskeødegård*	Norway	Buy
Norne	*Karl Johan Molnes*	Norway	N/A
Pareto	*Henning Lund*	Norway	Not public
SEB	*Markus Bjerke*	Norway	N/A
SpareBank 1	*Tore Tønseth*	Norway	N/A
Swedbank	*Marius Gaard*	Norway	N/A

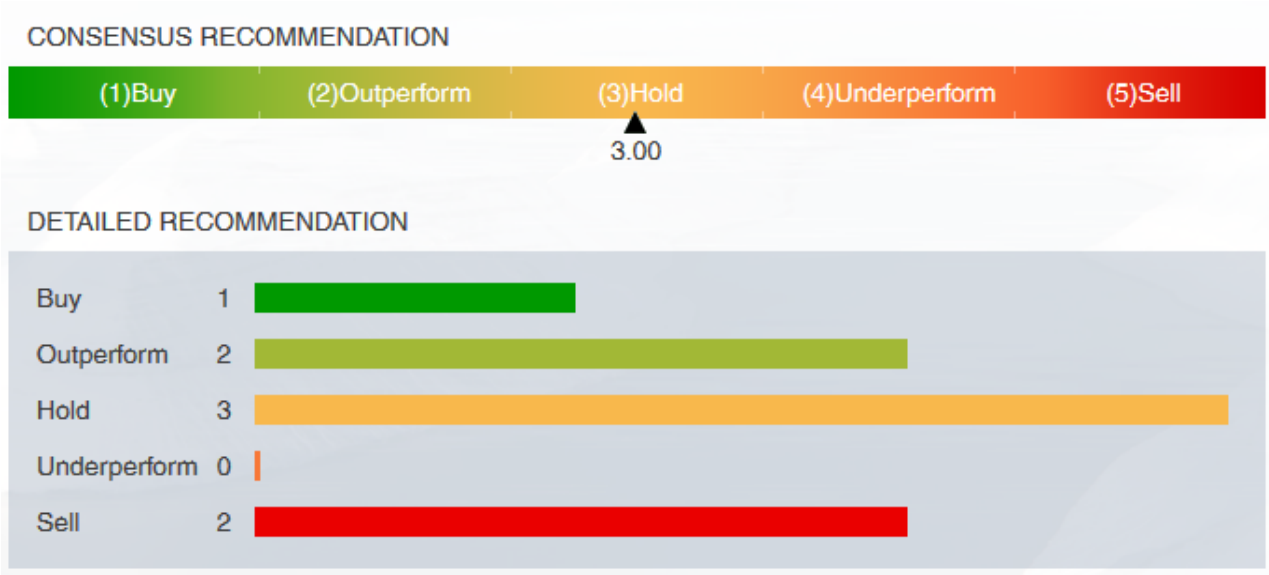


Exhibit 4E, source: bakkafrost.com