



INVESTMENT CASE: SOLSTAD OFFSHORE

- A Norwegian OSV-company tries to navigate a depressed industry

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Executive Summary

As a result of the significant drop in the oil price in 2014, the oil and gas industry is expected to reduced its spending in 2016 by ~25%, implying a reduction in spending of ~48% from its peak. In effect, the oil and gas companies have shifted their focus from new investments to existing production. The slowdown in the market has led to an oversupply of oil rigs, resulting in an historically low utilization rate for the OSVs. This has led to some companies working with day rates well below operational costs.

China and emerging economies demand for oil rapidly slowed down after a longer period of unquenchable thirst. U.S. and Saudi Arabia's continuous production of oil for their respective reasons led to further pressure on the oil price. Accurately predicting the future oil price is beyond our capabilities and highly speculative by nature, but an estimate based on our research leads us to believe in a gradual normalization towards ~USD 60/bbl. It appears unlikely that the market will see oil prices at 2000-2008 and 2010-2014 levels. This will force many O&G companies to develop innovative solutions to maintain a sustainable production.

Over the observed period Solstad and its peers have delivered a return on invested capital (ROIC) below their weighted average cost of capital (WACC), destroying value for its shareholders. Today, the situation has worsened, but we expect this to bottom out in 2016 and estimate a slow growth from 2017 and onwards, particularly in the Subsea segment. Solstad has one newbuild entering the market in 2016 and therefore cash reserves will not only go to pay down existing debt, but down payments on their new vessel. There is a risk of Solstad not being able pay down service debts and deliver a satisfactory invested capital in the future which has resulted in the share price to plummet. As a result, Solstad's market value of equity dropped and are now operating with a capital structure of ~95% debt.

We calculated a share price of NOK 8,18, down from NOK 15,20 as of 18/04-16. We do not however, recommend either buy/hold/sell as the share and market is too volatile in our eyes. Nevertheless, the low share price may suggest some good investment opportunities in Solstad and the OSV-segment. Due to the significant crack in share price for all the OSV-companies during the past year, we believe there is a necessity and an opportunity for companies to look beyond today's low oil price to secure growth through acquisition. Solstad can capitalize on the situation and secure a stronger market position by acquiring a smaller player with focus on the Subsea-segment. Another possibility is for a larger, international shipping conglomerate with financial strength to acquire Solstad.

Solstad's focus onwards will be on finding solutions in the market; be it merger, acquisitions or refinancing to meet their crippling debt obligations. This master's thesis investigate how the new market conditions affect the intrinsic value of the publicly traded company Solstad Offshore ASA, and the possibilities and challenges that may lie ahead.

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1. Introduction

In the last 15 years the Norwegian ship-owners have made its impression on the global shipping industry through an expansive fleet policy and aggressive new building programs. The first supply ships servicing the Norwegian Continental Shelf started to appear in the early 1970s, and were converted fishing vessels.¹ Norway is seen as a global leader in offshore oil and gas drilling activities, also having the newest and highest level of offshore supply vessel technologies. Decades of technological development and economic prosperity has given the companies in the North Sea a strong market position globally. Furthermore, Norwegian shipyards are renowned for being market leaders in the construction of high-end vessels. During this economic rally, banks and other lending institutions have funded the sector with favorable returns. However, such rapid growth characterized by large investments and accompanied with increased debt also has a negative impact. Since the OSV-industry is mainly driven by rig activity and investments in the oil industry the decision by OPEC in November 2014 not to intervene in the global oil output, led to the oil price dropping by half of its price. Substantial cuts in investment budgets of global oil companies followed, which resulted in a massive downturn in the industry. Now, companies within the industry are standing on a pyramid of debt with massive overcapacity and in addition to high uncertainty in the oil price, the threat of bankruptcies is looming. As a result of the continuing drop in the oil price throughout 2015, the OSV-industry, along with many other oil-price dependent industries has been involuntarily dragged into the economic downturn posting huge losses. Solstad Offshore has not been exempt of the trend and is looking for solutions to restructure their balance sheets and raise additional equity.²

1.1 Motivation

We have chosen to do a firm valuation of an OSV company, as we wanted to achieve a deeper understanding of how the theories we have learned in our studies could be applied in practice. Moreover, drilling deeper into how valuations work with the help of technology that can provide investors, management or analysts with significant information have been the main catalyst for our choice of research area. We have recognized that the nature of a linear valuation is not exhaustive enough to give a fair explanation of firm value, but must be interpreted in agreement with extensive qualitative considerations to create consistent and realistic simulations. The selection of firm was amongst other reasons based on the authors desire to value a company that operates in the *Offshore Supply Vessel* (hereafter termed OSV-) industry.

¹ Norges Rederiforbund. (2011). *Norwegian offshore shipping companies - local value creation, global success.*

² Tingyao, M., & Howard, G. (November 2015). *Weak oil price plagues OSV sector.*

Therefore, intense discussion on the going concern of several of the actors within the industry, and whether or not the companies are traded at “fair value” is presently taking place amongst banks, investors and the OSV-companies themselves. The current situation in the sector is unusually severe that even some of the brokerages that would routinely develop reports on the industry have decided not to – due to lack of investment interest and market uncertainty. We find this very interesting and want to explore these issues by looking at one of the actors positioned somewhere in the midst of the industry. By doing a valuation, we analyze both strategically and financially how the firm has been doing, and how it is doing compared to its peers. However, the lack of investor interest as a result of the current industry situation has made the overall analysis slightly more challenging.

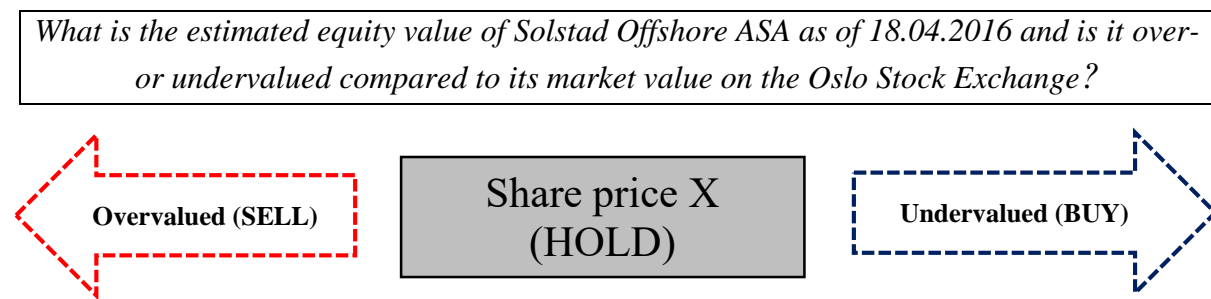
One key reason for choosing Solstad Offshore stems from a statement made recently by their Chief Executive Officer Lars Peder Solstad; “There are a colossal amount of ship-owners that operate these Offshore Supply Vessels. There is a need for consolidation – mergers of companies - in this market...”³ This has piqued our interest in exploring not only the industry and the firm by doing a valuation of the Solstad, but also to look at possible future synergies for Solstad Offshore which the company itself recognizes as an option for economic stability and future development.

1.2 Problem statement

The purpose of the thesis will be to determine the fundamental value of Solstad Offshore by applying conventional valuation methods, as well as explore a possible synergy with one or more peers and/or competitors operating in the industry. Considering the current market movements in the industry, and the apparent economic slowdown of the OSV-segment as a result of a historically low oil-price, we find it fruitful to look for any opportunity of a merger in order for Solstad to; first, stay afloat as a business by increasing operational efficiencies, improve economies of scale, and cost savings; and second, to proactively be prepared to service the industry with sufficient capacity when demand eventually normalizes. It is common during this type of exercise to recommend a theoretically calculated share price, which is then compared to the current market value on the Oslo Stock Exchange (OSEBX) as of the valuation date.⁴ However, under the current market conditions and overall financial health of the OSV-industry we will not follow this tradition as rigorous. Instead we will consider the thesis an investment case, and as a result focus having a more pragmatic approach when conducting the valuation in order for potential investors and company managements to gain a more complete look of the OSV-segment.

³ Hegnar.no. (February 2016). *Vi ønsker å ta en aktiv rolle i konsolideringen.*

⁴ 18.04.2016

Figure 1: Research question – Guiding investment case

Source: Authors' own creation, 2016

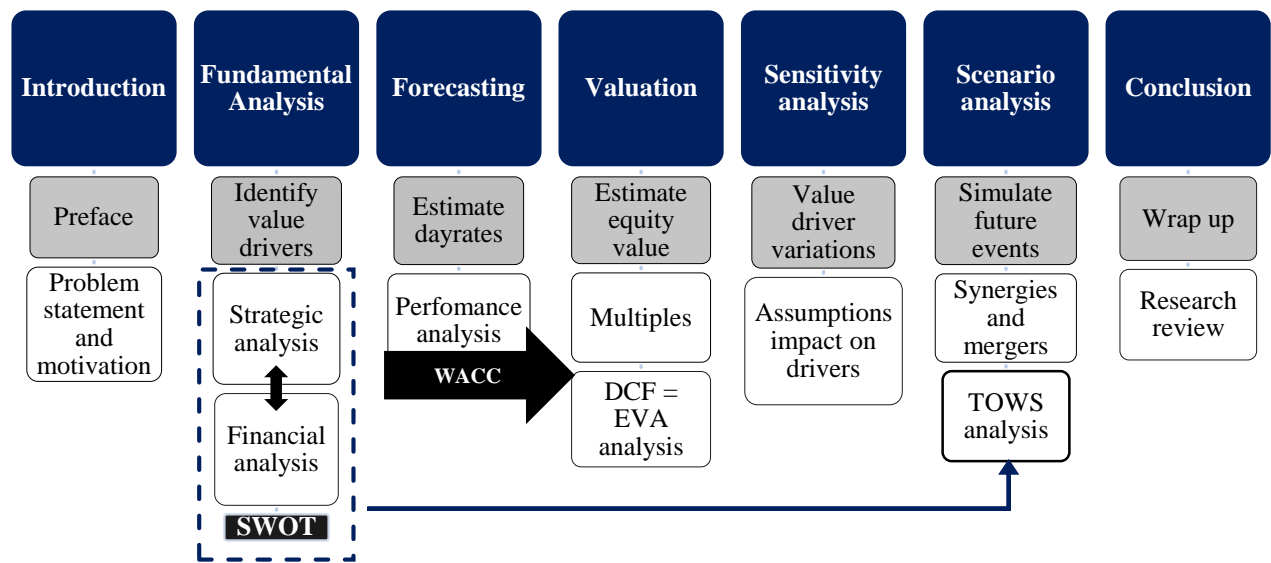
The research question is decomposed into four sub-questions in order to account for details surrounding the valuation of the company. These questions are attached to separate sections of the analysis and summarized in parts throughout the paper to increase the overall understanding of Solstad ASA, its economic environment, value, future sustainability, and growth potential.

1. *What are the relevant value drivers in the OSV sector?*
2. *What are Solstad's internal resources in regards to gaining a competitive advantage?*
3. *Based on the external and internal analysis, how is Solstad expected to perform financially in the future?*
4. *What opportunities does Solstad have when it comes to mergers or acquisitions under the current market conditions?*

1.3 Methodology

This section explains the methodological components and the models used as basis for conducting the various analyses of the company and its industry. The authors implement a range of theoretical technologies that guide the analysis, where the goal is to propose a set of conclusions regarding firm value, whether the company is traded at “fair value”, and investment recommendations. Following the valuation, a thorough scenario analysis is conducted in order to shed light on some of the different directions the company may take in the foreseeable future. The overall analytical framework, which includes the strategic and the financial analysis is visualized by figure 2 below. The figure shows, chronologically, the steps in which information flows from raw financial and qualitative data to assumptions about forecasts, industry specific drivers, and lastly a conclusion.

Figure 2: Thesis structure



Source: Authors' own creation inspired by Edward Vali, 2016

Fundamental Analysis

This phase develops a comprehensive, fundamental understanding of the OSV-industry by looking at the business cycle, value chain and the powers that decide changes in relationship between supply and demand. In this analysis, uncovering the cost and revenue drivers become a crucial piece in valuing the company in the latter parts of the paper. This section examines the external and internal forces that influence Solstad's competitiveness, compared to its industry peers. Solstad's current financial and managerial resources are thoroughly analyzed, and the company's historical development and financial performance is outlined in order to obtain a solid understanding of its adaptation to market changes.

- How has the OSV-industry developed since its inception in the early 1970s?
- What are the main drivers of the OSV-market?
- Who are Solstad's peers and how are they strategically and financially positioned?
- What is the historical performance of Solstad and its peer group?
- Which demand and supply factors influence Solstad's business?
- What resources do Solstad have which enable (if any) competitive advantage
- How has the financial recession of 2008 and the oil price crash of 2014 affected the OSV-market?

Forecasting

Historical information is used as the primary source in forecasting future performance. Thus, in order for our estimates of future company value to be as accurate as possible, the accumulation of

all the aforementioned components in the fundamental analysis of Solstad and the OSV-sector have to be detailed, precise and carefully weighted. The chapter primarily uses assumptions about future market changes - such as ship rates and oil price - to forecast Solstad's future cash flows.

- What impact will the market outlook have on future Solstad earnings (cash flows)?
- What are the day rates for the three different segments in the coming years according to our calculations?

Valuation

The simulated share price for Solstad will be estimated through the use of three elementary valuation models in order to ensure that the validity of our assumptions and forecasts are well-constructed. The following sub-questions will be used as guide to estimate equity value:

- What is the WACC in determining a fair value of Solstad?
- What is the fair value of Solstad per share when we implement the valuation technologies outlined in section 1.4?
- What is the enterprise value of Solstad when we apply multiples to our relative valuation?

Sensitivity Analysis

After the valuation a sensitivity analysis is conducted, and briefly discussed. The theory behind its application is to examine how the valuation would be affected by changing some of the value drivers. Sensitivity analysis is highly inspired by the fundamental analysis, and look at the valuation consequences to changes in industry and company specific drivers.

- How sensitive is the valuation analysis (company value) to changes in the key value drivers within a certain spectrum?

Scenario Analysis

The goal is to use realistic assumptions about future changes and potential challenges in the industry, and in extension provide advice that tries to overcome these through the lens of a practitioner. Scenario analysis is taking the sensitivity analysis a step further by not only consider financial value drivers, but create simulations where social and political issues are considered as well.

- How can Solstad's management make smart and rational decisions to overcome company adversary during market uncertainties?
- What is the potential financial and strategic synergies of merging Solstad with one of its Norwegian counterparts?
- Which international companies could be in a position to take advantage of the current market conditions and buy Solstad?

1.4 Analytical components

Overall, the methodology consists of two interdependent parts; the strategic analysis (qualitative component) and the valuation (quantitative component) which sets the precedent for further analyses.

The strategic component is split into an internal element and an external element. *“The Shipping Marketing Model”* by Martin Stopford (2009) will be the primary tool for conducting the external analysis by looking at the demand and supply factors driving the industry. In extension of Stopford’s model, Porters *“Five forces analysis”* will function as an analytical framework in order to account for the competitive environment in which the OSV-companies operate. On the other hand, the internal analysis takes use of the VRIO-model in order to reveal any competitive edge Solstad may possess by decoupling and describing its internal company specific resources.

A selection of economic models and accounting-principles presented in Plenborg and Petersen’s (2012) book *Financial Statement Analysis* is being used throughout as part of the internal financial analysis of the company (quantitative component). The accounting period of Solstad included in of our analysis stretches from 2008 to 2015, and follows the traditional DuPont-model where key accounting measures are broken down from ROE (Return on Equity) and thoroughly analyzed to reflect financial performance over time. Furthermore, we believe that implementing the SWOT-framework into our analysis of Solstad is a useful tool to uncover the resources needed to be utilized more effectively in order to survive in the current market situation. This process can uncover weaknesses and opportunities that may point to a potential merger with one or several of the companies operating in the sector. Thus, the SWOT-analysis is reengineered to the lesser known TOWS-framework where strategic solutions to market scenarios are developed.

Estimation of enterprise value will be based on three valuation methods; first, two fundamental valuation models are used; the DCF-model (*“Discounted Cash Flow”*) which weights the future cash flows of Solstad with its respective required return, and the EVA-model (*“Economic Value Added”*) to ensure that proper budgeting has been conducted in the DCF-valuation. Furthermore, the use of the EVA-model shows the analyst whether the company has been able to generate or destroy economic value in relation to the weighted average cost of capital (WACC). The estimation of WACC is a crucial component in the fundamental analysis, as it is applied as the discount rate when discounting future cash flows. The relative valuation uses aggregated multiples from external sources specializing in analyzing financial data for potential investors.

A couple of things should be carefully considered when adapting multiples into a valuation. First and foremost, the companies that are compared must to a greater extent possess the same growth

rate, risk profile, business model and capital structure characteristics. A group having many of the same characteristics form the basis for the research's multiple-analysis, and among the Norwegian OSV-cluster a peer group has been selected for this purpose. Compared to the global OSV-market, a relative large share of the Norwegian OSV-companies exhibits structural and financial similarities well-suited for such an analysis. The main focus will be on using the EV/EBITDA multiple as it excludes the capital structural differences among the companies in the peer group. Although every company in the peer group are highly leveraged and display high degrees of debt financing, the differences are significant enough to negatively affect a fair multiple-valuation based on for instance the P/E-multiple. However, considering the company is heavily invested in tangible assets in the form of ships, this analysis also see it fit in using the EV/GAV-multiple (Enterprise Value/Gross Asset Value) which is more industry specific. This multiple explores whether Solstad is being traded at a premium or at a discount based on the gross values of its ships.

1.5 Scenario analysis

In the authors' attempt to make realistic and useful advice about the potential future outcomes for Solstad, the scenario analysis focuses on being more practical and dynamic in its application. Instead of simply suggesting a traditional "sell-buy-hold"-philosophy which is often based on different forecasted growth assumptions such as rapid-, moderate-, or slow financial growth, the scenarios proposed in this research consider the effects of a wider range of factors on Solstad's future competitiveness and economic sustainability. Thus, the main purpose of this exercise is not to exclusively provide investment advice but also to make the company's managers and other relevant stakeholders aware of potential economic bottlenecks that might arise in the future. Moreover, providing managers with future challenges that only takes into account observable information rather than inferences made by forecasted economic movements appear more valuable for the decision making process that occurs in the company. The focus will therefore be on reengineering the SWOT-model into the TOWS-analysis framework which has the purpose of generating strategic advice that has been found in the application of SWOT. Furthermore, the authors have chosen to focus more on the effects on Solstad by changing the industry-specific value drivers within a practical, but conservative range. The SWOT-model differentiates itself by trying to either minimize or maximize the weaknesses and strengths as well as the opportunities and threats to Solstad.

Most importantly, we have decided to value REM Offshore ASA— one that is not deemed a peer. REM is significantly smaller, and has a vessel composition much like Solstad which we consider to be fitting candidate that can motivate future company growth under a potential merger case. Regardless of minimal research and financial modelling on synergies in the OSV-industry, we find

the application of Damodaran's (2005) paper on *The Value of Synergy* along with some of his other research on the area appropriate for our purpose in finding synergies that may arise from the merger.⁵ At the end of the exercise a number of companies are briefly investigated to see their potential as buyers of Solstad. They are, however, neither analyzed in depth nor rated based on their level of compatibility as buyers due to thesis limitations.

1.6 Data validity

All data is publicly available information collected from online news outlets as media articles or similar. Economic and financial reporting, such as annual or quarterly reports by Solstad or any of the other relevant firms has been produced and posted in correspondence to official rules and regulations. Most of these reports can be found published publically on the respective company's homepage. Financial analyses conducted by brokerage firms that find the OSV-market interesting for potential investors are also used frequently in the analysis. However, due to the economic downturn that has affected the industry a significant share of brokerages and analytical experts that traditionally have been conducting analysis on the OSV-segment chose in 2015 and into 2016 to not develop investment reports. The lack of investor interest has primarily been the reason for this, which in turn illustrate just how little confidence there currently is in the OSV-sector. The authors believe that the theoretical frameworks and financial models implemented in the research are recognized widely as best practice by academics and practitioners.

1.7 Delimitations

- The thesis will only deal with public available information, and will have the point of view of an external analyst focusing on their subjective assumptions about the future.
- We assume that the reader has at least a basic understanding of the valuation technologies and its analytical framework, and as such the paper will not describe these in detail.
- Focus will mainly be in the three main categories the company has diversified its business into, namely AHTS, PSV and Subsea (CSV).
- The oil price is of very high importance in the thesis, as well as for the OSV-sector's economic stability, albeit notoriously hard to predict. Therefore, the research will be using external estimates when discussing it.
- Benchmark for Solstad's share price will be set to the current date when the valuation is conducted.

⁵ Damodaran, A. (2005). *The Value of Synergy*. Wiley.

- The valuation and credit analysis has been set to “18.04.2016”, which means that any information relevant to the analysis that surfaced after this date has not been taken into consideration.
- Historical data from the past 8 years is being used in order to capture the cyclical changes in the industry in which Solstad operates; 2008-2015.
- Where necessary, a constant USD/NOK exchange rate of 8,21 and a GBP/NOK of 11,7 is being used to simplify the fluctuating movements of the currencies throughout the year.⁶
- We have excluded analysis on currency and interest rate risks for the sake of complicity and scope of the thesis.
- Any other assumption made throughout the entirety of this research will be explicitly stated, explained and accounted for where necessary.

2. Industry overview

2.1 The offshore supply market (OSV)

One of the most cost intensive parts of the upstream activities in the oil and gas industry is the OSV-sector. Roughly ten years ago, the Norwegian supply-sector was in a boom, and had been almost since oil was first discovered below the North Sea seabed on December 23th 1969. Investors, banks and other relevant stakeholders were becoming exceedingly interested in its profitability and ROI potential. Before 2008, the ROIC of the industry made it a compelling venture opportunity. The order book for new builds were soaring as a result of the expected payback of a vessel being 6-8 times on an EV/EBITDA basis.⁷ Reliable and favorable broker quotes made it easy for OSV-companies to attract financing from banks at 70-80% of total construction cost.⁸ However, many ship-owners continued to raise capital through unsecured debt in order to avoid dilution of shares through equity issues.⁹ Ship owners were largely focused on company growth, rather than long-term risk management and deleveraging. In more recent time critical consequences have followed the speculation; most of the OSV-sector are highly leveraged and as a result struggle to refinance their balance sheets. Some are looking for new investors or considering the possibility of consolidation with one or more of its peers or competitors to strengthen their market position. Seeing that most OSV-firms are trading at record lows coupled with crippling debt restructuring issues, investors may see opportunities for acquisitions of companies at heavily discounted prices.

⁶ Exchange rate as of April 18th 2016

⁷ Pareto Securities. (2016: 48). *Pareto E&P survey*.

⁸ Pareto Securities. (2016: 48). *Pareto E&P survey*.

⁹ Pareto Securities. (2016: 48). *Pareto E&P survey*.

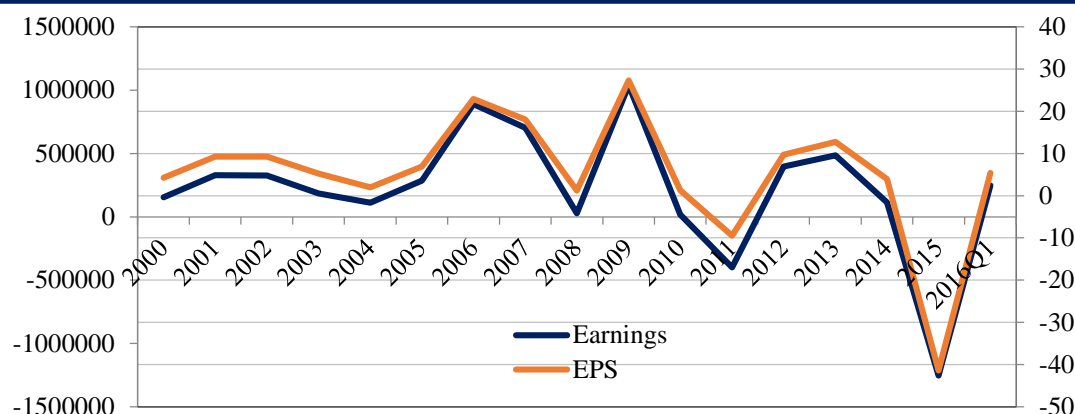
The most important features of a supply vessel are its carrying capacity, loading and unloading capabilities, and sailing.¹⁰ Beyond these features, brake horsepower (BHP) and crane capacity has become additional requirements to the expanding differentiation of vessel types in the sector, and increasing customer demands. To which degree each of these abilities are prioritized is dependent on the environment it operates in, as well as the task it is required by its contractor. The complexity of operation varies greatly, which has shown that there is not possible to design a ship that can universally service to whole industry. The three main vessel-types are described in section 2.4.

2.2 Business cyclicity

There is a noticeable cyclical trend in the OSV-industry that can help to explain the historical development of Solstad as well as its peers, but more importantly function as an indicator for future economic swings in the market. The business cycle is divided into four distinctive phases; recovery, growth, boom and slowdown. A cyclical company is defined as “one whose earnings demonstrate a repeating pattern of significant increases and decreases.”¹¹ Such a company is typically identified by a fluctuation in earnings because of strong changes in the price of the products they are supplying to the market. Furthermore, where and when a company is in the business cycle is dependent on the activity level in the market. The effect of demand and supply in the different parts of the value chain has a great effect on the timing of when a firm enters a new cyclical phase; increased investment and activity in oil exploration and production (E&P) would demand more capacity from the OSV-segment. However, new builds take time to deliver to the market. When OSVs experience increased demand from E&P a lag or delay in activity occur because of relatively slow response time. This makes it challenging for every segment in the supply chain to accurately predict demand and in consequence revenues.

¹⁰ Aas, B., Halskau Sr, Ø., & Wallace, S. M. (2009, August 13). The role of supply vessels in offshore logistics. *Maritime Economics & Logistics*

¹¹ Damodaran, A. (2010: 731). *Investment Valuation*. Wiley.

Figure 3: Cyclical change in EPS and earnings – Solstad 2000-2016Q1

Source: Solstad, "Annual Report", 2000-2015 & Solstad, "Quarterley Presentation", 2016Q1

Including cyclical change is of great importance in a valuation because an assessment of historical performance does not automatically signal poor earnings in the future. The company being analyzed might be entering a different phase of the cycle trend. Thus, by identifying Solstad's business cycle by using a set of theoretical technologies (fundamental financial and strategic analysis) shown in the latter parts of this research, better and more accurate information can be applied to the forecasting period for the valuation (2016F-2021F).¹²

From figure 3 a clear pattern of the company's cyclical change can be identified. There is a distinct trend in the business cycle when applying the four phases of economic development to Solstad Offshore. The cyclical change is in a time span of approximately four years, where the graph shows recovery from mid-2004 to 2005, growth from 2005 to 2006, boom from 2006 to 2007 and decline from 2007 to mid-2008. Extraordinary events such as the economic recession of 2008 and the crash of the oil-price in 2014 have clearly had a strong, negative impact on the financial performance of Solstad. The rapid decline of the crude oil price from around 115 \$/bbl. in mid-June to 27 \$/bbl. in January 2016 implies challenging times for everyone dependent on the oil price to do business.¹³ Random shocks such as the oil-price collapse are nearly impossible to predict and cannot be used to make accurate assumptions about business' cyclical change. Although Solstad is showing signs of earnings and EPS recovery, there is still a long way for the company to fully reenter a normalized business cycle. Parallel with the cyclical changes seen above the share price has also followed the trend and dipped close to a historical low point.

¹² Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*.

¹³ OSEBX, crude oil price statistics past 3 years

2.3 Contracting

The OSV-segment usually employs the same two types of contracts used by the majority of the shipping industry. Their main differences are settlement time and longevity: On one hand there are TC-contracts (Time Charter). These contracts are fixed long term - usually over several years – and are being put on tenders by the demand side/customers. The tender is won by the supplier/company that provides the best offer to the buying customer. Choice of contractor is commonly based on factors such as quality, efficiency and/or price. If the vessel is not under a TC, it enters the spot market and is traded with spot contracts. These contracts are usually signed for a short term, “on-the-spot” and periodically where the customer is only looking to hire a vessel’s services for periods of 30 days and less. Ships operating in the spot-market are contracted typically when there is a need for a specific task done by a specialized vessel (read: ship types). The contracts are traditionally negotiated between the customer and a shipbroker, whereby potential contract extensions are being handled on a “day-by-day”- basis. Spot-rates tend to fluctuate significantly more than TC-rates as a result of the short-term scope of the contracts. Market fluctuations directly cause spot-rates to change, and in periods of high E&P activity spot-rates go up, whereas in periods of low activity spot-rates go down. Thus, spot-rate contracts follow a short-spanned - but easily identifiable pricing model - based on supply and demand of vessels; especially in the AHTS-segment.

2.4 Primary ship types

The following paragraphs explain and highlight the three most significant fleets in the OSV-segment related to this research. These ships represent that majority of the activity in the industry, and are divided into three categories based on the services they provide (see A.1 for details). It is apparent that there are crucial differences in design and tasks offered by AHTS, PSV and subsea vessels, which importantly decide their build and operating costs. These factors in turn affect price and profitability that are essential in determining company value.

2.4.1 Anchor Handling Tug Supply (AHTS)

An AHTS vessel is primarily built to tow floating oil and gas rigs to their operating locations, and anchoring them up. Commonly used in the North Sea, these vessels are designed and built to operate



*Solstad's AHTS-vessel Normand Master fitted with a 250 MT bollard pull and a 23 330 BHP engine.
Source: Solstad.no*

under extreme conditions and can also assist in transporting supplies out to the offshore installations from the mainland. Second to towing and anchoring rigs, AHTS' may take on a multitude of other tow-related tasks, such as providing assistance for tankers during loading/off-loading and moving hazardous objects. These vessels stand out from PSVs

mainly due to their technologically advanced, complex and powerful winch system which enables them to move and anchor up drilling rigs and FPSOs (“Floating Production Storage and Offloading”). Considering the demanding task of towing huge objects by sea, AHTS’ utilization level is being classified based on their engines ability to generate Break Horse Power (BHP). Due to their narrow scope of tasks, these vessels are most commonly found in the spot-market on short-term contracts. Although having considerably higher day rates than PSVs, operating in the spot-market implies that their profitability is more exposed to periods of economic downturn and risk of lay-ups.

2.4.2 Platform Supply Vessel (PSV)

Platform Supply Vessels are ships built to supply offshore drilling installations. Their primary cargo ranges from common goods and personnel to technical equipment and tools that are transported between land bases and the offshore oil and gas platforms. PSVs size range from smaller vessel at 50 meters up to 100 meters in length. The most prominent design feature of these ships are characterized by their large deck which usually carries tools, while cargo such as water, chemicals and other forms of bulk are being stored below deck in tanks. Moreover, some of the vessels have secondary offshore support functions; one is having been fitted with firefighting capabilities both for platform and ship fires, while other vessels are equipped with oil-containment gear to assist in cleanup of potential spill. In light of the range of tasks and cargo serviced by PSVs to offshore drilling sector this fleet is considered the largest (based on number of vessels) amongst the three types of ships highlighted in the OSV-segment. They are also considerably cheaper to build and operate due to their simpler design compared to an AHTS.



Solstad's Normand Carrier - A typical PSV-vessel at 4560 DWT and approximately 950m² loading space.

Source: Solstad.no

Since these vessels supply the sector with critical cargo that is needed on a continuous basis their exposure to economic slowdowns in the industry is lower compared to the other types of ships operating as part of the OSV-industry. Furthermore, in contrast to AHTS’ BHP classification, a Platform Supply Vessel is classified by its loading mass capability which is measured in Deadweight Tonnage (TDW) and loading area in squares meters (m²).

2.4.3 Construction Supply Vessel (CSV)

The demand for more technologically advanced vessels have been a result of the offshore drilling industry's need for deep sea drilling as oil and gas reserves have been exhausted at shallower levels. CSVs operate at sea and subsea dependent on their design and their equipment and day rates range significantly in conjunction with their capabilities. Some of the equipment typically fitted on a CSV includes remotely operated underwater vehicles (ROVs) for subsea installations and maintenance, cranes or winches. Another area of operation is dive support activity. They are highly specialized which means that most subsea vessels are being built on long-term contracts to avoid most of the financial exposure associated with their high capital investments. Normand Pioneer (displayed on the right) was on a multi-year charter to oil-service giant Technip in its first years of service. Moreover, such a contract ensures a sound and secure long-term revenue stream to the owner. Their classification is typically based according to crane capacity and bollard pull (BP).



Solstad's Normand Pioneer is a pipe laying, multi-purpose CSV with several winches and cranes.
Source: *Solstad.no*

2.5 Company overview - Solstad Offshore ASA

The company was officially established in 1964 by Captain Johannes Solstad in Skudeneshavn as Solstad Rederi AS, but did not actively engage its resources in the OSV-market until 1973. During its ten first years the company owned and operated 14 dry-cargo vessels (liner-type) ranging between 8000 DWT and 14 000 DWT. Solstad went public on Oslo Stock Exchange in October



Founder Johannes Solstad at the Ceremonial Ship launch of CSV-giant "Normand Maximus"

Source: *maritimt.com*

1997 at a share price of NOK 47 per share (SOLSTAD OFFSHORE ASA; ticker SOFF), and has focused solely on supplying the offshore petroleum industry since 1998 when it sold of the last of its bulk carriers. The company's fleet is divided into three categories, which consist of CSV, AHTS and PSV vessels. Parallel with company growth, the vessels themselves have significantly improved in terms of technological complexity, size, strength and scope of equipment.

Furthermore, the company has established itself as a global player in the OSV-sector with branch offices in Aberdeen (Scotland), Rio de Janeiro (Brazil), Manila (Philippines), Perth (Australia) and Singapore and vessel operations world-wide. Solstad Offshore is still family owned by majority to this date, and

has not opted to move its head-office out of Skudeneshavn, Norway. As of ultimo 2016Q1, the company's fleet consists of 43 fully or jointly owned vessels, with one newbuilding expected delivered in 2016 and approximately 1300 employees.¹⁴

2.5.1 Objectives, strategy and business values

An important part of doing a valuation of a company means looking into its strategy, business objectives and values. These are crucial ingredients to successful business and creating value for its owners. Throughout this thesis, Solstad's resources and competitiveness, as well as its external business environment is analyzed. The research sets the pretense for exploration of the industry by outlining company vision and (in part) Solstad's 7 core values¹⁵:

Vision

"... To conduct profitable, integrated shipping operations with high specification vessels using both our own vessels and chartered vessels. The company's core business is petroleum-related operations"

Core value	Excerpt
Safety	"We recognize our employees as our most valuable asset..."
Performance	"We have strong focus on daily operations..."
Flexible & Reliable	"Our clients trust us to deliver, a trust we have built on many years of delivering first class service"
Hands On	"Through our SolLead program we educate present and future leaders to carry on the Solstad management philosophy"
We Care	"In the countries we operate in, we try to give something back by sponsoring social projects and invest in training and development of local employees"
Costumer Focused	"We are a global company, but with a local presence in many of the areas we operate in to ensure close contact with our clients and associates world-wide."

Solstad's mission is to provide the petroleum industry with highly specification vessels in both the chartered and owned segments. Their target is to be a leading shipping company in the North Sea region through the use of its high quality equipment and competent maritime crew, while focusing strongly on deep-water and subsea construction services internationally. Part of company activities, albeit on a much smaller scale, include projects that develop offshore wind farms.

¹⁴ Solstad Offshore ASA, "Quarterly Presentation", 2016Q1

¹⁵ Solstad Offshore ASA, "Annual Report", 2015

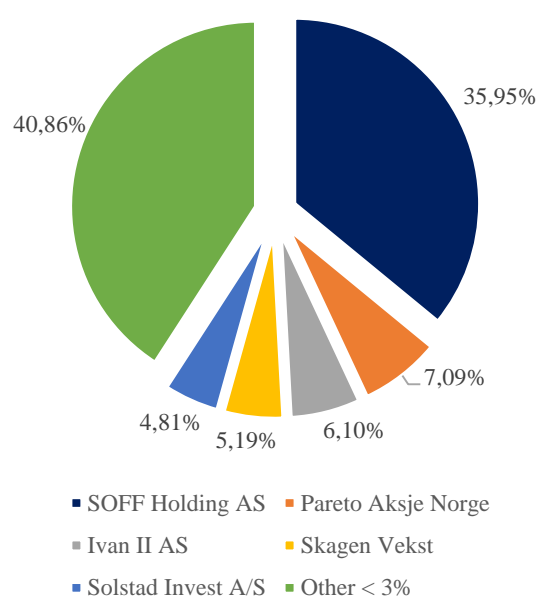
2.5.2 Board of directors and management

Board of directors at Solstad ASA is comprised of six persons, whom one is family member Ellen Solstad elected board member at the 13th of July 2013 extraordinary general meeting. She has an interest in the company through Aurorah AS who holds a 25% ownership stake in Ivan AS. The second member, Terje Vareberg, was elected onto the board in 2011, and has been chairman since 2014. Torill Eidesvik is the CEO of TTS Group ASA and an independent board member of Solstad's main shareholders. Ketil Lenning, the fourth board member, is an independent consultant who worked as CEO for Oddfjell Drilling Ltd until 2010. Anders Onarheim is along with Mrs. Eidesvik and Mr. Lenning independent of the company's main shareholders and has been with the board since 2014. The last board member is managing director Lars Peder Solstad, son of founder Johannes Solstad.

2.5.3 Ownership

The Norwegian OSV-sector is predominately characterized by its ownership structure. Most firms have started out as family-owned businesses decades ago, which they are in many cases still today. Solstad is not an exemption as previously mentioned. Solstad Holding AS holds a majority share of 47,04% among the top 20 shareholders of the company. Solstad Holding AS consists of Johannes Solstad, Ellen Solstad and Per Gunnar Solstad – all part of the Solstad family. Pareto Aksje Norge, a Norwegian investment fund managed by Pareto Asset Management is the second largest shareholder at 9,28% in the top 20 shareholders (A.2).

Figure 4: Solstad ASA total ownership



2.6 Competitors – Peer group introduction

There are currently 7 Norwegian companies including Solstad operating in the OSV-market. However, only four of these have been chosen as comparable to Solstad in our valuation. These are all listed on the Oslo Stock Exchange which makes them better suited for multiple-analysis because of their market values. A requirement for peer group companies is that they are operating in the same industry. Furthermore, they are characterized by similarities in risk profiles and accounting policies. The companies we have selected are all both competitors and peers because of how the industry is structured.¹⁶ Moreover, and most importantly, they are affected by the same

¹⁶ Plenborg, T., & Petersen, C. V. (2012: 65). *Financial Statement Analysis*.

macro and micro-dynamics of the market, and have vessel fleets primarily comprised of PSVs, AHTS' and Subsea akin to Solstad. Hence, the authors have selected Farstad Shipping ASA, DOF, Deep Sea Supply, and Siem Offshore as the most compatible for OSV peer-comparison (A.24; OSEBX):

Farstad Shipping ASA



Farstad was first established in 1956 under the name Sverre Farstad and Co. M/S Farland, which was the company's first vessel was delivered in 1959. Successful partnerships throughout the 60s enabled Farstad to start build its Deep Sea fleet, and in 1963 the company was renamed Schröder and Farstad. By 1974 Farstad started to invest in the Offshore Service industry when it contracted four AHTS-vessels, and in 1988 became listed on the Oslo Stock Exchange.¹⁷ As of primo 2016, the groups fleet consists of 57 vessels whereby 22 are PSVs, 29 AHTS, and 6 Subsea. Another subsea-vessel is in under construction and slated for delivery in late 2016. There are currently around 2100 employees working for the company across the world, with two offices located in Brazil (Macaé and Rio de Janeiro), one in Norway (Ålesund), two in Australia (Perth and Melbourne), and Singapore. 24 of Farstad's 57 vessels are operating in the APAC-region. Approximately 54.5% of company operating income came from the AHTS-segment, and Brazil alone represented 35% of total income in 2015. From 2014 to 2015 the average utilization rate dropped by 11% from 90% to 79% respectively.¹⁸

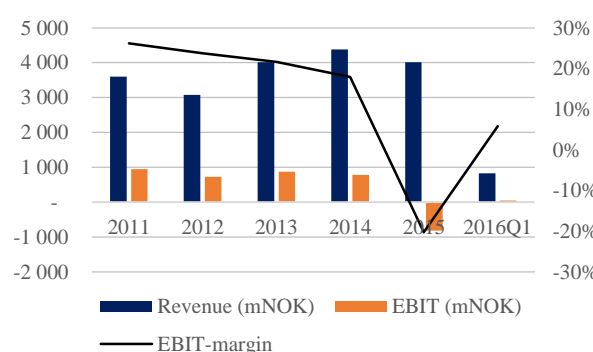
Stock price development 2011-2016

Figure 5: Farstad stock price 2011-2016



Financial development 2011-2016

Figure 6: Farstad historical sales and EBIT 2011-2016

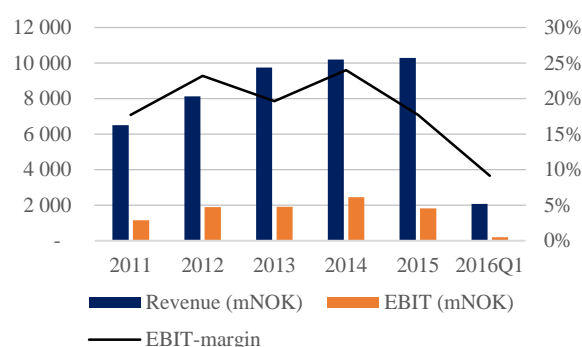


¹⁷ <https://www.farstad.com/business/our-company/history>

¹⁸ Farstad, "Quarterly Report 2016Q1", 2016

DOF

The company was founded in 1981 in Austevoll, Norway and became listed on the Oslo Stock exchange in 2000. Today DOF ASA is a group of companies that owns and operates 67 vessels in the three main segment of the OSV-market. An additional 3 ships are under construction which is set to be delivered 2016-2017. DOF fully or partly owns 20 AHTS, 19 PSVs and 28 CSVs. Furthermore, the Group owns 62 ROVs with five more underway. A large part of the company's subsea-operations is dependent on the Brazilian market where it currently owns and operate nine vessels. As of primo 2016, the company has approximately 4800 employees across the globe with investments mainly in South America, North America, Asia, the Atlantic, West Africa, and of course its home market the North Sea. Throughout 2015, DOF laid off about 550 people of its workforce, sold 10 of its vessels and experienced two fatal accidents on board the vessels Skandi Skansen and Skandi Pacific.¹⁹

Stock price development 2011-2016*Figure 7: DOF stock price 2011-2016***Financial development 2011-2016***Figure 8: DOF historical sales and EBIT 2011-2016***Deep Sea Supply****DEEP SEA SUPPLY**

Deep Sea Supply Plc is a Cyprus based OSV-company which was established in November 2006, and became the parent company of the Deep Sea Supply ASA (Ticker: DESSC) Group in 2007. Main shareholder of the company is shipping-magnate John Frederiksen and the chairman is Harald Torstein. Mr. Frederiksen owns 35.1% of Deep Sea Supply ASA through his investment company Hemen Holding Limited. Today the Deep Sea Group operates 37 vessels with an average age of 6.1 years. Contrary to the other peers in the analysis, the company does not have any presence in the Subsea-segment, but has 25 PSV-vessels and 12 AHTS-vessels in operation. Offices are located in Norway, Singapore, Cyprus, Ukraine and Brazil with an onshore staff of 59 and approximately 500

¹⁹ DOF, "Annual Report", 2015

seafarers. Only 1 of the company's 37 vessels are Norwegian flagged, while 30 vessels are Cypriot flagged. DESSC is currently not exposed to the North Sea spot market due to unsustainable rate levels and low utilization.²⁰

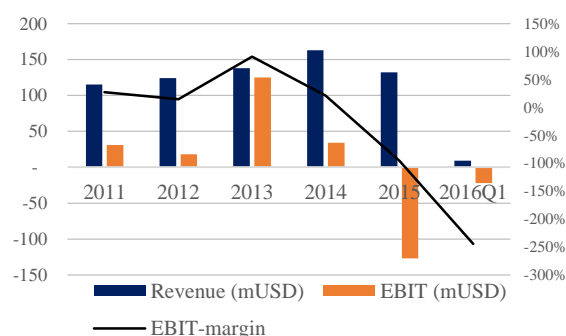
Stock price development 2011-2016

Figure 9: DESSC stock price 2011-2016



Financial development 2011-2016

Figure 10: DESSC historical sales and EBIT 2011-2016



Siem Offshore



Siem Offshore fully or partly owns 31 OSVs that operates in markets around the world. The company has offices in Norway, Canada, Australia, Germany, the Netherlands, Ghana, USA, Poland, India, and Brazil. In 2005, Siem became a stand-alone company from Subsea 7 Inc.²¹ 13 ships are PSVs, 10 AHTS and 5 Subsea. A large part of the company's fleet is smaller vessels (7 other) operating in Brazil and 5 being part of what Siem is calling the Canadian fleet. This specific fleet of five ships which Siem holds 50% ownership in, is a "harsh-weather" fleet that operates primarily offshore Eastern Canada under more extreme conditions.²² It is listed on the Oslo Stock Exchange (ticker: SIOFF) and has its company headquarter in Kristiansand, Norway. Siem is also actively engaged as a contractor in the European offshore windfarm market with its subsidiary Siem Offshore Contractors. Furthermore, the company holds a 60% ownership in Siem WIS (pressure drilling technology) and a 100% ownership in Oversea Drilling Limited (scientific ocean drilling).²³

²⁰ DESSC, "Annual Report", 2015

²¹ <http://www.siemoffshore.com/Default.aspx?ID=60>

²² Siem Offshore, "Annual Report", 2015: 14

²³ <http://www.siemoffshore.com/Default.aspx?ID=60>

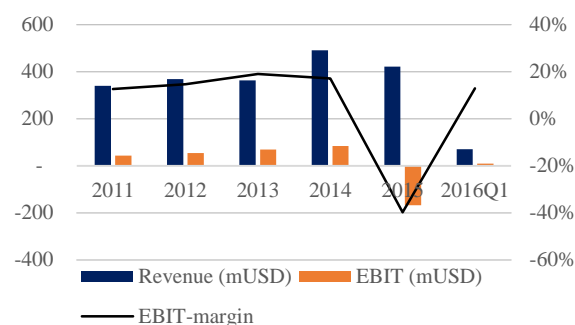
Stock price development 2011-2016

Figure 11: Siem stock price 2011-2016



Financial development 2011-2016

Figure 12: Siem historical sales and EBIT 2011-2016

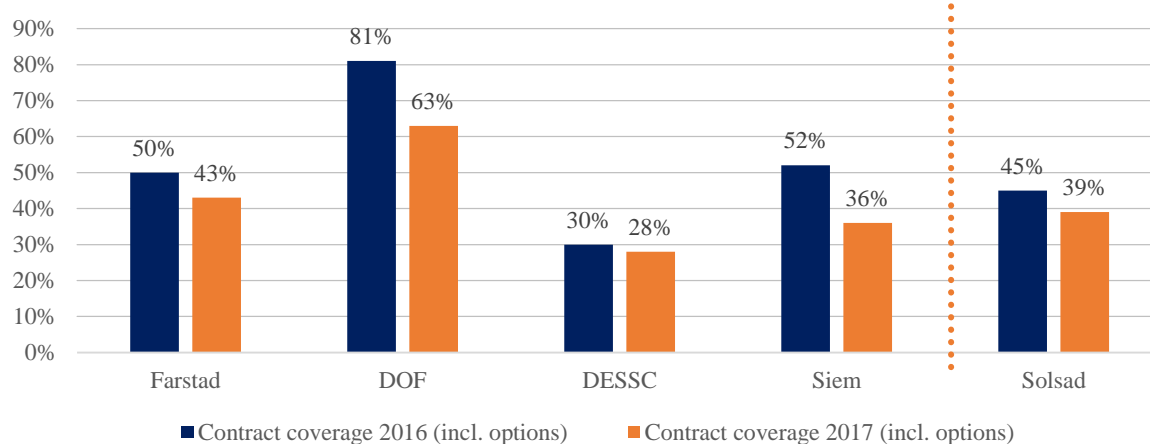


2.6.1 Peer group comparison

This section compares some of the key revenue and cost drivers of the companies in the peer group. It gives the analyst an overall picture of the current position each of the players has relative to each other in the sector, what segments they have chosen to target and their share price development the last five years.

Table 1: Peer fleet comparison

Fleet composition, market caps and contract coverage					
Company	Farstad	DOF	DESSC	Siem	Solstad
PSV	22	19	25	13	9
AHTS	29	20	12	10	15
Subsea	6	28	0	5	20
Other	0	0	0	16	0
Total	57	67	37	44	44
Market capitalization (MNOK) 01.01.2016	510	438	242	1557	615

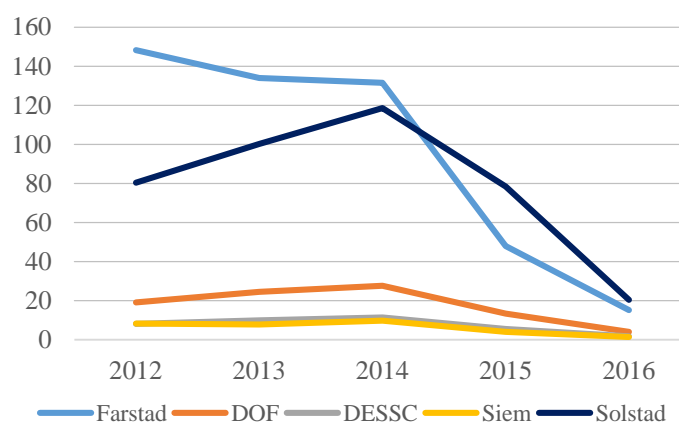


Source: Appendix A.3.

Table 1 shows a comparison of fleet composition, market capitalization and contract coverage between the five peers in the Norwegian OSV-industry. DESSC is the smallest company both in terms of fleet size and share price, while DOF is the largest company among the peers showing a fleet of 67 vessels. Solstad is trading at the highest share price. Contract coverage displays how many vessels in a fleet are on

a charter contract opposed to being inactive. DOF has a significant better contract coverage to the rest in the group. One explanation for this could be DOF's long and close cooperation with Brazilian national and international firms, with a strong focus on Brazilian

Figure 13: Share price change OSV-peers 2012-2016



Source: Oslobors.no

flagging, local content and establishing a native Brazilian workforce. This has enabled for a strong strategic position in an important market. Renewed contracts for Q1 2016 is a confirmation that the company's strategy has been effective – especially in light of the present socio-economic situation.²⁴ High contract coverage is essential in securing economic stability and predictability for the companies. Further, good contract coverage indicates that the company has a good reputation in the industry. Ideally firms want to balance their ships availability on both the spot – and chartering market in order to most effectively exploit rates and increase their margins. However, the reality during the last couple of years has been very different.

Figure 13 visualizes the development in share price of the five peers in our comparison of the OSV-industry. It is clear that all firms started their steep decline on the stock exchange around the same time the oil price fell drastically in late 2014. Since then, every company displayed on the figure 13 has had more than an 80% share price decrease.²⁵ Solstad is the “winner” of the losers ending at an 83% share price fall, while Farstad is the “loser” with a share price decrease of 89% during the same period. Contrary to the trend, an interesting observation is Siem Offshore, which during the first quarter of 2016 is showing signs of recovery.

²⁴ DOF, “Quarterly Presentation”, 2016Q1

²⁵ A.4 presents the calculations of share price change and YoY development

Table 2 Stock price development OSV-peers Q1

	Ticker	Market	Primo 2016	April 1st 2016	% change 2016Q1
Farstad Shipping	FAR	OSEBX	15,1	13,50	-10,60 %
DOF	DOF	OSEBX	3,98	3,37	-15,33 %
Deep Sea Supply	DESSC	OSEBX	1,6	0,92	-42,50 %
Siem Offshore	SIOFF	OSEBX	1,4	1,71	22,14 %
Solstad Offshore	SOFF	OSEBX	20,35	16,38	-19,51 %

Source: *Oslobors.no*

The Siem group share price has increased by 22,14%, while the rest of its peers has continued to their share price decline in 2016. Siem started relatively early compared to its peers in securing additional capital as charter rates did not contribute to acceptable cash flows. On the 11th of June 2015 the board of Siem decided to propose a private placement to its shareholders of USD 100m at 1,8 NOK per share.²⁶ Furthermore, the other companies have been through a series of structural and financial changes. DESSC was especially early among the group to restructure their obligations. Focus on OSV-companies' debt to equity ratios has been the center of attention which has furthered investors' skepticism in the oil supply service market.

3. Strategic analysis

The strategic analysis has the purpose of identifying and explaining the factors influencing the company's value drivers. The analysis is divided into two parts, an external and internal part. The external analysis deals with macro- and industry factors that affect profitability and risk in the industry and the company. Whereas the internal analysis describes Solstad's company specific resources, and identifies which internal resources that can give them a competitive advantage in the market. Together with the financial analysis, the strategic analysis forms an important framework for the forecast and valuation.

3.1 Shipping Market Model

Numerous strategic frameworks try to break down the key components, such as value drivers and resources that companies possess in a given industry. Among these theories the most common are Porters, the BCG-matrix, PESTEL and value-chain analysis. While all of these frameworks are useful, the extent of their strategic usefulness varies, and depends on what industry it is applied to. Martin Stopford's book *Maritime Economics* (2009) has made significant contributions to the exploration and analysis of the whole shipping industry. Stopford created in his work the Shipping Market Model, which specifically deals with the maritime industry, and is thus chosen as a major

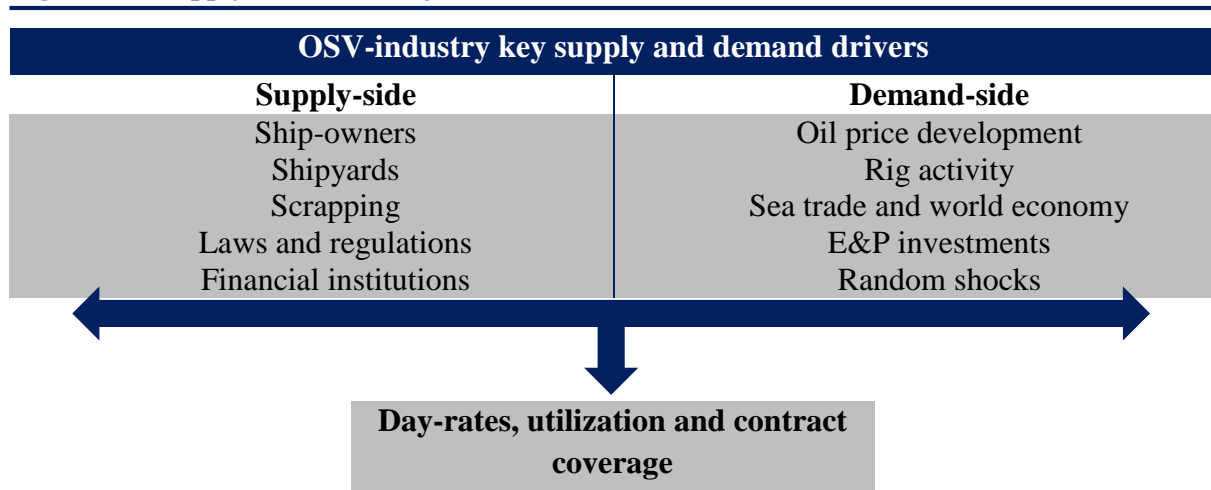
²⁶ Vosgraff, S. K. (2015, June 11). Siem Offshore vil hente penger. *Hegnar.no*.

analytical tool for this thesis. However, since the model is intended for analysis of traditional shipping markets we have used the original model as inspiration and replaced those factors not suitable for the OSV market with more relevant ones. The purpose of the model is to identify the main market drivers that affect the OSV market, and how these influence the level of day rates and competitiveness in the sector.

3.1.1 An analysis of the supply and demand in the OSV-industry

The supply and demand market is complex. As mentioned, Stopford's "Shipping Market Model" is pragmatically implemented to analyze the different variables that mainly drives the day rates in the industry, and is preferably used in the context of cyclical industries like the OSV-industry. The day rates determine the overall earnings for Solstad Offshore, and therefore an understanding of the main drivers for supply and demand is essential to the analysis in order to prepare a qualified forecast interpreted in the pro forma statement. Demand for OSVs is the most volatile factor in the model, as it can quickly change and be behave unpredictably. Supply on the other hand is more stable and predictable, and takes a longer time to adjust to market conditions.²⁷ Martin Stopford puts the situation in perspective by writing: *"the 'tortoise' of supply chases the 'hare' of demand across the freight chart but hardly ever catches him. In a market with these dynamics we must expect 'balance', in the sense of steady earnings over several years, to be quite rare."*²⁸ There is a delicate balance between supply and demand in the sector, where it will be shown that their bargaining power is highly skewed.

Figure 14: Supply and demand factors



Source: (Stopford, 2009) & authors' modified contribution

²⁷ Stopford, M. (2009: 135-36). *Maritime Economics*.

²⁸ Stopford, M. (2009: 139). *Maritime Economics*.

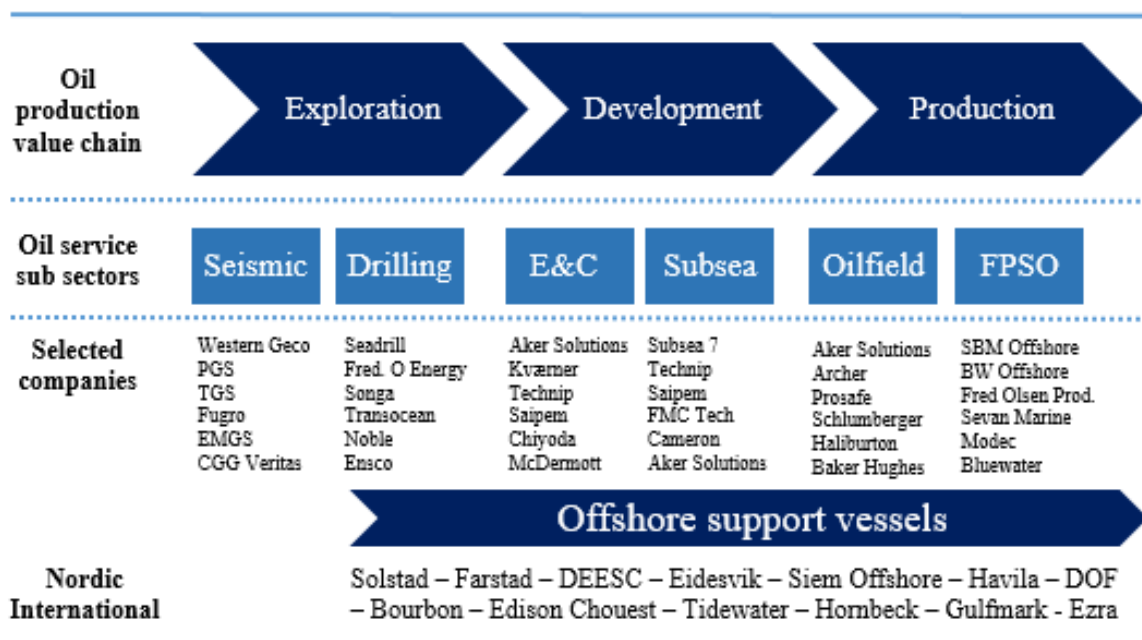
Figure 14 outlines the most common factors that influence the two sides of the OSV-industry. As touched upon, the response time on the supply-side is considerably longer than the demand-side. This makes it much more difficult for companies operating in this particular part of the oil and gas supply chain to accurately forecast earnings. The long period of time in which it takes to deliver a newbuild to the market illustrate much of this particular issue.

3.2 Demand side of OSV

The demand factors are to a large extent dictating the intensity, rates and overall economic activity in the industry. Figure 15 on the following page gives an overview of the different segments within the oil and gas supply chain, and the stream of operations in which they are interconnected. The three main parts of the oil supply chain consists of exploration, development and production. Our research covers a wide range of these activities that includes drilling, E&P, subsea and deepwater. Offshore supply vessels' role in these segments are primarily support functions. These functions have already been covered in depth in section 2.4. *Primary ship types*. Below are the three most decisive demand drivers that supply vessel owners have to consider in managing the business²⁹:

- ✓ General offshore activity and number of operating offshore rigs
- ✓ Oil companies' investment budgets (E&P spending)
- ✓ Current oil price and oil price outlook

Figure 15: The oil production value chain and the role of the OSV-industry



Source: Carnegie. (30 January, 2015). OSV Sector Report; Authors' emphasis

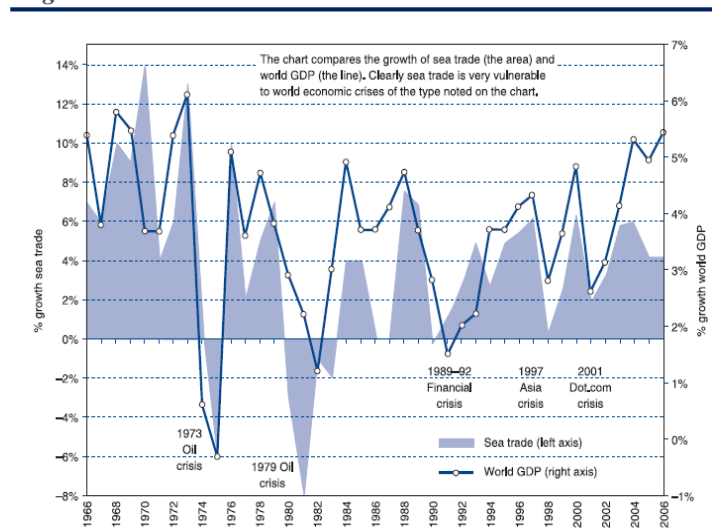
²⁹ Scotia Howard Weil 2016 Energy conference slides, 22. March 2016

The OSV-companies primarily assist corporations that operate in the development and production phases of the oil and gas value chain. In seismic, AHTS and PSV act as support functions, whereas in drilling AHTS and CSV operations are more actively involved. In production on the other hand, there is a bigger demand for PSV and CSV. Generally, some OSV-segments are better fitted to support a specific part of the supply chain than others. Exploration and drilling requires large investments (CAPEX) in ships, rigs and equipment, while in production and disassembly there is predominantly a greater demand for operating expenses (OPEX) due to running costs.

3.2.1 The World Economy

The world economy is the single most important influence on the demand for ships. This is simply an effect of the world's demand for trading using sea transportation. Figure 16 maps the demand for sea trade and growth rate in world gross domestic product (GDP) over a forty-year timespan that stretches from 1966 to 2006. It shows that there exists a strong positive correlation between GDP and the level of sea trade activity.

Figure 16: Sea trade demand and world GDP '66-06



Source: Stopford, M. (2009: 140). *Maritime Economics*.

Investments in the oil industry is the main driver for activity in the OSV-industry since new projects and investments in ongoing operations will require more rigs that are active and in consequence more OSVs to service them. In the analysis of expected investment levels in the industry, and thus activity, it is necessary to analyze the markets' expectation to the oil price which is vital information for oil and gas

companies in taking investment decisions. The development in the global GDP combined with data on the global oil demand can reveal to us an indication about the equilibrium in the oil industry which determines the oil price development.

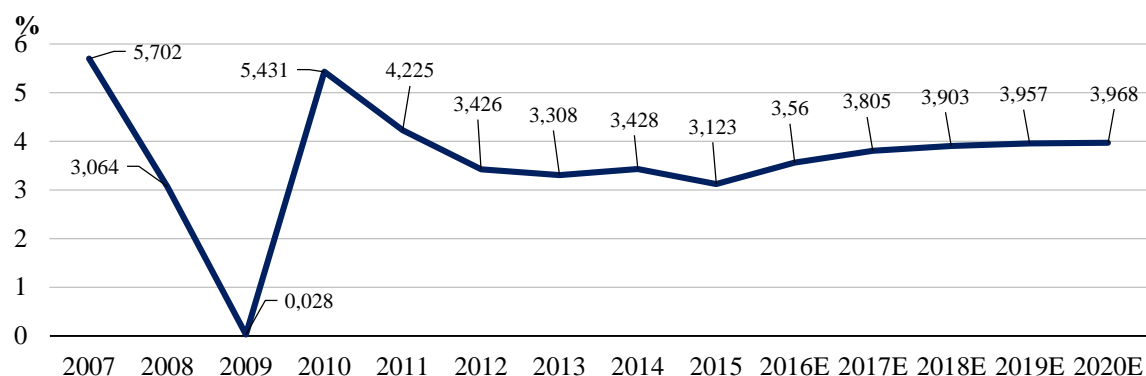
3.2.2 Development in GDP

The financial crises in 2008 led to a massive downturn in the global economy, and resulted in a significant reduction in the global GDP and a large reduction in demand for oil. While global growth has been in steady decline since 2010, it is currently projected to slowly pickup.³⁰ In 2015 however,

³⁰ International Monetary Fund. (Jan. 19, 2016). *World Economic Outlook*

global economic activity remained subdued partly because of the oil crash that occurred in 2014, but is estimated to settle at around 4 percent in the coming years. Growth in advanced economies is projected to rise by 0.2 percentage points in 2016 to 2.1 percent, and remain steady throughout 2017. This pickup is predicted based on continued gains in major high-income countries, a gradual tightening of financial conditions, a stabilization of commodities, and gradual rebalancing in China.³¹

Figure 17: World average GDP growth in percent, 2007-2020E



Source: (World Bank Group, Jan. 2016)

The world population and GDP are key drivers behind growing demand for energy. The world's population is projected to increase by around 1.5 billion by 2035. Over the same period, GDP is expected to more than double; around one-fifth of that increase comes from population growth and four-fifths from improvements in productivity.³²

Table 3: World economy expected growth

Aggregates – Real GDP (% change)						
	2013	2014	2015	2016	2017	2018
BRICS	5,7	5,1	3,9	4,6	5,3	5,4
Developing economies	5,3	4,9	4,3	4,8	5,3	5,3
High-income economies	1,2	1,7	1,6	2,1	2,1	2,1
Low-income economies	6,4	6,1	5,1	6,2	6,6	6,6
World	2,4	2,6	2,4	2,9	3,1	3,1

Source: WOO/GEP/Compiled by authors

Table 3 shows the medium-term expected growth in the world economy according to WOO and GEP. Global economic development remains central to the future of oil demand. The past year has offered both optimistic and pessimistic indicators in some regions and some countries. However, globally there has been a higher economic growth in 2016 compared to 2015. This

³¹ World Bank Group. (Jan. 2016). *Global Economic Prospects*

³² British Petroleum. (2016). *Energy Outlook 2016*

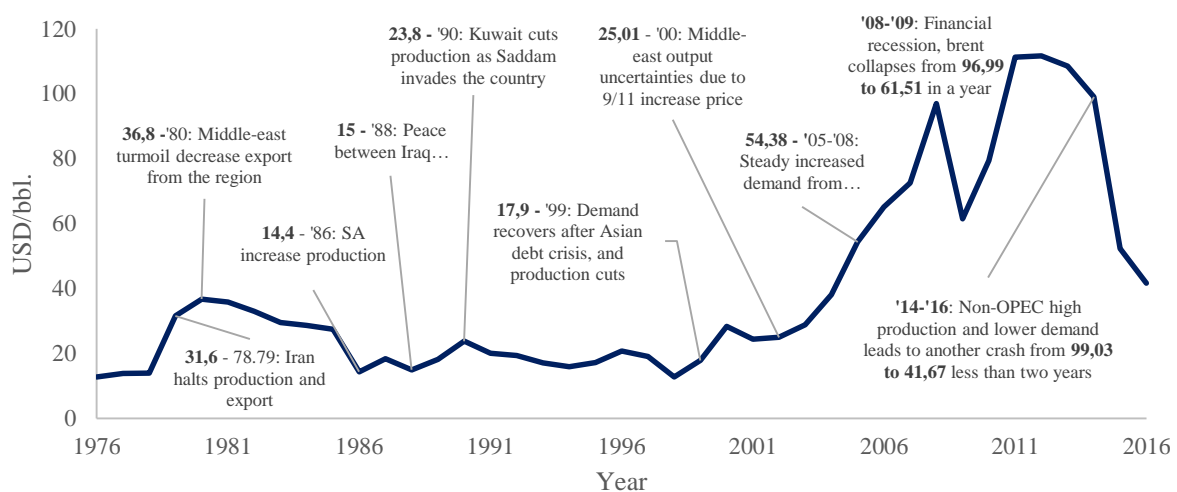
year economic growth is estimated to be 2,9%, rising to 3.1% in 2017 and then hitting a high 3,8% in 2018.³³

3.3 The Oil Price – Historical perspective

The balance between supply and demand for oil is what drives the oil price, and the most important factor for demand is, as already mentioned, the growth in GDP. The global GDP growth is primarily driven by the development in Brazil, Russia, India and China (BRIC-countries). In the aftermath of the financial crises and the Eurozone crisis, the volatility of the oil price has dramatically increased. More production in relation to demand for oil is considered to be one of the main reasons the oil price has fallen over 50% from ~100 USD/bbl. to ~50 USD/bbl.

The organization of oil exporting countries (OPEC) have since 1960 worked as a cartel that controls the supply for oil from several oil producing countries in order to stabilize the price at a profitable and sustainable level. By cutting oil production and decreasing the volume made available to the market, the organization led by the world's biggest oil producing country, Saudi Arabia, has managed to establish a price level that normally lies over the break-even-levels of oil production.

Figure 18: Historical development of Brent – yearly average price



Source: *statista.com, wtrg.com and Wikipedia.com*

The development of extracting shale oil stands as a threat to the general offshore activity and the OSV industry. Fracking of shale oil in the US, and Canadian oil sand extraction began to change the dynamics of the oil and gas market. Thus, offshore drilling (due to its high complexity, long lead-times, and high upfront cash investments) is now losing out on capital allocation. Shale oil, many argues, is one of the reasons for the steep decline in oil price the last couple of years, which

³³ International Monetary Fund. (Jan. 19, 2016). *World Economic Outlook*.

has shifted the supply and demand balance significantly.³⁴ Furthermore, as shale oil production continued to climb, OPEC decided not to change their production volumes. The oil price crashed as a result, and all industry-related parties started to creep below break-even levels.

Countries in the middle-east, specifically Saudi Arabia, could ride out low oil prices due to cheap production, while shale oil production was still in its infancy and more expensive to extract. However, the effects were also felt by companies and regions operating with higher OPEX and CAPEX such as the Norwegian OSV-operators.³⁵ Another factor is that China's unprecedented growth during the last couple of decades has begun to slowly flat out which in turn has reduced their demand for oil. Thus, in this scenario any recovery for deepwater would be multiple years out, while short-cycle projects such as U.S. shale oil could benefit sooner.³⁶ Figure 18 depicts how the price of Brent oil has been affected by a selection of events since 1976 to the end of the first quarter of 2016

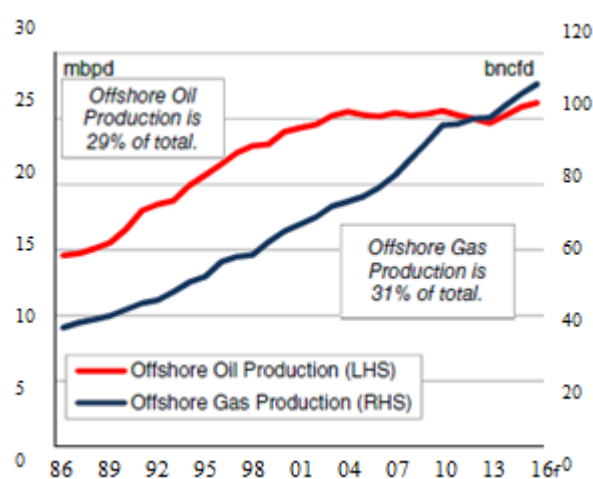
3.3.1 Oil supply and demand

According to numbers from the American Energy Administration, EIA, the global oil production in 2015 averaged out at around ~96-million b/d, against a consumption of ~94 million b/d. Among non-OPEC producers outside of the U.S., the largest declines in production are forecasted to be in the North Sea. After an increase in 2015, production in the North Sea is expected to return to its long-term declining trend in 2016 and 2017, as the plans to start of several projects is not enough to offset the region's declining rates³⁷.

Furthermore, in light of the recent cutbacks in E&P spending, there is a consensus view that there will be a reduction in global oil production. Particularly in U.S. Shale, where depletion rates are high and production growth is likely to respond rapidly.³⁸

Global offshore oil production is forecast to reach 26m-23m b/d in

Figure 19: Offshore oil and gas production '86-16F



Source: Clarkson Research "OSV monthly" April, 2016

³⁴ Fearnley. (April 2016). *The Offshore Report*.

³⁵ The Economist. (December 14, 2014). *Why the oil price is falling*.

³⁶ DnB Markets. (April 2016). *Oil Services - More tough years ahead*.

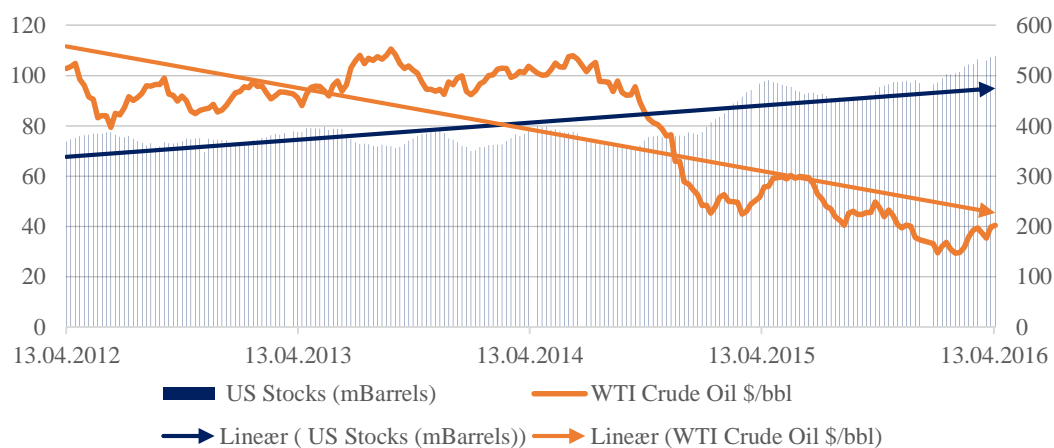
³⁷ U.S. Energy Information Administration. (March 2016). *Short-Term Energy Outlook*

³⁸ DnB Markets. (April 2016). *Oil Services - More tough years ahead*.

2016, a YoY increase of 1,2%. However, offshore oil production is forecast to decline in North West Europe, Mediterranean, the Middle East and Asia Pacific, mainly due to natural output reductions from maturing fields located within these regions, and a move towards gas production. The average storage of oil at 0,76 MM/bbl./day the last year and the expectation that there will be continuous over production, has led to high uncertainty in the price forecast and drastic fall in the spot price of Brent and WTI crude oil. Global oil inventories are forecast to increase by an annual average of 1,6 million b/d in 2016 and by an additional 0,6 b/d in 2017. These inventory buildups are larger than previously expected, delaying the rebalancing of the oil market and contributing to lower forecasted oil price. However, the market seems to be adjusting and gradually balancing out according to analysts.³⁹

U.S. oil stockpiles has shown to be a significant influence on WTI crude oil. Figure 20 illustrates how an increase in oil inventories has negatively affected the USD per barrel since 2012 to 2016. The market's *expectations* about change in US oil inventories is a catalyst that somewhat drive crude oil price. If inventories increase more than expected the market believes that there is a weaker demand and the price becomes bearish. On the other hand, if the increase of stockpiles is less than expected the market believes that there is a greater demand and the oil price becomes bullish.⁴⁰

Figure 20: WTI crude oil price development against US oil stockpiles, 2012-2016



Source: U.S. Energy Information Administration, April 13th-, 2012-2016 weekly reports

The reduction in the oil price the past year and the expected low levels in the future has an indirect effect on the growth and activity in the world economy. Oil exporting countries such as Norway, Russia and emerging markets is experiencing drastic reduction in their fiscal income. This leads to a readjustment downwards in GDP growth. Oil importing countries on the other hand, will have the

³⁹ British Petroleum. (2016). *Energy Outlook 2016*.

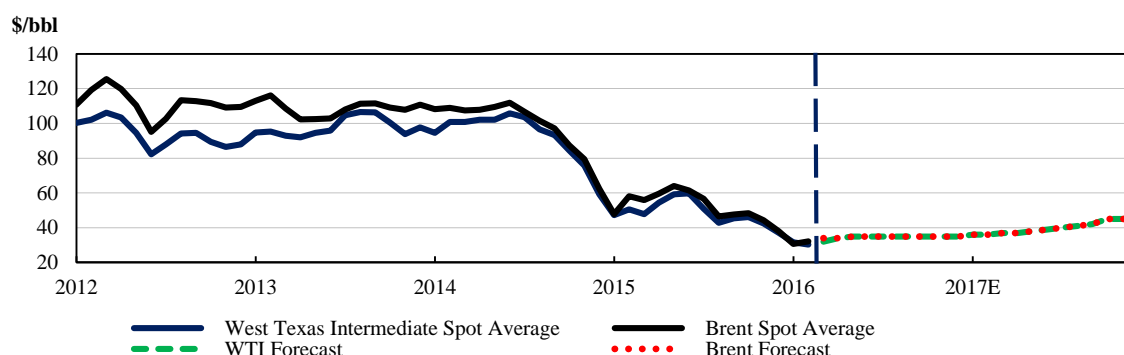
⁴⁰ <http://www.investing.com/economic-calendar/eia-crude-oil-inventories-75>

possibility of increasing their public investment with savings from lower energy subsidies. The International Monetary Fund (IMF) confirms that a lower oil price could help the global growth, as the consumer will have greater economic flexibility to use for personal goods.⁴¹ GDP growth through increased consumer confidence and increased disposable income could boost activity and thus energy demand. Despite the positive effects for oil importing countries, it is only expected a gradual improvement in the world economy in 2016 and 2017 at 2,9% and 3,1% respectively as observed from table 3.⁴² As explained earlier, China has experienced weak GDP-growth the last couple of years as a result of investment reductions. Nevertheless, the low oil price has led China to take over the spot as the world's largest net importer of oil with a daily import of 7m/bbl./day, while the U.S has become less dependent on oil imports due to domestic production opportunities.

3.3.2 Forecast of the oil price

Due to high uncertainty in market equilibrium and the number of high volatility factors affecting the market conditions it is difficult to give a reasonable estimate for the future oil price. By combining fundamental expert analysis with pricing of oil futures it is possible however to form a picture of how the market will most likely develop in the near future. The longer the forecast horizon, the more difficult, imprecise and uncertain predictions become.

Figure 21: Forecasted oil prices, 2016-2017E



Source: EIA 2012-2016 petroleum reports

The oil price levels for both Brent crude oil and WTI are expected to average the same at \$34/bbl. in 2016 and \$40/bbl. in 2017 which is a reduction of USD 3/bbl. and USD 10/bbl. from the previous forecast done by EIA. A decrease in forecast prices, according to EIA, reflects an oil production that has been more resilient than expected in a low-price environment and lower expectations to forecasted oil demand growth.⁴³ Figure 21 shows the different future contracts that extend through

⁴¹ International Monetary Fund. (Jan. 19, 2016). *World Economic Outlook*

⁴² World Bank Group. (Jan. 2016). *Global Economic Prospects*.

⁴³ U.S. Energy Information Administration. (March 2016). *Short-Term Energy Outlook*.

2017 with an expected oil price of around \$40/bbl. Overproduction and lower expectations for global economic growth contributes to a reduction in the oil demand forecast. Inventory buildup in the U.S. and OPEC, due to still being resilient in maintaining market share, puts additional short-term pressure on the oil price. Yet, expansive monetary policy in Europe, stable (albeit slower) growth in China and indirect easing of cheaper oil, could in the future open for higher oil demand in the medium - to long-term. There is however, a high uncertainty in the futures contracts for oil price. This is illustrated by the market expectations of WTI crude oil where the price in December 2016 ranges from \$20/bbl. to \$81/bbl. with a 95% confidence interval, and the implied volatility averaged 50%. High forecast inventory and slower market rebalancing contributes to a more limited price recovery than earlier anticipated. The expectation of reduced cash flows in 2016 and 2017 has prompted many companies to scale back investment programs, and deferring major new undertakings until a sustained price recovery is displayed.⁴⁴ The development in shale oil combined with lower growth in oil demand stands as a threat to the general offshore activity level and the OSV-industry. We thus set, through the fundamental analysis, an oil price in the short- to medium-term at \$45/bbl. and in the long-term a (optimistic) balancing out for both Brent and WTI of approximately \$60/bbl., which is believed to be the consensus of many analysts.⁴⁵ It is further noted that a stable oil price at \$60/bbl.+ is required for the deep-water cycle to reach the threshold for recovery, and operate at favorable rates.⁴⁶

3.3.3 Geopolitical risk and random shocks

Geopolitical risk and random shocks, so-called “black swans”, can have significant impact on the oil price. In order to understand the whole picture, it is necessary to explore how major events affect the global economy and how they in turn affect demand in the short- to long-term. One contributor to the high uncertainty in the oil price is the political tension in Middle East, concerning both terrorism groups like ISIS and political tensions. Early in 2016, the sanctioned Iranian oil re-entered the market, triggered by Tehran’s compliance with nuclear agreement.⁴⁷ Iran’s finance minister described the current oil price as representing “an all-out war” for market share. As a result, the returning Iranian oil will arrive in an already fully saturated market at a time of maximum seasonal weakness. However, if the volume turns out be lower than anticipated, the market would have a reason to moderate their muted outlook. Another question that now lingers and haunts the oil market is whether China is transitioning from an industrial economy to a consumer and service-oriented

⁴⁴ U.S. Energy Information Administration. (March 2016). *Short-Term Energy Outlook*.

⁴⁵ DnB Markets, EIA, IMF

⁴⁶ DnB Markets. (April 2016). *Oil Services - More tough years ahead*.

⁴⁷ Financial Times. (Jan. 2016). *Oil price are at the mercy of geopolitics*.

economy, or if there are deeper structural problems that indicate slower growth and more uncertainty of the kind recently seen in the Chinese stock market.

The steady stream of negative developments is contributing to a reinforced sentiment that weighs down the oil price. In combination with fear among some, that the global industry can run out of places to store the surplus, the tension and uncertainty in the oil price is as prevalent as ever.

3.3.4 Oil price summary



Keywords

- ✓ Price volatility, but increased trade.
- ✓ Crude oil price expected to rise, albeit slowly
- ✓ Reduction in supply
- ✓ Larger-than-expected rise in both U.S. industrial production and existing home sales in January along with continued gains in U.S. employment supported crude and equity market
- ✓ Market adjusting and gradually rebalance that will take several years to fully stabilize.
- ✓ Oil price estimated to \$45/bbl. short-to-mid-term (2016-2018)
- ✓ Long-term (2020-) we can expect a gradual bounce-back with oil price above \$60/bbl.

In short

Despite a positive development in the oil price at the beginning of 2016, the market struggles to be optimistic about the offshore focused service industry, as analysts believe a recovery in backlog build and earnings is several years off. Furthermore, as mentioned, deepwater would be the last to benefit in a recovery situation and that sustainable recovery in the deepwater development cycle is several years' way. In order for deepwater to regain its competitiveness, costs would have to come down significantly – and permanently. The flipside is that the addressable deepwater market should be structurally lower in the next cycle. Deepwater development costs have fallen significantly, but other oil sources have seen similar – if not greater – cost deflation. Finally, DnB Markets still find it unlikely that deepwater market will dry up completely, but expect an “air-pocket” of demand towards end of the decade due to long lead-times.⁴⁸

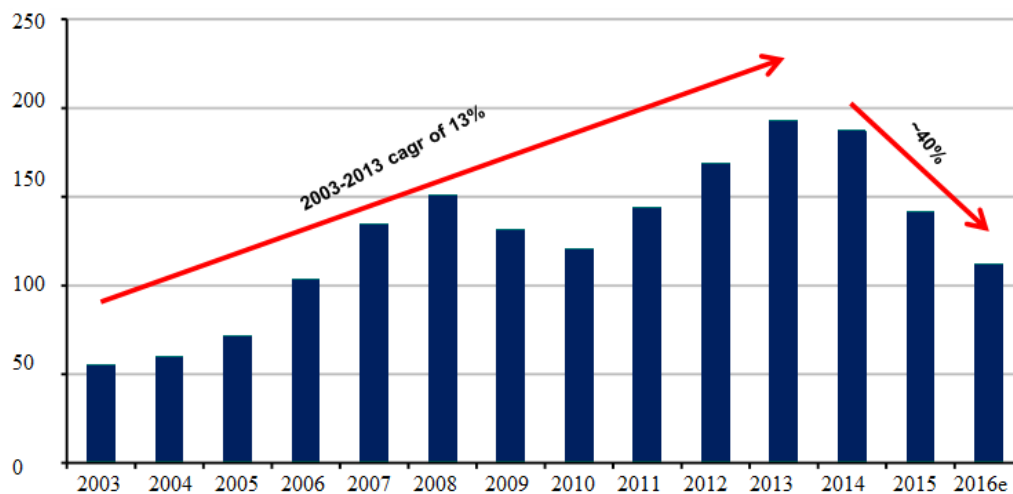
3.4 Investments in Exploration and Production

Exploration and production (E&P) is the backbone of the OSV-industry's profitability. The oil price is the main driver for oil companies' investments in E&P, and thus the demand in OSV services. If an oil company increases their activity in drilling and production, offshore supply vessels will be needed for the operation and maintenance of the platforms. Thus, a normal chain of events is that a reduction in the activity of E&P leads to less demand for OSV services. The correlation between the oil price and E&P spending is high, but with a time lag of 6-18 months, as it takes time for companies investing in E&P to adjust accordingly to the oil price. The companies also want to

⁴⁸ DnB Markets. (April 2016). *Oil Services - More tough years ahead*.

remove uncertainties in the oil price by observing it over a period before they make investment decisions.

Figure 22: Global offshore investments (USDbn) 2003-2016E



Source: (DnB Markets, April 2016) & Authors' emphasis

Figure 22 shows the global offshore investments in production related activities over the past decade. Spending has almost halved since its peak in 2013, and the outlook for 2016 is expecting investments in E&P to fall by 21% YoY.⁴⁹ Several of the major companies including ENI, ExxonMobil, Total, Chevron and ConocoPhillips expect CAPEX cuts in excess of 20%. For 2017, some oil companies have indicated their spending level so far, where Chevron, being the most bearish, said it expected E&P spending to be down under 25%. With spending levels in 2017 ranging from flattish to a reduction of up to 25%, it is looking like 2017 will be another year with declining E&P spending. This will, as aforementioned, hurt the OSV-industry significantly.⁵⁰ The only question that now stands is how great the negative impact will be.

3.5 Rig Market

Number of active rigs and new rigs that enter the market is one of the many drivers for demand of OSVs and has a direct effect on vessel day rates. A working rig leads to activity in the OSV-industry in several ways. AHTS-vessels are used to set up and reposition anchors for floatable rigs, and to move rigs to new areas or within the exploration area. The PSV-vessels are used to carry essential equipment and materials to the platform. Subsea vessels (CSV) handle the preparation before production and drilling in new fields, through installation of underwater systems with the help of remotely operated underwater vehicle (ROV-) vessels (see A.1 for more details). The distribution of work implies that if new rigs to the market are reduced, AHTS-vessels will be affected to a larger

⁴⁹ DnB Markets. (April 2016). *Oil Services - More tough years ahead*.

⁵⁰ DnB Markets. (April 2016). *Oil Services - More tough years ahead*.

extent directly. The PSV- and Subsea vessels that also perform tasks related to active rigs will on the other hand experience a longer cyclical lead-time when affected by lower rig activity.

The record high oil price before late 2014 resulted in a global increase in E&P investments of 287% since 2000. From 2010 to 2014 global rig counts grew by 85%, and all geographical regions saw significant ramp-ups.⁵¹ This led the rig market to experience a solid boost in demand after new rigs, which again resulted in a market almost entirely sold out of available rigs. The rig companies reacted to the high utilization rate by having a historical large order book. However, when the price for oil started to drop in June 2014, the rig dayrates plummeted as a function of oversupply in the market. These new rigs are now entering the market at a time when the appetite to drill is poor, further leading to lower utilization rates and dayrates. The increased search for oil and gas in “The Golden Triangle”, an area characterized by deep water, has led to an increase in growth and demand for more advanced deep-water exploration and subsea installations.

An example is the Brazilian market, which has been the main area for the increase in demand for new rigs. Between 2006 and 2012 the Brazilian market experienced a CAGR of 24% because of an infusions of new rigs. Activity the past ten years in markets with extraordinary weather conditions, especially the Norwegian Continental shelf, has experienced a growth of 92% during this period. In addition, the rig markets and indirectly the OSV-companies have seen a significant activity increase in Russia and the Kara Sea, as well as the demanding areas around Alaska and Greenland. With developments of new oil fields, more wells being drilled and higher utilization rates on rigs, the demand for more advanced AHTS-, PSV- and Subsea-vessel will grow. The new trend, where utilization of more mobile rigs that can drill at several extraction sites could have further positive effect on the OSV-industry. Drilling at an increased number of extraction wells means that the rigs needs more frequent relocation. This will primarily have a positive effect on the AHTS and Subsea segments, as they have the technology and equipment to move the rigs around different drilling sites. Higher activity at the extraction blocks stimulates a need for installation and subsea solutions that the floating rigs depend on.

3.5.1 Rig Market Outlook

The situation at the end of 2015 is quite different then what is explained above during stable market conditions. The steep decline in E&P-activity began in December 2014, and has shown its negative impact on the amount of active drilling rigs in April 2016. During this period, the number of active rigs in the US went from 1470 units to only 450 units both onshore and offshore.⁵² With no

⁵¹ Alix Partners. (2016). *Global Oil and Gas industry Outlook*.

⁵² Fearnley Securities. (2016: 3). *Offshore Supply*.

expectations of significant oil price increase the next couple of years, drilling activity have flattened out. Due to the high statistical correlation ($r^2=0.92$) between drilling activity and oil and gas companies' income, looking at oil price forecasts is an adequately good indicator for future rig activity.⁵³ Furthermore, low activity is not the only issue in the oil drilling-sector. Capacity has increased continually since the early 2000s, and is expected to increase in 2016 with the delivery of more rigs currently under construction. This is especially prevalent in the UDW-segment (Ultra-deepwater fleet).⁵⁴ Another important factor on capacity which is the result of the economic pressures on E&P-companies, is increased asset efficiencies. In the wake of tighter market conditions, oil and gas companies are streamlining their whole value chain by working “in a smarter and better way.”⁵⁵

Activity in the deepwater-segment is estimated to pick up in mid-2019 and into 2020. The reason for this is the long lead-times in the sector, where sanctioning of new project usually doesn't come into effect before 1-2 years later. Predictions for 2016-2017 are therefore subdued, and we foresee deepwater and its supporting industries will experience economic and structural challenges. In light of these expectations we c foresee an increase demand for Subsea vessels to pick up in 2018, and further slowly increase as sanctions enter the market again. However, even longer lead-times may be more realistic according to DnB markets. Number of rigs necessary to maintain historically same levels of production today is decreasing due to industry cost deflation. Great leaps in drilling efficiencies, lower prices, new designs and architectures, and reduced extraction complexities have increased drilling capacities while at the same time decreased project horizons and lowered CAPEX between 10-12% dependent on drilling segment.⁵⁶ Shipowners should include this long-term concern in their analyses of future OSV-demand.

3.6 Regional demand

Brazil, Gulf of Mexico and West Africa is often referred to as “the Golden Triangle” or “the Deepwater Triangle” due to their large oil and gas reservoirs being pumped from considerably deeper waters than most other extraction fields around the world.⁵⁷



⁵³ RS Platou. (2015: 36). *The Platou Report*.

⁵⁴ DnB Markets. (April 2016). *Oil Services - More tough years ahead*.

⁵⁵ DnB Markets. (April 2016: 6). *Oil Services - More tough years ahead*.

⁵⁶ DnB Markets. (April 2016: 9). *Oil Services - More tough years ahead*.

⁵⁷ Offshore Energy Today. (2013). *Douglas Westwood: Golden Triangle to dominate deepwater expenditure over 5 years*

Table 4: OSV fleet deployment by country and region - change 2015 to 2016

Segment	Fleet deployment, April 2016*							Global total [#]
	GoM & N. America	Brazil & S&C America	W. Africa	North Sea & NW Europe	Med.	Middle East /ISC	Asia Pacific	
AHTS and AHT	124	140	266	143	204	598	835	2992
YoY change	-25 %	-14 %	-25 %	-9 %	-12 %	-5 %	-15 %	2 %
PSV/Supply	549	251	213	228	67	228	222	2488
YoY change	-24 %	-18 %	-25 %	-21 %	-6 %	-10 %	-15 %	5 %

Source: Clarksons Research. (April 2016). *Offshore Support Vessel Monthly*. & Author emphasis

The table above accounts for regional – and country specific demand for OSVs in the different markets. We can clearly see that deployment rates of *active vessels** have dropped significantly from 2015 to 2016 in all regions, while the *overall number*[#] of units (which notably includes inactive and laid up ships) has continued to increase for the same period. This is due to the backlog of new build orders now beginning to enter the market as result of ship owners’ and investors’ past speculation on the industry’s future growth.

3.6.1 Brazil

Brazil has been one of the main drivers for OSV demand during the last 10 years. However, the market has currently come to a dead stop, and continues to remain challenging where a net outflow of vessels is leaving the region. Petrobras is progressively releasing more and more vessels from their contractual obligations mainly due to political blocking of foreign vessels. Semi-submersible rigs have been reduced from 57 in 2012 to 18 in mid-2016, while at the same time construction of its floating production storage and offloading units (FPSOs) have experienced severe delays – which is another important driver for demand for OSVs in the region.⁵⁸ Petrobras has released 51 vessels (25% of foreign-flagged fleet) the past year by not declaring options to extend, due to vessels being blocked under the “circularization” clause.⁵⁹ A number of foreign-flagged vessels on long-term charters have therefore lost their license to operate in Brazilian waters, which has forced them to relocate to other regions or return home. Lower exploration activity has further imposed pressure on the OSV market. Vessels previously working on drilling campaigns in frontier regions are now looking for deployment rather than trading spot. OSV-activity as a result has seen a drop of 14-18% depending on segment in the region as highlighted in table 4 above.

⁵⁸ Pareto Securities. (2016: 50). *Pareto E&P survey*.

⁵⁹ Pareto Securities. (Jan. 2016). *Few signs of improvement*.

Further, the activity in the region has been greatly affected by the country's financial situation. In 2015, Brazil experienced 10,5% inflation, an interest rate of 14,25% and the Brazilian Real weakened by approximately 32% against the American Dollar.⁶⁰

3.6.2 US GoM

The U.S. GoM OSV market is a closed market due to the Jones Act cabotage rules, and consists by and large of U.S. owned companies. It is primarily the four major companies Edison Chouest, Harvey gulf, Hornbeck and Tidewater, which combined have ~ 50% of the total regional fleet, that control this market. In the U.S. Gulf of Mexico OSV fixture activity remained depressed throughout 2015, and there are no big indicators that there will be a turnaround in this trend in the near future. This has contributed to a decline in rates across the majority of OSVs. AHTS vessels trading on the spot market tended to secure higher rates when compared to units on the term markets as owners have reduced AHTS supply via vessel lay-up.⁶¹ The PSV order book from American yards has come down significantly. Only a few orders have been placed for new tonnage the past year. Pareto expects limited new ordering as a result of the challenging oil price environment, and pressure on the low rig activity in the region. This could potentially see the market balance eventually improving in the medium-term.⁶² Furthermore, the fleet deployment in the region has seen a significant drop during the first quarter of 2016 with a decline of 24% of active PSV/Supply-units and 25% decline of active AHTS-vessels.⁶³

3.6.3 Asia

Early 2016 saw the release of a number of pre-qualification tenders in South East Asia. This included the prequalification tender for three PSVs released by Shell in Malaysia. Pre-qualification tenders are used as a tool to check the market conditions and reassess charter rates for vessels already under contract. Asia, along with the rest of the OSV-markets around the world has also experienced a steep decline in vessel deployment with a 15% drop in the AHTS-segment and 15% drop in the PSV-segment on a YoY-basis.

3.6.4 Africa

West Africa has emerged as an increasingly more relevant OSV region the past years in line with the growing rig fleet. The region has shifted from being dominated by lower-end older vessels and local players, to see several high-end, harsh environment vessels gain popularity. Pareto Securities predicts the rig fleet to stagnant in 2016, resulting in limited incremental demand for OSVs region. In early 2016, Clarkson Research reported that the OSV market in West Africa has remained

⁶⁰ Farstad Offshore, "Annual Report", 2015: 4

⁶¹ Clarksons Research. (April 2016). *Offshore Support Vessel Monthly*.

⁶² Pareto Securities. (Jan. 2015). *Muted market outlook*.

⁶³ Clarksons Research. (April 2016: 18). *Offshore Support Vessel Monthly*.

relatively unchanged due to limited number of new requirements in the region, but relative to the other regions, the overall activity of vessels has had the biggest drop from 2015 to 2016 as outlined in table 4.

3.6.5 North Sea and the Arctic

The region consists mostly of Norwegian and UK waters. Although characterized by mature discoveries, the region has shifted its focus on redevelopment of wells. The Johan Sverdrup field is expected to halt the declining production trend from 2020 due to its significant reserves.⁶⁴ Early 2014 started off on a good note for the North Sea shipowners, with the Kara Sea campaign in the Russian Arctic and apparent high demand from West Africa taking capacity out of the market. However, The North Sea has been a very challenging region for vessel owners in 2015, with a net inflow of vessels and lower term demand, particularly from Statoil. Spot rates started printing below operating expenditure (OPEX) already in 2014, both for PSVs and for AHTS', with lower activity levels consistent with the winter seasonality, but rates remaining at those levels throughout 2015.⁶⁵ The challenging market conditions in the North Sea are becoming increasingly evident, as several shipowners for the first time since 1980s are laying up vessels. This has not been a company specific event, but has materialized throughout the industry, with both new and older assets taken out of the market. PSV-activity has experienced the strongest economic pressure, which has resulted in a 21% decline from the previous year. The segment is also the largest in the sector, accounting for 62% of the OSVs in the region. The two key drivers of the decline in PSV-activity stems from significant cost-cutting by charterers trying to do jobs in shorter amounts of time, and ship owners' fear of committing to long-term contracts at severely discounted rates.⁶⁶

For many operators, the Arctic basin has been considered a gold mine in terms of potential E&P since the USGS published an estimate of approximately 90 billion barrels of undiscovered, technically recoverable oil in the area north of the Arctic Circle.⁶⁷ However, due to political and public pressures surrounding the environmental implications of drilling in the region there is no current demand for tonnage. Vessel to rig ratios were expected at 8-10x compared to the usual 1-3x in other areas, but as of 2015 the dream of the Arctic oil shelf is put on ice.⁶⁸

⁶⁴ <http://www.rystadenergy.com/AboutUs/NewsCenter/PressReleases/northsea-ep-decline-coming-to-an-end>

⁶⁵ Pareto Securities. (Jan. 2016). *Few signs of improvement*.

⁶⁶ Clarksons Research. (April 2016: 20). *Offshore Support Vessel Monthly*.

⁶⁷ <https://www.usgs.gov/media/audio/90-billion-barrels-oil-and-1670-trillion-cubic-feet-natural-gas-assessed-arctic>

⁶⁸ Pareto Securities. (Jan. 2015). *Muted market outlook*.

3.6.6 Solstad Regional exposure

**Brazil**

Active vessels: 3

Financial exposure (sales):**21%**

A CSV-dependent market see opportunities decreased in the region as Petrobras is cutting foreign operating licenses. Solstad's CSV investments in the industry means that the company is exposed to higher risk in conjunction with the activity slowdown—which is expected to continue. As of 2016Q1 **CSV operations account for 97%** of company EBITDA. Without foothold in the region, and active cooperation with government in training local personnel, a very significant portion of the company's total freight income will continue to dwindle.

**Asia/AUS**

Active vessels: 5

Financial exposure (sales):**19%**

The region is comprised of vessels contracted over a large area, including countries such as the Philippines, Singapore, Australia and Malaysia. Future threats to freight income stems from natively established companies that can slash OPEX significantly compared to that of Solstad which deals with much stricter Norwegian seafaring laws and regulations. Asian shipyards are catching up with Nordic ones in terms of technological advancements, and have shown to be more effective timewise.

**West Africa**

Active vessels: 2

Financial exposure (sales):**6%**

The region is still relatively small globally. Although activity has dropped significant since 2015, Solstad's two vessels operating in the area account for minimal exposure to the company's overall revenue stream. We argue that the technical requirements of the ships contracted to the area is lower than most what Solstad fleet supply, which reduces their interest in the region.

**The North Sea**

Active vessels: 14

Financial exposure (sales):**33%**

Seeing vessels returning from foreign markets continue to put pressure on an already oversupplied market. In addition to active OSVs in the region, Solstad has another 11 in layup with one new build arriving in June, albeit with a long term T/C in place. The AHTS-segment is dependent on rig activity which has also seen a steep decline the last two years. Rig activity and AHTS+PSV demand follow in tandem due to the nature of their operations, and has only sporadically experienced acceptable rates. The market is becoming increasingly more difficult to financially navigate as OPEX continues to rise largely due to the high administrative and personnel costs of Northern European residents.

**US GoM**

Active vessels: 5

Financial exposure (sales):**16%**

The Gulf of Mexico (GoM) has shown a significant drop in activity across all segment, but the biggest threat to Solstad is the fierce competition amongst firms to secure favorable rates in the AHTS and PSV-segments. Overcapacity is still prevalent in the region, and without significant cuts in supply, Solstad may be forced to layup or send additional vessels back home to the North Sea after contracts run out.

**Europe**

Active vessels: 1

Financial exposure (sales):**5%**

Along with West Africa, the Mediterranean and southern Europe plays a minimal role on the freight income of Solstad. The company is currently operating one vessel in the region, and is not expecting any dramatic changes in contracting for this particular market in any foreseeable future.

3.7 Supply side of OSV

The supply-side response time in the OSV-sector is primarily explained by the slow construction time of new vessels. Depending on size, complexity and yard capacity, deliveries vary between 12 and 24 months.⁶⁹ A significant fleet growth is not observed before two to three years after the initial surge of orders.⁷⁰ The market is especially affected by drilling and offshore activities, which has during the last couple of years seen a steep decline. Supply growth of vessels being delivered to the market due to lead time after a peak demand phase has resulted in vessel stacking as well as significant pressure on day rates and vessel utilization. At the beginning of 2016 close to 30% of the operational North Sea fleet had been laid up; 60+ PSVs and 30+ AHTS vessels.⁷¹ Oversupply has resulted in a gradual increase of vessels being forced to enter the spot market. Low demand in foreign markets such as Brazil (Petrobras) has had a secondary impact on the North Sea fleet. Contracting local vessels have been prioritized over foreign flagged, which has seen their operating licenses being withdrawn. The net outflow of OSVs in Brazil have resulted in a net inflow of OSVs in to an already oversupplied North Sea market as well as other struggling regions. The market will continue to struggle with the imbalance of demand and supply as the lead time between order and delivery remain significantly long. Oversupply of OSVs is the main driver for decreased day rates in the market, which has forced the industry to its knees. In response to the ongoing economic crisis largely caused by the weak oil price, some of the most crucial decisions shipowners will have to address in the coming year is whether contracts on new builds should be cancelled, older tonnage scrapped or sold, or to continue vessel stacking.

3.7.1 Supply-side drivers

In the following paragraphs four main decision makers are presented and analyzed to gain a better understanding of the dynamics affecting the supply-side of the OSV-sector. These decision makers are comprised of the following interest-groups as outlined by Stopford (2009): Charterers, financial institutions, regulatory authorities and ship owners. All play a part in how the total supply of OSVs are responding to market changes. A fifth decision maker is also discussed; shipyards have historically been a “order-and-deliver” type of player in the shipping industry, but due to the increased competition among shipyards and increased bargaining power over their customers, their influence on supply has become relevant. This part will account for these decision makers, and summarize their effects on the supply-side of the industry.

⁶⁹ Pareto Securities. (Jan. 2016). *Few signs of improvement*.

⁷⁰ Stopford, M. (2009: 166). *Maritime Economics*.

⁷¹ Pareto Securities. (Jan. 2016).

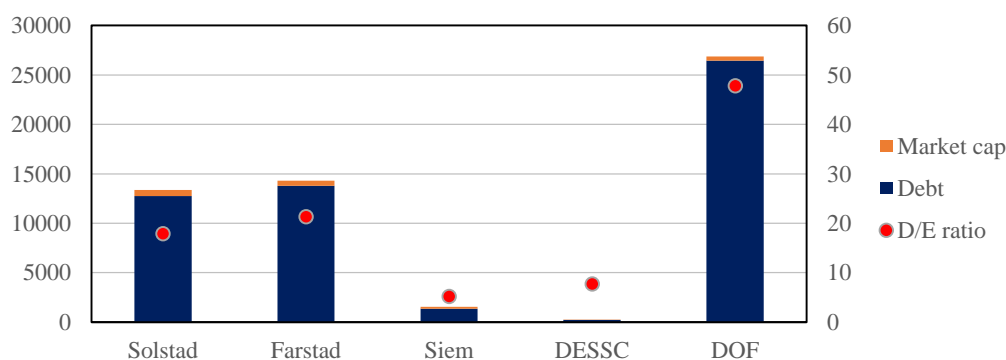
Charterers

Shippers operate in the spot-market, and have little influence on the supply of vessels in the OSV-sector. However, during economic downturns, such as the one currently being experienced in the industry, charterers can encourage an increase in newbuilds by signing long-term contracts with clients themselves. In some cases, the charterers can become shipowners themselves which put them in a stronger position to influence the supply side of OSVs. However, after the oil crash in late 2014 the industry saw a significant change in the behavioral dynamics between charterers and shipowners. As a result of the falling interest in long-term contracts on the demand-side, charterers have taken the opportunity to instead charter vessels on short-term and project basis opposed to historically been dependent on speculative long-term charters.⁷²

Financial institutions

Most of the capital raised in the OSV-industry comes from various financial institutions. According to Stopford “commercial banks are the most important source of debt finance for the shipping industry”,⁷³ and these banks usually offer loans varying between 2 and 8 years. Most of these loans are financed through borrowings in the capital and money markets. Figure 23 below shows that all of Solstad’s industry peers are highly dependent on debt financing from banks and other institutions when financing their investments in vessel acquisitions.

Figure 23: Peer industry market capitalizations and debt in MNOK



Source: Authors' compilation; peer group annual reports 2015

This form of growth strategy has exposed most of the sector to potential economic downturns – which we are seeing today. During the oil boom OSV-companies became fueled by high-yield bonds bought by investors that were looking for higher returns in a slowing industry. This however, significantly increased the amount of financial risk investors took upon them, and fueled an already

⁷² Fearnley. (2015: 4). *The Offshore Report, Summary*.

⁷³ Stopford, M. (2009: 284). *Maritime Economics*.

heavily geared industry further. Solstad is part of the Norwegian OSV-cluster that is bleeding as a result, and is now looking for additional liquidity to refinance their current bank and bond debt – and renegotiate terms on loans. In an effort to raise new equity the company is one of the first in the OSV-business to publicly address solving the issue by looking for a possible merger.⁷⁴

Regulatory authorities

Governmental bodies have different levels of influence on the supply of OSV-vessels in the sector and the shipping industry in general. The most common form of influence stems from the regulatory environment in which it yields great power. Authorities impact companies' ability to effectively operate legally through safety and environmental legislations, which in some cases can limit the amount of players willing invest the appropriate amount to enter the market. A tighter regulatory body may increase the barriers to entry as well. The Brazilian government is one example of the external risks regulatory authorities can impose on the OSV-sector and consequently have a negative effect on the industry's earnings potential. "Flagging out" vessels to countries of open registration such as Liberia, Singapore and Panama can decrease the cost per crew member by as much as 50%. However, flagging out vessels to decrease employment costs is less common in the OSV-sector because quality of workforce is a much bigger issue than cost.⁷⁵

Ship owners

Ship owners bring vessels to the sector when market conditions are good. They are the primary decision makers on the supply-side; deciding on scrapping, selling and ordering of newbuilds.⁷⁶ Furthermore, shipowners can limit supply by temporarily laying up vessels. As of April 2016, there are more than 140 OSV's on layup in the North Sea alone. Most of these are warm stacked in anticipation of better market conditions.⁷⁷ From the OSV-industry's business cyclicity illustrated in figure 3. higher day rates increase profitability of operations which stimulates companies to order more ships. However, due to the lag time in deliveries ranging anywhere between 12 to 36 months, ship owners are forced to wait a considerable time for their newbuilds to complete – and in many cases be delivered during unfavorable market conditions. Furthermore, their decisions on whether to scrap or not affect the number of operational vessels globally.

⁷⁴ Pareto Securities. (Jan. 2016). *Few signs of improvement*.

⁷⁵ Stopford, M. (2009: 229). *Maritime Economics*.

⁷⁶ Stopford, M. (2009: 150). *Maritime Economics*.

⁷⁷ Fearnley. (2014: 4). *The Offshore Report, Summary*.

Table 5: Expected total world fleet, AHTS and PSV – 2017E-2019E

PSV	2017E	2018E	2019E	AHTS	2017E	2018E	2019E
Fleet primo	2488	2494	2420	Fleet primo	2992	2947	2837
On order	186	73	2	On order	139	50	0
Construction slippage	30%	30%	30%	Construction slippage	25%	25%	25%
Vessel slippage	56	22	1	Vessel slippage	35	13	0
Fleet after slippage	2618	2545	2422	Fleet after slippage	3096	2984	2837
Scrapping	5 %	5 %	5 %	Scrapping	5 %	5 %	5 %
Expected fleet	2494	2420	2301	Expected fleet	2947	2837	2695

Source: *Clarksons Research. (April 2016)., RS Platou. (2015.), compiled by authors*

The influx of vessels to the market in recent years are seeing a hastily stop in the order book as market conditions have continuously worsened after the oil crash in 2014. One definite indicator of worsened market conditions is the North Sea PSV fleet which did not grow at all in 2014.⁷⁸ Furthermore, March 2016 was the fourth consecutive month in which no OSV newbuilds was ordered. The last contract for a new build was reported placed in November 2015.⁷⁹ It is expected that the high slippage rates of Brazilian and Asian shipyards combined with a rapidly aging OSV world fleet profile of 36% being older than 15 years,⁸⁰ shipowners will be looking to reduce their capacity by either selling off older vessels or increase scrapping activity. Most likely case scenario projects a need to scrap 1000 vessels by 2020 in order to balance out the supply-side.⁸¹ Theory suggest aggressive scrapping occur when the industry's cash reserves are run down and future prospects are low.⁸² Moreover, demolitions reached a record high in 2009 only a year after the 2008 financial crisis.⁸³ In light of these factors, annual scrapping rates are likely to go up, at least in the low-to-mid-end OSV-segments, while the number of contracts on newbuilds are expected to continue to decrease. We can also expect to see more ship orders cancelled. This argument is further solidified by table 5 above, which shows that orders from 2019 and onwards are close to non-existent. As of March 2016 there are an estimated 353 AHTS and PSV's under construction

⁷⁸ RS Platou. (2015: 38). *The Platou Report*.

⁷⁹ Clarksons Research. (April 2016: 1). *Offshore Support Vessel Monthly*.

⁸⁰ Clarksons Research. (April 2016: 12). *Offshore Support Vessel Monthly*.

⁸¹ Lorch-Falch, S. (2016). *Dette må til før rederiene rister av seg stormen*.

⁸² Stopford, M. (2009: 160). *Maritime Economics*

⁸³ Clarksons Research. (May 2012). *Overview of the Offshore Supply Vessel Industry*.

globally, which accounts for approximately 11% of the total world fleet. Considering the present, economic situation in the market, many of these ships cannot be expected to be completed.⁸⁴

Shipyards

Much of the supply growth has come from Asia, and in particular China. The region's labor costs coupled with fast developing construction technologies and methods has enabled them to deliver vessels to the market at a 20-30% discount compared to European yards.⁸⁵ Thus, looking at shipyard capacity, efficiency and cost have become paramount factors when assessing the future supply of vessels in the sector. Furthermore, due to the booming demand for more OSVs in the peak season of 2013/2014 many Chinese yards prematurely began construction of additional ships based on speculation for future demand which is observed by the spike in the global order book of vessels. Continued supply growth is expected through 2016 and onwards as a result of lag deliveries, with over 450 vessels independent of specifications on the global order book.⁸⁶ Pareto Securities estimates those numbers to make up approximately 8% and 14% of the total fleet presently operating globally.

3.7.2 Dayrates and utilization

The last part of the shipping market model is the freight rate mechanism. It links supply and demand where shipowners and their customers negotiate prices on vessel services offered. The mechanism between the two is based on available ships and amount of tenders on the market.⁸⁷ In the OSV-sector bargaining power on day rates have historically belonged to the buyers (demand side), and are dependent to up-stream activity. This is further discussed in chapter 5. *Porter's five forces*.

After the oil crash in 2014, more and more OSV-companies have found themselves forced onto the spot market with their ships. The spot-market is by our definition contracts that lasts for 30 days or less. E&P outlook has drastically been reduced which in turn has meant less offshore activity and demand for supply-services. Shipowners have therefore been forced to accept less than favorable dayrates on the spot-market. This situation is described as "momentarily equilibrium"⁸⁸ and is best illustrated as being an auction where rates can fluctuate greatly based on the supply and demand mechanism.

Utilization is a measurement that takes actual revenues generated by the company's vessels and compare them to their maximal revenue potential. In most regions dayrates are down to breakeven levels, and seeing most OSV-companies highly leveraged utilization is being prioritized over

⁸⁴ Tidwater. (2016). *Scotia Howard Weil 2016 Energy Conference*.

⁸⁵ Pareto Securities. (Jan. 2016). *Few signs of improvement*.

⁸⁶ Clarksons Research. (April 2016: 10). *Offshore Support Vessel Monthly*.

⁸⁷ Stopford, M. (2009: 160). *Maritime Economics*.

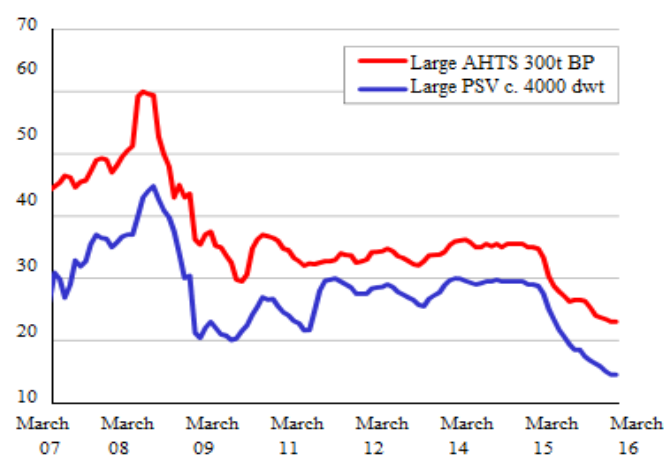
⁸⁸ Stopford, M. (2009: 164). *Maritime Economics*.

profits. Furthermore, low rates have persuaded ship operators in many instances to engage in “blend and extend” deals. Such deals imply an exchange of lower dayrates for longer charters. This secures higher utilization for longer periods of time and in most cases avoid costly alternatives such as vessel stacking.⁸⁹ However, these measures have not been enough to cushion the decrease in utilization levels, especially in the AHTS-segment. The North Sea-market has seen a AHTS fleet decline every year since 2011, and has continued up till today, whereas charter rates for AHTS’ and PSV’s started their decline in late 2014 shown in figure 24. Utilization is still down 7-8 percent on average for the high-end AHTS-segment.⁹⁰

At the beginning of 2016, the sport-market has secured higher rates globally compared to the long-term market as a result of reduced access to AHTS supply. However, the higher spot-rates compared to the term-market is not signaling bettering market conditions.

In March 2016 average dayrates of large AHTS’ (200t) was sitting at around NOK 200 000, down 31% since the start of 2015, meanwhile average dayrates of PSV’s (>4000 DWT) was NOK 125 000, down 47% for the same period.⁹¹

Figure 24: Global 12-Month Term Charter Rates (\$,000/day)



Source: Clarksons Research. (April 2016). *Offshore Support Vessel Monthly*. & Authors’ emphasis

Overall for the first quarter of 2016, bad weather conditions at the beginning of January drove AHTS spot rates up to as much as £75 000 per day, but due to improved weather at the end of January through February, rates quickly dropped down to £4000 per day. Spot rates again rose at the end of February as demand for rig moves increased. March saw rates stabilize for large AHTS’. On the other hand, PSV’s spot rates suffered considerably throughout the first quarter of the year.

⁸⁹ Pareto Securities. (2016: 46). *Pareto E&P survey*.

⁹⁰ RS Platou. (2015: 40). *The Platou Report*.

⁹¹ Clarksons Research. (April 2016: 1-2). *Offshore Support Vessel Monthly*.

Table 6: North Sea spot rates 2016Q1 change

High and low North Sea spot rates (in £/day excl. fuel costs) Januar – March			
Type	January 2016	February 2016	March 2016
AHTS 16,500 BHP +	3950 – 70 000	4000 – 100 000	8300 – 50 000
AHTS 10-16,499 BHP	9750 – 20 000	6435 – 47 500	9750 – 50 000
PSV (Deck > 750m)	3500 – 11 000	3000 – 11 000	4150 – 5800
PSV (Deck < 750m)	3250 – 16 000	3250 – 6000	3500 – 4500

Source: Fearnley. (April 2016: 4). *The Offshore Report*.

With no shorter upswings in rates as experienced by the AHTS-segment in the same time span. The average PSV spot rate for the period ended at around £5000 per day with utilization rates hovering around 50-75%, but still falling for both the AHTS and PSV-segments. In conclusion, spot rates have varied greatly between January and March 2016, and are still fluctuating highly as a result of the considerable tonnage surplus in the North Sea region. Further vessel stacking is one of the solutions that can balance out the oversupply and bump up rates above industry OPEX.⁹²

4. Porter's five forces

The analysis of Solstad continues with the implementation of Porter's five forces analytical framework. The framework aims to determine the competitive intensity and in consequence the attractiveness of the industry by looking at its underlying drivers. In this context, "attractiveness" refers to the industry's ability to produce profits and manage risk. The analysis uncovers possible positive and negative externalities which may help gain a better understanding of market fluctuations, cyclicity, and overall competitiveness. Current market conditions are difficult for OSV-companies; low-utilization rates, bad second-hand market, oversupply of vessels, increased OPEX are some of the factors currently tightening the competitive environment and lowering the attractiveness of the industry.⁹³

4.1 Threat of substitutes

Generally speaking, there are no immediate substituting alternatives within the OSV-segment. The main reason is that every ship type is normally highly customized to serve a specific purpose or a certain customer need. A substitute is also according to Porter (1980) products that are not in direct competition. Furthermore, the technical complexity of the vessels across the three main segments are diverse which implies various – but mostly high - degrees of capital investments for each new build. One example would be for a subsea vessel to be contracted onto a project commonly serviced

⁹² Fearnley. (April 2016). *The Offshore Report*.

⁹³ Pareto Securities. (Jan. 2016). *Few signs of improvement*.

by a PSV-vessel. Such a substitution of tasks would in most cases be unprofitable as PSVs have significantly lower rates on goods and personnel transportation than a subsea-ship. Moreover, it is impossible for a PSV to service the AHTS segment efficiently as it lacks the technical capabilities of towing an oil rig (A.1).

However, due to an increasingly tighter economic situation shipowners have been encouraged to think more creatively about their vessels capabilities. With the intensification of competitiveness and overall economic tension among industry peers and competitors, companies have been forced to operate different ship types for the same line of work. Instances of vessel substitutions as mentioned above have not been observed on a large scale and will most likely only happen on a case-by-case basis. Thus, the overall assessment of substitutes in the OSV-industry is characterized as low and inconsequential for established industry players.

4.2 Bargaining power - customers

The customers' bargaining power over the OSV-industry is dependent on the supply-demand conjuncture of the market. Naturally, with easy and quick access to an open market with many available vessels, the E&P companies⁹⁴ can use their bargaining power to force dayrates down either through tendering or aggressive negotiations with the many OSV-providers servicing the same sector. Overcapacity will – as observed recently – lead to heavily discounted dayrates, lower utilization of vessels and temporary ship layups. In efforts to control costs, profits are secondary to company survival which leads shipowners to prioritize contract coverage and utilization over favorable dayrates. Furthermore, the oil and drilling companies are setting increasingly higher standards of the OSV's they contract; among these standards are vessel age, durability, capacity and technical complexity. This is closely related to the intensification of the environment in which E&P are being performed, as well as regulations imposed by governments associated with worker safety protocols and environmental intervention. OSV-companies with older vessel fleets are especially exposed to these threats, as their customers are wary to contract potentially inefficient or hazardous ships.

On the other hand, the E&P companies lose bargaining power in times of high demand and the corresponding lack of available supply-vessels. Historically, in periods of surge for demand for available operating OSVs have led to manifold increase in dayrates and profits for shipowners. However, the process of adjusting investments in E&P is less complicated and faster than in the OSV-industry. This is explained by the long-term investments shipowners have to commit to construction and deliveries of vessels some 18-24 months ahead of expected returns. Oil and

⁹⁴ "E&P-companies" does in this case refer to the oil – and gas companies that is most known for operations related to exploration, drilling and refining of oil and gas; such as Statoil ASA and Petrobras

drilling-related activities can be halted essentially instantaneously if needed to cut production costs. The most recent occurrence that illustrated such a scenario was the 2014 oil crash. A case that has been highlighted throughout the thesis – and made a significant impact - on the overall analysis of Solstad. As a response to the declining oil price we have observed significant cuts in the OSV-customers' budgets. The Norwegian OSV-companies have been mostly affected by heavy cost-cutting initiated by Statoil and Petrobras who are the primary costumers of high-end OSV's in the sector. It is apparent that in the light of the described scenario, the oil-companies (e.g. the customers) have modest to strong bargaining power over its suppliers which in turn is dependent on socio-economic developments.

4.3 Bargaining power – suppliers

Shipyards are considered the most influential supplier in the OSV-sector. They construct newbuilds to the industry and companies that want additions to their existing fleet. The shipyards have a significant impact on their customers' bottom line by deciding prices and quality of the newbuilds. The competence of each supplier decides what type and how fast products can be delivered to the customers, which is crucial for the OSV-companies. An example would be the faster, cheaper, but less technically advanced vessels (notably PSVs) coming out of Asian shipyards compared to European shipyards renowned for their technical know-how and quality of its vessels – albeit with longer lead times and higher costs. Thus, due to the pressures imposed by Asian shipyards, European shipbuilders have lost much of their bargaining power in the OSV-sector. A wave of vessels accessible on the second-hand market, as well as the ability to cancel contracts of new ships have contributed to the difficulties of running a profitable shipbuilding business in Europe, and especially Norway in 2016. However, delivery delays of ships normally have a strong negative impact on the profitability of an OSV-provider, which tightens the competition between shipyards to ensure high levels of reliability and trustworthiness. Thus, it may therefore turn out that choosing a European shipyard in certain situations is less costly than its Asian counterpart.

The price of vessels follows the business cycle of the OSV-sector. When the market demands more ships to support increased E&P-spending, the OSV-companies naturally want to get their hands on more vessels. The bargaining power of the shipyards increases as an effect of the favoring market conditions, while the situation may be somewhat reversed when the market experiences a downturn and shipowners are struggling to fully utilize their fleet.

Crew expenses is another important element that in many cases retain some bargaining power in the sector. In Solstad's case, crew expenses accounted for 54% of the company's total expenses in

2015 making it the most important cost driver.⁹⁵ Solstad has invested a significant portion of its operations in Brazil, which in more recent years has seen an increase in OPEX. The main reason is because the country requires personnel onboard the vessels to be of local origin, thus forcing OSV-companies to invest in costly training programs of new crew on location.

4.4 Threat of new entrants

A threat of potential new competitors entering the industry is dependent on the barriers to entry. In the OSV-sector, the difficulty of entrance is affected by a number of factors such as; yard capacity, construction time of newbuilds, ability to attract capital investments, operational complexity, economies of scale, and legislative environment. Although the industry may appear accessible when considering the number of competing firms, the fact is that the OSV-sector is highly segmented and specialized which increases the requirement of competence for every project. The PSV-segment is considered the most exposed to new competition in the industry. This is mainly caused by the relatively low technical and capital investment requirements compared to that of the CSV and AHTS-segments, as well as their considerably shorter construction time between 12 and 18 months from order to delivery. Exploiting economies of scale is considerably more likely in the PSV-segment, while diversification of vessels intensifies in the Subsea-segment. Due to PSVs relative vessel simplicity most shipyards across the world having OSV-construction capabilities are able to deliver these to the market.

On the other hand, the AHTS-segment can be distinguished between high-end and low-end when discussing possibilities for new entrants. High-end AHTS' are much more cost – and time sensitive compared their low-end counterparts. Low-end AHTS' are less dependent on technical expertise which makes them easier and faster to construct. Asian shipyards therefore capitalize on their cheap labor and short construction times to supply the established companies– and in extension new entrants. OSV-companies that have geared their operations towards the Asian market or the low-end AHTS'/PSV-segment are therefore more exposed to the threat of potential new entrants.

The investments needed in the sector is high, but not the highest compared to many other capital intensive industries, which makes it attractive for banks and investors – given the right incentives – to help possible new entrants secure contracts that cover the entire lifetime of a vessel. Naturally, during economic expansion and growth, willingness to invest and take risks increases. Thus, favorable market conditions not only positively affect the bottom line of established companies in the industry, but enable potential new entrants to exploit banks' and other institutions' outlook on

⁹⁵ Solstad Offshore ASA, "Annual Report", 2015

the market. In conclusion the threat of entries is relatively high (to the other segments) for the PSV-segment, and medium-low for the AHTS and Subsea-segments.

4.5 Industry rivalry

Large, cyclical conjunctures in the OSV-industry affect the competitive landscape and the rivalry amongst Solstad's peers. Furthermore, the rivalry intensity in an industry is the result of interactions between six factors: diversity of competitors, product differentiation, exit barriers, concentration, and cost conditions.⁹⁶ However, in the OSV-sector, rivalry is most importantly affected by the balance between supply and demand of OSV-vessels. Competition to win the RFTs (Request for tenders) issued by the oil and gas companies are fierce, and the winner has traditionally been the ship owner that offers the best financial terms. However, in more recent time, as touched upon earlier, clients now have begun to focus more on health, environment and safety regulations on board their suppliers' vessels. As competition amongst OSVs react correspondingly to market cyclicity, the rivalry is strongest when the market is struggling and oppositely weak when market demand is high because the industry as a whole may actually struggle to cover the flood of demand. In low-conjuncture periods vessel utilization is favored over profits as contract coverage and maintaining client relationships are more important for long-term sustainability. Financial stability ensures a more reliable source of services which makes for a more attractive supplier of OSVs to the E&Ps throughout the business cycle.

On the other hand, an upwards trend in the OSV business cycle changes the competitive OSV environment completely; the shipowners tend to hold on committing to long-term contracts due to expectations that dayrates will continue to rise. During this period a rapid increase of vessels entering the spot market is seen, and the shipowners have stronger bargaining power over its customers. The share of vessels on long-term contracts opposed to vessels operating on spot rates affect rivalry which in turn shows on the companies' bottom line. In periods of high E&P-spending coupled with a rising oil price, the demand for OSVs naturally respond in tandem. As a result, rivalry is slightly reduced but competition on offering the best terms and rates are always to a certain degree present.

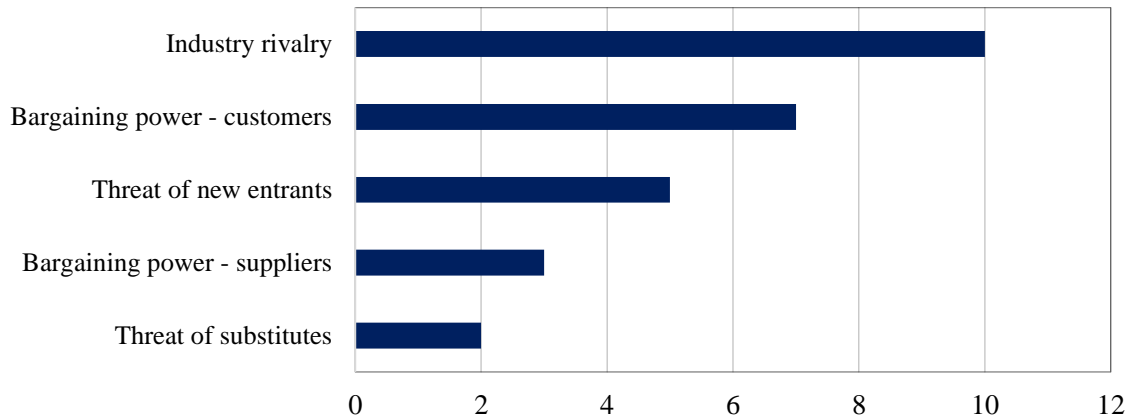
4.6 Porter's five forces and the OSV-sector

Figure 25 visualizes the degrees of impact the five different forces have on the OSV-industry. They rank from 1 to 10, where 10 is the strongest and 1 the weakest. From the graph, we can conclude that industry rivalry is by far the strongest influence on market dynamics, whereas bargaining power of costumers and new entrants lie somewhere in the middle on the scale between high and mid-

⁹⁶ Wilkinson, J. (2013). *Porter's Intensity of Rivalry Definition*.

level threats. This is mainly due to the possibilities and differences in types of entrants; e.g. PSV/low-end AHTS' vs. high end-AHTS'. Bargaining power of suppliers are naturally low because of their position in the market to their customers and dependability on factors such as oil price, production and investor optimism.

Figure 25: Porter's five forces influence on the OSV-sector – strongest to weakest



Source: Porter, M. E. (2008, January). *The Five Competitive Forces That Shape Strategy*.

In doing predictions of future cash flows and profitability of Solstad it is important to not only consider the overall attractiveness of the industry, but also look how these forces shape the organizational structure of the companies operating in the OSV-sector. Each of Porter's forces play a part in how Solstad address market changes, opportunities and downturns, and their organizational structure reflect their ability to adapt to these. However, looking at the current state of the industry, there may be reason to assume that some or all of these forces have the possibility to change their influence dramatically in the foreseeable future. Our assumption relies on the fact that the market may experience large structural changes, several consolidations, and refinancing. Whether these changes are significant enough to shift the paradigm of the aforementioned forces or not is currently impossible to predict, but they should be considered in the context of future assumptions of industry profitability and economic sustainability.

5. VRIO - Internal analysis

The VRIO-model is used to provide an analytical perspective on the internal resources of the company's larger strategic position in the market. The following chapter will use this theoretical framework to evaluate the internal capabilities and resources of Solstad. The purpose is to determine which factors that provides an advantage over its industry competitors by asking four (Value, Rarity, Imitability and Organization) questions related to the firm's internal organizational

potential. The internal capabilities have been divided into two main parts consisting of the physical and financial resources, and the research uses the following guide to rate their uniqueness⁹⁷:

VRIO – Theoretical guide	
The Question of Value	Do a firm's resources and capabilities enable the firm to respond to environmental threats and opportunities?
The Question of Rarity	Is a resource currently controlled by only a small number of competing firms?
The Question of Imitability	Do firms without a resource face a cost disadvantage in obtaining or developing it?
The Question of Organization	Are a firm's other policies and procedures organized to support the exploitation of its valuable, rare, and costly-to-imitate resources?

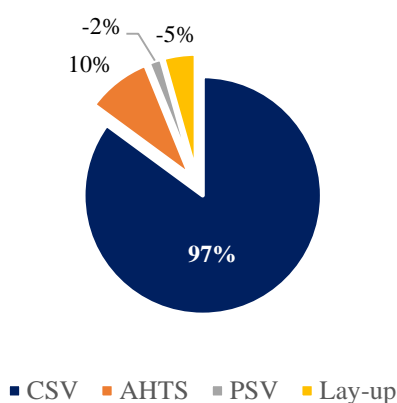
The two main parts are further deconstructed into more precise types of resources that Solstad utilizes throughout their own value chain. In the coming next chapter Solstad's fleet, geographical locations, crew, management, financial and organizational resources are explained and analyzed to show their importance for competing in the OSV-sector.

5.1 Physical resources

5.1.1 Fleet

Solstad is fully dependent on its ships being in operations and on contract in order to maintain any kind of revenue stream. Therefore, the firm's fleet is vital to the company's earnings. 17 of the current operational fleet of 32 vessels (53%) are servicing markets outside of the North Sea; three in Brazil, five in the Gulf of Mexico, one in Australia, four in Asia, one the Mediterranean, two in

Figure 26: Solstad EBITDA segments 2016Q1



Source: Solstad, "Q1 Report", 2016

Africa and one the Middle-East. The company has also laid-up 12 vessels and is preparing for more in the likely scenario that the economic trend continues.

As a result of an increased trend of deep-water exploration and production in the petroleum industry, demand for more technologically advanced, bigger and sophisticated vessels have also increased. The demand for modern ships are expected to bounce back again in the long-term.⁹⁸ Newer fleets thus have a competitive advantage in response to this developing trend.

⁹⁷ Hesterley, B., & Barney, JB (2011). *Strategic management and competitive advantage - concepts and cases*.

⁹⁸ Solstad Offshore ASA, "Annual Report", 2015

Newbuilds are more cost-efficient, and the operational costs of vessels surpassing 20 years in service increase substantially.

An already heavily competitive AHTS-segment creates economic issues for Solstad. Compared to its competitors, the average age of its vessels at 8,4 years is relatively high. A clear competitive disadvantage measured against the Norwegian counterparts in the OSV-market. However, in return, Solstad has great representation of ships in the subsea segment which provides a competitive advantage that take away some of the increased risk associated with competition on a saturated and oversupplied market, especially within the AHTS and PSV-segments. With high service coverage and expertise in supplying CSV's globally, increased revenues from operations in Thailand, and the arrival of one new build with delivery in July 2016 it is apparent that Solstad's subsea fleet is by a large margin the most important revenue-driver going forward.⁹⁹ Figure 26 above shows that of Solstad's total EBITDA in the first quarter of 2016, 97% came from the CSV-segment, while the AHTS-segment had a 10% contribution to the margin. Lay-ups and PSV's combined ended up with a -7% EBITDA margin of the total.

Although Solstad have diversified OSV-fleet, the vessels are not especially rare and they are imitable at least long-term. This means that newbuilds can imitate the newest technology on the market, but companies are limited by the time it takes to make and deliver them to the market. Shipyards can spend upwards of two years to design and build OSVs. Furthermore, the increased level of

Table 7: Solstad fleet - April 1st 2016

Solstad fleet overview ultimo March 2016			
Segments	Current Fleet	New Buildings	Weighted Average Age
CSV	19	1	7,5
AHTS	15		10,6
PSV	9		10,1
Total	43	1	8,4

Source: Solstad 2016 Q1 Report

sophistication of these vessels has a great impact on cost and the amount of investments required. A capital intensive industry implies costly investments for companies (or whole industries in this case), which puts Solstad in a tough spot in periods of economic downturns where earnings are hovering below break-even.¹⁰⁰

5.1.2 Geographic location

The North Sea is only a couple of nautical miles off of the coast of Norway where Solstad has its corporate headquarters. The close proximity to its largest market provides managerial flexibility,

⁹⁹ Solstad Offshore ASA, "Financial Report", 2016Q1

¹⁰⁰ Fearnley. (April 2016: 6). *The Offshore Report*.

controllability and coordination of their vessels and day-to-day operations. Furthermore, being a Norwegian company situated in Norway that largely deals with customers operating in the North Sea enables Solstad to manage and nurture customer relations more effectively.

While approximately half the operations in terms of vessels are concentrated in and around Norwegian waters, the company has as established offices spread out across the globe servicing the most important petroleum markets. The strategically placed offices give the company access to local expertise and new customers in the areas their vessels are employed. A spread-out fleet operating in several markets ensures that Solstad is well-diversified and decreases the risk of economic volatility. In 2015, 67% of revenues came from operations outside the North Sea-segment.¹⁰¹

In the years to come, it seems likely one of the scenarios for economic recovery for the industry and in extension Solstad, is dependent on the deepwater drilling market. A primary reason to this is because of the segments long lead-times and cyclicity. Since the company has a solid presence in this market, with operations in the Gulf of Mexico and Brazil, its geographical location is deemed strategically valuable, but not rare. However, Solstad along with most other foreign supply vessel operators in South-America in particular is currently being cut off in favor of local companies as previously discussed (A.5: Fleet locations). Furthermore, location is not difficult to imitate as vessels can be somewhat easily moved to a new location is necessary. However, imitation of a globally reaching firm like Solstad cannot be done without rigorous planning, restructuring, capital investments, risk management, and long-term strategizing.

5.1.3 Crew

Solstad describes its employees as being “[their] most valuable asset.”¹⁰² Although the firm highly values the employees, it still had to lay off approximately 300 throughout 2015 along with major lay-ups of idle vessels. This is considered a huge downsize for a company that has a strong reputation for attracting the very best and ambitious human resources in the industry. Furthermore, the company is known for its working environment and internal employee training programs which solidifies their workforce as an important and valuable resource in the competitive landscape. There is heavy focus on recruiting Norwegian youth in to the maritime sector as the country plays a significant role in educational programs and influence on maritime transportation. This translates to a potentially well-educated and academically strong workforce which Solstad is actively recruiting from.

¹⁰¹ Solstad Offshore ASA, “*Annual Report*”, 2015

¹⁰² A.6: Full quote

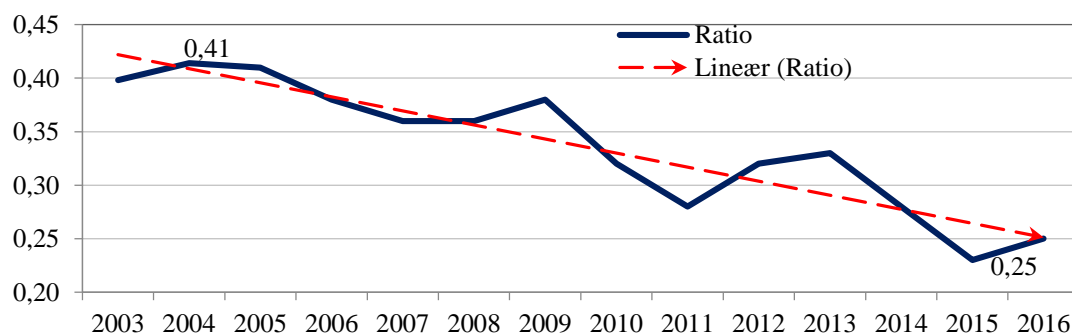
5.1.4 Management

Solstad was up until 2002 managed and run by its founder Johannes Solstad and his brother Per Gunnar Solstad when Johannes' son. In 1999 Lars Peder Solstad took over the company as the new Chief Executive Operator. Along with keeping most of the business within the control of the family, both on the managerial side and the ownership side, Solstad has maintained and developed its managerial resources over the years greatly. Human capital in terms of special knowledge about the industry such as how to handle economic downturns has therefore accumulated over the last five decades, and has stayed largely within the company. This is considered a valuable resource for Solstad, but not a rare one. Skilled, educated and experienced management can be procured quite easily in the market, especially during periods of aggressive layoffs. However, imitation of the human capital accumulated within the organizational boundaries of Solstad is deemed hard to imitate – but might not always be of much use to other companies operating in the same industry because of their specificity.

5.2 Financial resources

The firm has partially prioritized a strong, financial foundation by implementing a conservative investment policy on new-building and expansion. The result has ensured that Solstad have accumulated a solid amount of cash on hand. These assets might play a pivotal role in the refinancing negotiations of bank and bond debt with its lenders throughout 2016. However, the issue of refinancing loans is not reserved solely for Solstad. The OSV-industry as a whole has been bleeding financially since the oil-price started its sharp decline in late 2014.¹⁰³

Figure 27: Equity to asset ratio – Solstad 2003 to 2016Q1



Source: Solstad Financial reports 2003-2016Q1

Contract coverage is one important indicator to the level of expected revenues in the short-mid-term, and Solstad has for 2015 expected contract coverage including lay-up vessels of around 40% without options valued at NOK 1.9 billion and 45% including options valued at NOK 2.2 billion.

¹⁰³ Baffes, J., Ayhan, M. K., Ohnsorge, F., & Stocker, M. (2015). *The Great Plunge in Oil Prices: Causes, Consequences and Policy Responses*.

The incremental increase of revenue if all options are exercised therefore accounts for approximately NOK 300 million which would aid the company significantly in balancing its economic deficit expected for the 2016 fiscal year. Focus on long-term contracts for their CSV-fleet is also important in achieving predictable EBITA.¹⁰⁴ The following graph explains how the solvency ratio (equity to assets) of Solstad has steadily decreased during the last decade.¹⁰⁵ This gives an indication to the extent the company would be able to pay of future losses. It is observed that there has been a sharp decline in solvency, which changed from 0,41 in 2004 to 0,24 in the first quarter of 2016.

5.3 Organizational resources

It is very difficult to measure to what extent the organizational capital of the company has sufficiently been exploited, exploited and optimized. If the company is organized in tangent with the industry's business cycles, some assumptions of their optimization can be made. On one hand, Solstad has with its fleet's size an advantage in capturing market shares during market upswings. On the other hand, the company is exposed to low contract coverage and significant vessel layups during market downswings. The key is to effectively balance supply of vessels with their demand in the industry; a very difficult task to accomplish even with Solstad's vast organizational knowledge, culture and network within the business. However, a strong local presence in its markets with continentally integrated departments ensures effective and valuable transfer of information and coordination within the company.

The company has also implemented technological systems to better manage and optimize the workforce. One system, called Solstad Integrated Management System (SIMS)¹⁰⁶ helps to process and assure that the quality of their onshore and offshore employees' service are aligned with the set of activities and job-descriptions expected by the customer on a continuous basis. In linking the administrative resources to the organizational capabilities of the company, it is suggested that Solstad has some competitive advantages as a result of its unique ownership and management structure. Thus, this resource must be considered valuable, difficult to imitate and distinctive (rare) to the firm.

¹⁰⁴ Solstad Offshore ASA, "*Quarterly Report Q1*", 2016

¹⁰⁵ Solstad Offshore ASA, "*Annual Reports*", 2003-2016Q1

¹⁰⁶ Solstad Offshore ASA, "*Annual Report*", 2015

5.4 VRIO summary

Financials



SOLSTAD OFFSHORE

Stockprice - 18.04.2016	NOK 15.79
Number of shareholders - 15.04.2016	3092
Stockprice change fiscal year 2015	-73%
Dividends fiscal year 2016	NOK 0

Capital structure (2016)	
○ Book Leverage	3x
○ D/MVE	17,88
○ NIBD/EBITDA	8x

Cash and cash equivalents – 31.03.2016	NOK 1 025 066 000
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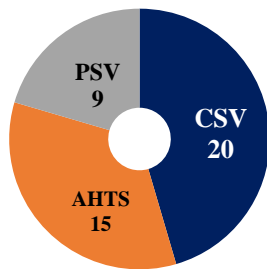
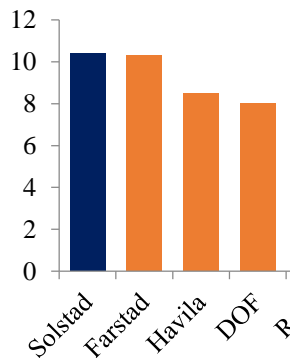
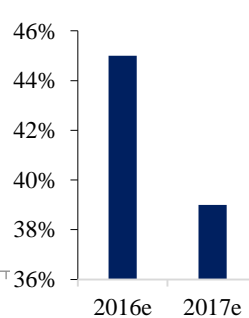
Strengths

Global player in the OSV-industry. A well-rounded, experienced family owned corporate structure that provides certain organizational flexibility in times of economic hardship. A large CSV fleet compared to that of its peers and competitors. Healthy amount of cash on hand crucial in this period.

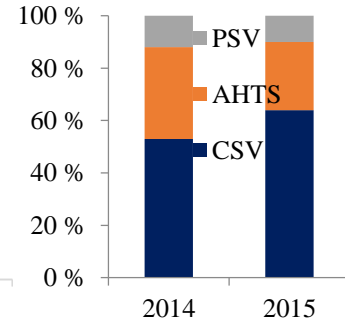
Weaknesses

Low contract coverage, and a relatively old fleet of vessels compared to that of its peers and competitors. 12 of 44 vessels are on layup ultimo 2016Q1. Continuous refinancing of debt with creditors

Vessel distribution

Average vessel age¹⁰⁷Contract coverage, total¹⁰⁸

Fleet net income



Resources

Resources	Valuable	Rarity	Cost of imitation	Exploited by Solstad	Competitive implication
Fleet	Yes	No	Long-term	Yes	Competitive parity
Geographical location	Yes	No	Long-term	Yes	Competitive parity
Crew	Yes	No	Low	Yes	Competitive parity
Management	Yes	No	Low	Yes	Competitive advantage
Organizational	Yes	Yes	Long-term	Yes	Competitive advantage
Financial	Yes	Yes	High	Yes	Competitive parity

¹⁰⁷ Non-weighted¹⁰⁸ Solstad Offshore ASA, «Quarterly Report Q1», 2016

6. Financial analysis

The financial analysis has the purpose of explaining how Solstad's economic status is today and how it has developed from 2008 to the end of 2015. This time period is chosen because a normal business cycle in the OSV-industry has been observed to be between 7 and 9 years.¹⁰⁹ An eight-year period should therefore be a good indicator for financial performance over the entirety of its business cycle. As mentioned earlier in the methodology, the financial analysis will comprise of the DuPont-model, where we do a profitability analysis of both Solstad and its peers based on reformulated financial data. In order to explain and examine in greater depths the key numbers we will continuously compare the key numbers for Solstad up against the chosen peer group. This is done to best reflect the operational economic development of the company.

The income statement and the balance sheet are essential components in the profitability analysis later on, as it gives us details about where the source of profitability stems from in the company.¹¹⁰ To clarify, the traditional financial statements are not organized for robust assessments of operating performance and value, as they are not aligned with an investors point of view, but a creditor oriented view. This means that it is based on the length of the commitments and the degree of marketability of the assets.¹¹¹ To illuminate the sources of profitability, adjustments to the ordinary statement have to be made before doing the key ratio analysis. We therefore adjust the regular statements in the annual reports accordingly. This is done through a reformulation of income statement and the balance sheet.

6.1 Analytical income statement

Reformulating the income statement is primarily about allocating items that are directly related to the core business activities and the strategic value drivers for Solstad before net operating profits after tax (NOPAT), as well as non-operating items after NOPAT. This gives us a NOPAT that portrays the actual profits from the core operating activities in the company. The reformulation of the income statement further creates a direct link to the reformulated balance sheet, where the results report the surplus from invested capital and the net financial assets created in the period. Thus, in order for us to create a fair view of the profits and losses in the company, we place the costs and revenue we find directly relates to the core OSV-business before NOPAT. This means that NOPAT does not contain irrelevant noise from non-transitory extraordinary items, and NOPAT will in consequence reflect the proper basis for the budgeting process and the actual core operating profitability.

¹⁰⁹ Stopford, M. (2009). *Maritime Economics*.

¹¹⁰ Sørensen, O. (2009: 177). *Regnskapsanalyse og verdiansettelse – En praktisk tilgang*.

¹¹¹ Penman, S. H. (2007: 293). *Financial statement analysis and security valuation*.

6.1.1 Comments on special items in the income statement

Gains from sales of assets

The item is classified as a part of the core activities, since the company regularly recognizes gains on the sale of boats in its income statement, and thus a recurring item. Moreover, by looking at the chosen peer group it is quickly identified that the companies in the industry regularly recognizes gains on sales of asset (vessels), which further affirm the classification. From a strategic viewpoint, Solstad aims to have a relatively young and modern fleet in order to maintain an optimal fleet composition and to keep up with competition. This is done through the buying and selling of vessels in regular intervals. However, sales of vessels have increased significantly across the industry since the oil price crash. Further, it is important to note that the company does not undertake in speculation on the vessel sale and purchase market.

Other income

It is up for discussion whether this item should be classified as an operating or financial asset, and it usually depends on the type of industry the company operates in and where the income stems from. In this case, this item constitutes a non-significant part of the total income and for the purpose of the valuation kept as an operating activity.

Result from joint venture companies

This item consists of results from Solstad's ownership in joint ventures. These partly owned companies, along with Solstad, operate within the OSV-industry and hence within the same core business operations. This item is therefore classified under core operations. Similarly, the item will be classified as operational in the analytical balance sheet.

Tax

Solstad states in its annual report that they use the Norwegian corporate tax rate of 27%.¹¹² As normal accounting practice does not separate between tax on financial items and tax on operation, it is necessary to distinguish and allocate tax to both financial items and operations.¹¹³ The tax on operations is first calculated by subtracting 27% tax on net financial items, this is then deducted from the tax cost reported by the company. By doing this we allocate tax to both financial items and operating items.

6.2 Analytical balance sheet

The balance sheet is reformulated in order to distinguish between the assets that are related to the core operations and those related to the financing activities. The analytical balance sheet separates operating activities into current assets and current liabilities, while the financing side is divided into

¹¹² Solstad Offshore, "Annual Report", 2015

¹¹³ Plenborg, T., & Petersen, C. V. (2012: 76). *Financial Statement Analysis*.

shareholders' equity and (net) interest bearing debt. The purpose of the analytical balance sheet is to calculate the invested capital, which can further be used to calculate Return on Invested Capital (ROIC), which will later be used in the profitability analysis. Invested capital is the aggregate investment by equity owners and lenders on which they will require a return.

6.2.1 Comments on special items in the balance sheet

Deferred tax benefit

The deferred tax benefit reflects the difference between the tax based value and the consolidated accounting value of the fleet. The tax benefit rose as part of operating assets and thus the business operation, and not from the financing activity. Based on this, we consider it appropriate to include it as part of the operation and is therefore included in the invested capital.

Derivatives and shares

Derivatives are used to hedge financial risk including currency exchange risk and interest risk. It is open for discussion whether gains and losses from derivatives should be classified as operating or financial related hedges. Since these assets are commonly interest bearing and therefore a natural part of the financial assets, separating between what is operating and what is financial related hedge is not traditionally recommended.¹¹⁴ These assets help reduce the net interest bearing debt and have as a result been classified as a financing activity.

Net pension assets

The benefit plan is a way of funding Solstad's pension obligations, and these pension liabilities are interest bearing. We therefore classify pensions and obligations as part of financing activities.¹¹⁵

Bank deposits (Cash and cash equivalents)

Bank deposits can either be classified as operating cash or excess cash depending on the accounting record. In this case, the bank deposits have been classified as an interest bearing asset and thus a financing activity. It is deemed as excess cash and most likely in an interest bearing bank account for the company as security for their loans, and therefore classified as a financing activity.

6.3 Profitability analysis

Tax issue

During the chosen historical period, Solstad has had an extremely fluctuating and uneven effective tax development in relation to their reported tax expenses. The company's effective tax rate varies from 126% to -76%. This development is also observed between the peer group. The reason for these abnormal tax income/expenses are changes in the old Norwegian tax tonnage regime to a new net tonnage tax regime, which was implemented in 2007. However, the transitional rules that were

¹¹⁴ Plenborg, T., & Petersen, C. V. (2012: 76). *Financial Statement Analysis*.

¹¹⁵ Plenborg, T., & Petersen, C. V. (2012: 90). *Financial Statement Analysis*.

introduced in 2007 was deemed unconstitutional by the supreme court in 2010. The deferred tax liabilities could thus be reversed in the profit and loss account and another transitional scheme was implemented in 2010. The scheme concerns that once you enter into the new tonnage regime you will have a one-time tax based on the profit for that vessels you chose to enter under the scheme, hereafter will all net income from operations for the vessels be exempt from the Taxation Act § 8-15 (1). The ships will only be taxed annually based on the net tonnage, cf. § 8-16. Financial income is not included under this scheme and is taxed normally with a 27% tax rate, cf. § 8-15 (2).¹¹⁶ This tax scheme is favorable for the OSV companies as their vessels weigh a lot less than large carriers, resulting in overall lower tax rates compared to other shipping segments operating with larger and heavier carriers.

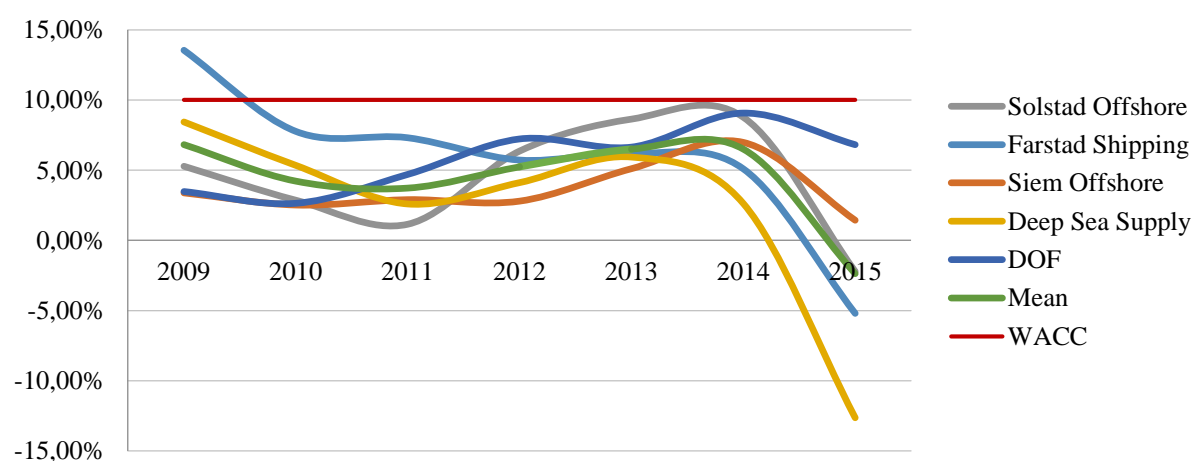
Based on abnormal amount of noise during the historical period because of the implementation of the new tax regime, we have decided to do the profitability analyses on a before-tax basis as we feel this gives the reader a clearer picture of the profitability of the companies analyzed. However, we are aware that tax is an important expense for investors as it affects the cash-flow negatively, but in a key ratio analysis the purpose is to see which companies are doing comparably well financially and thus we believe the tax situation dilutes this picture in an inexpedient way.

¹¹⁶ <https://www.sjofartsdir.no/en/shipping/registration-of-commercial-vessels-in-nisnor/new-registration-nis/norwegian-tonnage-tax-regime/>

6.3.1 Analysis of ROIC

The return on invested capital is the overall profitability measure for operational activities, as it expresses the rate of on invested capital independent of capital structure.¹¹⁷ As clarified earlier, the ROIC is presented on a before-tax basis between the operating income (EBIT) and the average invested capital. Seen from figure 28 below, Solstad's ROIC has been moving in line with the average of its peers, and they have all seen a decline in 2014 as a direct result of the oil price crash. Examined from a valuation perspective this means that the (estimated) value for Solstad and the rest of its peers has decreased by a significant amount, which is in line with their share price development the last two years. Throughout the observed period the industry has been characterized by a destruction of economic value, as they continuously report an EVA (Economic Value Added) below WACC, which we will be further demonstrate in the valuation section. The tendency is strikingly similar for all of the observed OSV-players, and suggests that all the companies have been strongly influenced by the subdued market conditions after 2008. However, from 2011-2014, the market saw a sudden economic boost and, companies expanded their fleet through investments in vessels and thus increased their invested capital. Only DOF is observed to have slightly less dramatic drop.

Figure 28: OSV-peer group ROIC development 2009-2015



Source: Appendix A.7, Peer group annual reports (2009-2015)

This is an effect caused by them delaying impairment losses on their vessels in their annual report which they more than likely will in the near future, similarly to its peers. Capital was primarily raised from investors on the high-yield bond market. In combination with the decline in rates from 2009, where the margins were significantly better, it seems that the overreaching points have affected the return on invested capital for the companies. The trend seemed to turn around for Solstad and its peers in the 2011-2014 timeframe, as the industry saw a positive trend in several of

¹¹⁷ Plenborg, T., & Petersen, C. V. (2012: 94). *Financial Statement Analysis*.

the industry's value drivers. However, after the significant drop in the oil price in mid-2014 which continued into 2015, the market conditions have been severely depressed and are only expected to see a slow, and marginally positive trend in conjunction with the oil price the next several years.

It is important to note that if $ROIC < WACC$ the company generates a negative EVA and is therefore not able to create any true value for its shareholders. Furthermore, since ROIC is not able to explain whether profitability is driven by better revenue and expense relation or improved capital utilization, it is necessary to decompose ROIC into profit margin and turnover rate of invested capital¹¹⁸. We will explain how these specific ratios are influenced by the different fundamental value drivers within the industry. Everything is done as stated on a before-tax basis.

6.3.2 Profit margin

Revenue from business segments and vessels

On a general level, margins for the whole sector have been characterized by cost inflation after the financial crisis, with the most strain on crew expenses. This has led to revenues not generating the returns and the same development as the invested capital, leading to profit margins and thus ROIC dropping during parts of the period.

During the observed period Solstad's fleet has been characterized by a shift from low-end PSV and AHTS vessels towards high-end PSV, AHTS and Subsea vessels. The CAGR from

Table 8: Solstad cost and revenue CAGR

Solstad segments	CAGR '11-15
AHTS	
Revenue	-10,3 %
Cost	1,8 %
PSV	
Revenue	-11,6 %
Cost	18,5 %
Subsea	
Revenue	6,7 %
Cost	-3,5 %

Source: *Appendix A.8*

2011 to 2015 for PSVs, AHTS, and Subsea has been -10,3%, -11,6%, 6,7% respectively. As seen from table 8 there has been a large drop in CAGR for the AHTS and PSV segment. This stems from several issues where one is the obvious drop in oil price and another is the world fleet of OSV's being characterized by severe overcapacity. The drop in AHTS and PSV vessels has led to an increased focus on the Subsea segment, and Solstad strategically followed by acquiring 5 more Subsea vessels to their fleet from between 2010 and 2015. Moreover, Solstad's Subsea vessels amount to 65% of total revenue, whereas PSV and AHTS only amount to 10% and 26% of total revenue, a drop of -6,7% and -10% respectively over the 11'-15 period. In relation to the total revenue of Solstad, the AHTS and PSV segment has seen an overall decrease in CAGR of -6,1%

¹¹⁸ Plenborg, T., & Petersen, C. V. (2012: 107). *Financial Statement Analysis*.

and -0,6% respectively from 11'-15, whereas the Subsea segment has seen a positive CAGR of 12,8% over the same period. As PSVs has become more standardized and additional actors have started to penetrate the market, Solstad has experienced more volatility in their utilization rate, which has led to a sharp drop in revenue. The revenues from PSVs saw a YoY decline of 18% between 2014 and 2015.

Solstad' AHTS fleet remained stable up until 2013 when they ordered seven new vessels and laid up two as they were becoming outdated. The bad marked conditions that followed let Solstad to lay up two more vessels in 2014, and Solstad's AHTS fleet currently consist of 18 vessels, a reduction of two vessels from 2006. The revenue from AHTS has seen a steady upwards trend up until 2015, when it dropped by 31%. The drop was mainly driven by the decline in rig activity, and in consequence demand declined for anchoring and relocating these.

While two of the key segments in the industry are struggling to yield profitable freight rates, the Subsea fleet is doing relatively well. As mentioned, SOFF's Subsea fleet has seen a CAGR growth of 5,7% from 11'-15 and a YoY revenue growth of 16,63% from 2014 to 2015, which is 5% higher than the year before. Since Solstad's Subsea fleet has historically not been exposed to the spot market, and most of its Subsea vessels have been under contract, they have maintained a 100% utilization rate which has resulted in a positive revenue stream generated from the particular segment.

6.3.3 Historical development of OPEX

EBITDA-margin

EBITDA is a measurement of a company's operating profitability. It is regarded as cleaner than the EBIT-margin as EBITDA only includes revenues and operating expenses.¹¹⁹ While Solstad has had a positive revenue trend throughout the whole business cycle analyzed in this valuation,¹²⁰ their EBITDA-margin has decreased by 18,5%. This derives from increased operational expenses (OPEX) relative to their revenues, as a result of worsened market conditions and higher cost inflations due to Solstad's acquisitions of several high-end vessels. Moreover, since Solstad historically has been highly exposed to the AHTS segment, the drop in these rates after 2008 had a significant influence on their revenue stream. In spite of this, Solstad manages to do relatively well compared to its peer group, delivering an EBITDA-margin of 40,1% compared to the average of 37,1%. This development affirms the ROIC development illustrated in figure 28. This is a result of

¹¹⁹ Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*.

¹²⁰ As stated in the introduction, financial data is used from the 2008-2015 period

an attractive upgrade of Solstad's fleet by the acquisition of several high-end Subsea-vessels. This diversification of the fleet has also been a critical driver for the ROIC growth.

Table 9: EBITDA-margin OSV-peer group

EBITDA-Margin	2008	2009	2010	2011	2012	2013	2014	2015
DOF	37,6%	31,5%	31,2%	31,3%	36,0%	30,2%	32,5%	31,5%
Siem Offshore	43,3%	34,7%	37,2%	36,6%	32,6%	39,0%	41,9%	30,0%
Farstad Offshore	57,3%	53,3%	41,6%	39,4%	35,3%	38,0%	37,4%	34,0%
DESSC	69,5%	57,4%	49,7%	37,9%	46,7%	72,5%	48,9%	49,7%
Solstad Offshore	53,0%	47,2%	37,4%	35,0%	43,0%	40,7%	42,2%	37,1%
Mean	52,1%	44,8%	39,4%	36,0%	38,7%	44,1%	40,6%	36,5%
Median	53,0%	47,2%	37,4%	36,6%	36,0%	39,0%	41,9%	34,0%

Source: Appendix A.9

EBIT-margin

EBIT-margin reflects a company's operating profit after depreciation and amortization. Solstad's EBIT-margin has been more or less stable around 30% over the observed period, but in 2015 it saw a significant decrease from 35,4% to -9,1%, a drop of 44,5%. This is the result of the company's increased OPEX and extensive write downs on fixed assets due to the discrepancy between Solstad's stock value and its book value of equity have continued to grow throughout 2015.¹²¹ Several of Solstad's peers have needed to adjust the value on their assets as well and is illustrated in table 10 because of the current market situation. Only DOF is able to maintain a healthy (albeit deceitful) EBIT-margin due to no huge write downs, though this is most realistically explained by delaying their impairment losses than performing significantly better than their peers.

Table 10: EBIT-margin OSV-peer group

EBIT-Margin	2008	2009	2010	2011	2012	2013	2014	2015
DOF	23,2%	13,0%	9,9%	17,6%	22,7%	18,4%	22,8%	17,0%
Siem Offshore	26,0%	15,3%	12,9%	12,8%	11,0%	19,9%	23,0%	5,4%
Farstad	45,2%	39,3%	26,1%	24,3%	19,7%	21,7%	17,9%	-20,3%
DESSC	55,2%	35,7%	24,1%	13,1%	20,8%	50,9%	15,8%	-106,5%
Solstad Offshore	29,8%	18,4%	13,1%	4,3%	25,7%	28,7%	30,2%	-13,0%
Mean	35,9%	24,3%	17,2%	14,4%	20,0%	27,9%	21,9%	-23,5%
Median	29,8%	18,4%	13,1%	13,1%	20,8%	21,7%	22,8%	-13,0%

Source: Appendix A.10

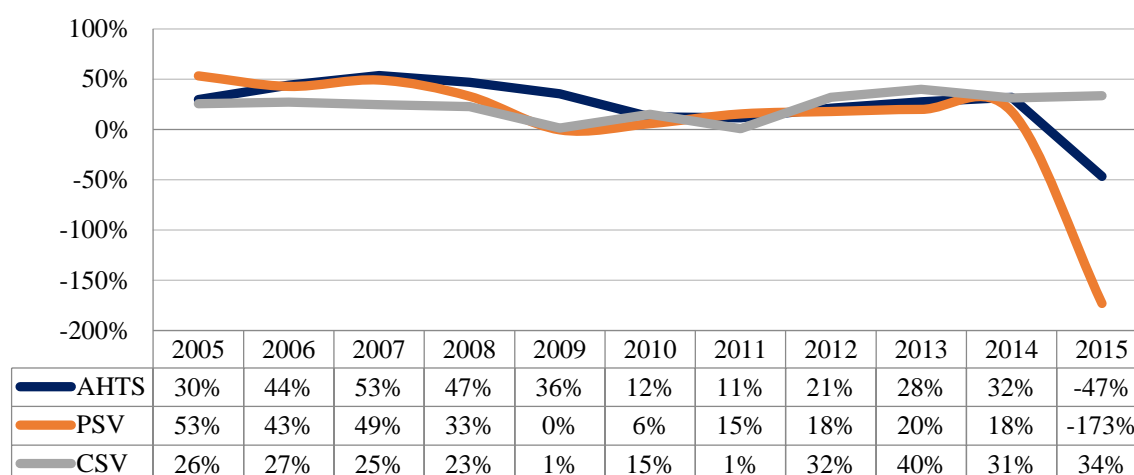
EBITDA-margin per vessel segment

Subsea has been doing significantly better than the AHTS and CSV-segments from 2011 to 2015 displayed in figure 29. We observe an EBITDA-margin increase of 34% (gray line). Whereas both AHTS and PSV have seen a major drop in EBITDA-margins the last year due to the tight market situations resulting in low contract coverage and utilization for the two vessel segments. However,

¹²¹ Solstad Offshore ASA, "Annual Report", 2015

the Subsea segment has shown higher volatility compared to AHTS and PSV due to being more capital intensive and costly to operate, thus making it necessary for the segment to have a high utilization rate in order to stay profitable.

Figure 29: Solstad EBITDA-margin per vessel segment



Source: Appendix A.9

6.3.4 Indexing and common size analysis

Indexing the relationship between the invested capital, revenue and operating cost can give a clearer picture of which triggers has led to the development of the level of returns for the companies over a longer period of time.

Table 11: Revenue, OPEX and invested capital common size analysis

Revenue	2008	2009	2010	2011	2012	2013	2014	2015
Solstad	100 %	115 %	118 %	135 %	152 %	160 %	172 %	162 %
Farstad	100 %	108 %	110 %	119 %	123 %	133 %	145 %	133 %
Siem	100 %	100 %	127 %	184 %	207 %	213 %	276 %	236 %
DESSC	100 %	79 %	68 %	55 %	59 %	28 %	43 %	35 %
DOF	100 %	101 %	122 %	146 %	187 %	213 %	241 %	239 %
OPEX	2008	2009	2010	2011	2012	2013	2014	2015
Solstad	100 %	127 %	157 %	186 %	183 %	198 %	207 %	212 %
Farstad	100 %	118 %	151 %	169 %	186 %	193 %	213 %	205 %
Siem	100 %	120 %	146 %	207 %	245 %	230 %	283 %	289 %
DESSC	100 %	111 %	112 %	112 %	103 %	26 %	72 %	58 %
DOF	100 %	111 %	135 %	161 %	192 %	238 %	260 %	263 %
Invested capital	2008	2009	2010	2011	2012	2013	2014	2015
Solstad	100 %	134 %	183 %	189 %	174 %	173 %	207 %	195 %
Farstad	100 %	133 %	143 %	151 %	163 %	182 %	198 %	187 %
Siem	100 %	155 %	214 %	231 %	209 %	242 %	284 %	241 %
DESSC	100 %	99 %	82 %	85 %	93 %	52 %	101 %	73 %
DOF	100 %	117 %	145 %	171 %	167 %	172 %	176 %	168 %

Source: Appendix A.10

As one can see from table 11 the positive development in freight revenue stems primarily from the major fleet expansion in line with the positive economic macro drivers. The increased oil prices, growing E&P budgets, oil field expansions and increased activity have been deciding factors for growth in the industry from 2010 to 2014. However, the drop in the oil price in late 2014 led to a severe slowdown in all the aforementioned drivers leading to the industry crash which has caused a financial ripple-effect through the last couple of years.

Table 12: Peer group OPEX, Crewing expenses and other OPEX (% of revenue)

Total OPEX	2008	2009	2010	2011	2012	2013	2014	2015
Solstad	44 %	50 %	60 %	62 %	54 %	55 %	53 %	58 %
Farstad	43 %	47 %	58 %	61 %	65 %	62 %	63 %	66 %
Siem	57 %	65 %	63 %	63 %	67 %	61 %	58 %	70 %
DESSC	30 %	43 %	50 %	62 %	53 %	28 %	51 %	50 %
DOF	62 %	68 %	69 %	69 %	64 %	70 %	67 %	69 %
Crewing expenses	2008	2009	2010	2011	2012	2013	2014	2015
Solstad	25 %	29 %	34 %	36 %	33 %	35 %	32 %	34 %
Farstad	26 %	28 %	35 %	39 %	41 %	39 %	40 %	43 %
Siem	26 %	31 %	30 %	32 %	36 %	29 %	24 %	24 %
DESSC	14 %	22 %	32 %	40 %	35 %	27 %	26 %	23 %
DOF	37 %	43 %	46 %	48 %	38 %	41 %	38 %	39 %
Other operating expenses	2008	2009	2010	2011	2012	2013	2014	2015
Solstad	20 %	21 %	26 %	26 %	21 %	21 %	22 %	25 %
Farstad	12 %	13 %	18 %	16 %	16 %	16 %	17 %	16 %
Siem	22 %	24 %	22 %	21 %	19 %	19 %	25 %	37 %
DESSC	12 %	16 %	12 %	18 %	16 %	0 %	25 %	27 %
DOF	26 %	25 %	23 %	21 %	26 %	28 %	30 %	30 %

Source: Appendix A.10

This is evident when looking at both table 11 and 12 where we in 2015 see a dramatic increase in overall costs and a decline in revenues, contributing to non-sustainable margins. Despite several of Solstad's peers having the same trends, there are still differences in the development between the companies. Looking at a company specific level many of the differences can be reflected through the individual company's allocation of different types of vessels in the different markets, as well as how cost efficient they operate.

Turnover rate of invested capital

The turnover rate of invested capital expresses a corporation's ability to utilize its invested capital. In addition to profit margin, the turnover rate helps explain whether the revenue/expense relation and the capital utilization have improved or deteriorated over time.¹²² A high turnover rate is ideal, but is subject to different interpretations within different industries. In general, for shipping companies the turnover rate will naturally be low, as the companies are highly capital intensive.

¹²² Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*.

Turnover rate of invested capital's movement is primarily due to the vessels as they constitute all of the invested capital. The observed difference between Solstad and its peer group therefore is based on the portfolio and composition of vessels the companies choose to have.

Table 13: Peer-group turnover rate of invested capital 2009-2015

Turnover rate IC	2009	2010	2011	2012	2013	2014	2015	Mean
DOF	0,26x	0,27x	0,27x	0,32x	0,36x	0,39x	0,40x	0,32x
Siem Offshore	0,22x	0,19x	0,23x	0,25x	0,26x	0,30x	0,26x	0,25x
Farstad	0,34x	0,30x	0,30x	0,29x	0,29x	0,28x	0,26x	0,29x
Deep Sea Supply	0,24x	0,22x	0,20x	0,20x	0,12x	0,17x	0,12x	0,18x
Solstad Offshore	0,29x	0,22x	0,21x	0,25x	0,27x	0,27x	0,24x	0,25x
Mean	0,27x	0,24x	0,24x	0,26x	0,26x	0,28x	0,26x	0,26x
Median	0,26x	0,22x	0,23x	0,25x	0,27x	0,28x	0,26x	0,25x

Source: Appendix A.10

Illustrated in table 13 Solstad has seen a decline in turnover rate, which means the company is not allocating its invested capital as quickly as its peers. While the companies have invested in vessels over the period the turnover rate has not moved as much, which substantiates the historical downward trend we are seeing now. DESSC differentiates itself slightly from the rest of Solstad's peers with a lower turnover rate, which explains a natural downward pressure on the level of returns the company is experiencing. Despite this, the effect on profit margin is the most important trigger for ROIC. However, with indexing from 2009 we see that the turnover rate has at some stages been growing more rapidly than invested capital pulling ROIC upwards together with profit margins. This is mostly due to the increased investments in vessels, together with improved dayrates during that period. Solstad is not one of them. The reason for this is that its peers are investing in new vessels but not being able to fully utilize them. The fact becomes evident as we see a drop in turnover rate from 0,29x to 0,24x over the observed period.

6.3.5 Sub conclusion – ROIC

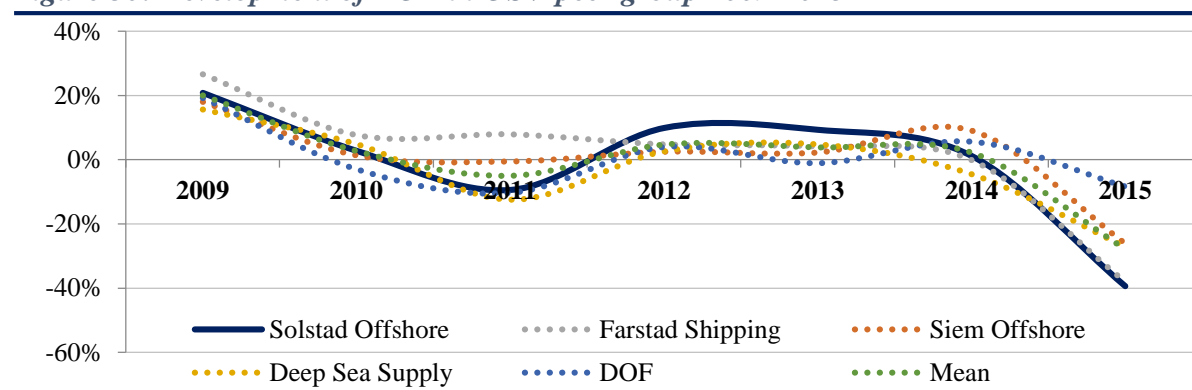
Solstad have displayed an above average ROIC compared to its peers in the historical timeframe. Over the observed period they have had positive growth in both EBIT and EBITDA-margins leading to stronger profit margins. This is mainly due to their strong exposure to the well developing segment of Subsea-vessels and having high contract coverage throughout the period. A slight decrease in turnover rate and a significant drop in profit margin from 2014 - 2015 have led to a major drop in ROIC overall, though their peers are also experiencing the same financial turbulences due the shift in market conditions in late 2014.

6.4 Analysis of ROE and EVA

ROE measures a company's ability to create profit from its shareholder's investments and takes into account both operating and financial leverage. It is, pointed out, done on a *pre-tax* basis and

therefore the original ROE has been slightly modified in order to include profit before tax instead of net earnings after tax.

Figure 30: Development of ROE in OSV-peer group 2009-2015



Source: Appendix A.11

From the ROE graph we discover the same trends of development as in the ROIC graph, with a big drop from 2009 to 2010, from the aftermath of the financial crisis. Solstad's ROE has been moving in line with all its peers and is not showing any decisive positive or negative deviation from the mean. However, in 2015, Solstad and Farstad had the biggest drop in ROE - mainly due to a larger drop compared to their peers drop in their market value of equity, while financing their operations with debt. This has led to the players in the industry taking on a tremendous amount of debt in relation to their equity.

Financial Gearing

Financial gearing is calculated by dividing NIBD with the company's equity. The ratio illustrates how much of the company's activities are funded by debt and equity.¹²³ As mentioned above, ROE includes the company's financial gearing and net interest bearing debt, and is therefore an important ratio for investors. The other ratios that affect ROE after ROIC, is the relationship between the spread, ROIC less net interest bearing debt, and the company's financial gearing.

Table 14 reveal that Solstad have been struggling, seeing as they have increased their f-gear from 1,12x in 2009 to 2,40x in 2015. All companies, except DESSC, who have been following a strict financial policy over the period paying down their debts, have had a fairly aggressive capital structure with an average of 1,73x.

¹²³ Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*.

Table 14: OSV-peer group financial gearing 2009-2015

F-gear	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	1,12x	1,49x	1,98x	2,03x	1,73x	1,86x	2,46x	1,81x
Farstad	0,77x	0,74x	0,78x	0,88x	1,05x	1,28x	1,85x	1,05x
Siem	0,55x	0,72x	0,98x	0,94x	0,95x	1,09x	1,24x	0,92x
DESSC	4,12x	2,94x	2,64x	2,94x	1,48x	0,55x	0,68x	2,19x
DOF	1,74x	2,01x	2,66x	2,92x	3,03x	3,01x	3,43x	2,69x
Mean	1,66x	1,58x	1,81x	1,94x	1,65x	1,56x	1,93x	1,73x
Median	1,12x	1,49x	1,98x	2,03x	1,48x	1,28x	1,85x	1,60x

Source: Appendix A.10, A.13

The result is that Solstad and its peers have been highly sensitive to the spread between ROIC and net interest bearing debt. The high f-gear for the industry is a result of an intensive newbuilding program throughout, which have increased the need to take on more debt. Nevertheless, DESSC has shown to be the exception, where after their restructuring efforts has enabled them to attain a healthier relationship between equity and debt. The increase in f-gear for Solstad and most of its peers is seen as unhealthy and signifies the economic uncertainty surrounding the OSV-industry in general.

Spread

Spread is calculated as the difference between the net borrowing cost and the ROIC of a company. It is calculated to analyze if the company's debt is beneficial for their shareholders, and needs to be treated carefully as it included financial items as gain and losses on currency and interest rate derivatives (non-core).¹²⁴ If the company has a negative spread, a return on invested capital that is less than its net borrowing cost, the company loses money on its loans. The opposite is the case if the return is larger than the cost of borrowing. Net borrowing costs will affect everything classified as financials in the income statement, which means that "sale of vessels" and "gains/losses on currency" affects net borrowing costs. The negative spread is a result of the reduction in ROIC.

Table 15: OSV-peer group spread 2009-2015

Spread pre tax	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	14 %	0 %	-5 %	2 %	1 %	-4 %	-15 %	-1,05 %
Farstad	17 %	0 %	1 %	-1 %	-2 %	-4 %	-18 %	-1,03 %
Siem	27 %	-2 %	-3 %	0 %	-3 %	2 %	-22 %	-0,23 %
DESSC	2 %	0 %	-6 %	-1 %	-1 %	-13 %	-21 %	-5,66 %
DOF	9 %	-3 %	-6 %	-1 %	-3 %	-1 %	-4 %	-1,23 %
Mean	13,7%	-0,9%	-3,9%	-0,3%	-1,5%	-4,0%	-16,1%	-1,84 %
Median	13,9%	-0,2%	-5,2%	-0,5%	-2,0%	-3,8%	-17,7%	-2,22 %

Source: Appendix A.10, A.13

¹²⁴ Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*.

The companies whose capital structure is more heavily weighted towards debt will experience a larger negative spread based on the cost of borrowing. However, the effect will not be as big every year, due to gains/losses on currency and “sale of vessels”.

6.4.1 Sub conclusion – ROE

The terrible market conditions have meant that Solstad and its peers have needed to acquire more debt in order to sustain operations. This has had a clear effect on their financial gearing and spread, and in turn, their ROE which have dropped to a historical low in 2015. Solstad is battling with a capital structure weighted massively towards debt, and is currently destroying value as consequence.

6.5 Financial risk analysis

Solstad has invested considerable resources to upgrade its fleet. While only the growth in new fleets is 1,5%, they have simultaneously replaced old vessels with new ones. This fleet upgrade has mostly been financed through debt. Subsequently it is therefore relevant to analyze to what extent the fleet renewal has been *too* expansive and affected the robustness and the financial risk of the company in a negative way. The analysis will comprise of a liquidity analysis which will give an indication of their financial risk.

6.5.1 Liquidity risk

Liquidity risk is a crucial subject for any business as it decided whether or not a company will be able to pay its obligations. Without liquidity, a company may be prevented in investing in a positive NPV project and worst case lead to bankruptcy. Therefore, sufficient liquidity for a company is an essential element in analyzing its robustness and ability to meet its obligations. Short-term liquidity risk portrays the company’s ability to meet their short-term financial obligations that fall due. The long-term liquidity risk refers to the company’s long-term financial health and ability to pay all future obligations.¹²⁵

Short-term liquidity risk

The players in the OSV sector are not characterized by having large inventories and receivables in the same way companies selling physical goods are. Thus, it becomes more suitable to pay attention to “current ratio”, and not for example liquidity cycle when analyzing the liquidity of SOFF and its peer group.

Current ratio

Current ratio gives an insight into how the current and most liquid assets cover the company’s current liabilities. While there is no optimal level of the current ratio as it deviates from industry to

¹²⁵ Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*.

industry, a high ratio is preferred and is an indication that the company has a relative high liquidity and is able to cover their current liabilities in periods where their income, in isolation, is not able to.¹²⁶ However, if the current ratio becomes too high it might indicate that the company is not managing their resources efficiently enough.

Table 16: OSV-peer group current ratio 2009-2015

Current ratio	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	1,41x	1,51x	1,11x	1,38x	1,14x	1,94x	1,44x	1,93x	1,48x
Farstad	1,64x	1,86x	1,12x	1,11x	1,30x	1,21x	0,92x	0,79x	1,24x
Siem	1,54x	1,35x	1,48x	1,56x	1,39x	1,46x	1,05x	1,11x	1,37x
DESSC	2,14x	8,65x	3,08x	2,89x	1,69x	9,49x	5,49x	5,02x	4,81x
DOF	1,41x	2,74x	1,64x	1,30x	2,00x	1,82x	1,90x	1,46x	1,78x
Mean	1,63x	3,22x	1,69x	1,65x	1,51x	3,18x	2,16x	2,06x	2,14x
Median	1,54x	1,86x	1,48x	1,38x	1,39x	1,82x	1,44x	1,46x	1,48x

Source: Appendix A.13

On average, the industry has experienced a decrease in their ability to cover their short-term obligations, but it is not considered critical as they on average are able to cover their obligations. Solstad and its peers have increased their investments at certain points over the period, while at the same time decreased their cash reserves, which have been a factor for the downward trend in the current ratio. Solstad's current asset are easily tradable and we therefore find the ratio at 1,44x as relatively healthy and a probable indication that Solstad will be able to pay off their current liabilities if needed

6.5.2 Long-term liquidity risk

Financial gearing

Financial gearing is calculated both with book value and market value. We use market value for the equity as it should reflect what is needed to obtain a stake in the company, and will thus provide the truest and fairest picture. However, financial gearing based on book values provides a less volatile picture and shows the actual gearing the company aims to have, which is of creditors interest. The debt ratios therefore provide us with a picture of solvency and flexibility in raising capital which is necessary if Solstad wishes to expand its fleet.

Norwegian OSV companies have been notorious for taking on large amount of debt, and with the severe drop in oil price the last year we detect a worrisome development for all involved parties. The financial gearing ultimo 2015 is extremely high, and shows us a long-term liquidity risk. Solstad and all its peers have taken on an unhealthy amount of debt. This correlates with the drop in the oil price, which led to a dramatic fall for all the companies on the Oslo Stock Exchange that

¹²⁶ Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*.

slaughtered their equity. Solstad was earlier recognized as a company with a relatively stable and healthy financial gearing compared to some of its peers, but has now experienced alongside its peers a significant increase in leverage and in effect lost its market advantage. Solstad and all its peers show a very strong indication of high long-term liquidity risk seen from their low solvency, and it is safe to assume that large restructurings have to occur if the oil price stays low.

Interest coverage

The interest coverage ratio reflects the companies' ability to satisfy and pay off its interest expenses with its operating income. As Solstad has a high amount of debt, net borrowing costs (interest expenses) constitutes a relatively large amount of the income. The interest coverage ratio will therefore be based on EBITDA as depreciation and amortization does not include real cash flow.

Table 17: OSV-peer group interest cover ratio 2008-2015

Interest coverage ratio (EBITDA)	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	4,05x	4,69x	2,64x	2,01x	2,62x	3,45x	3,81x	2,82x	3,26x
Farstad	6,04x	5,98x	3,68x	3,89x	3,15x	2,85x	2,73x	2,03x	3,79x
Siem	4,78x	5,64x	3,76x	3,09x	3,08x	4,71x	3,84x	2,39x	3,91x
DESSC	3,17x	3,98x	2,16x	1,93x	2,12x	6,17x	3,06x	1,74x	3,04x
DOF	2,46x	2,22x	1,87x	1,86x	2,31x	2,25x	2,80x	2,72x	2,31x
Mean	4,10x	4,50x	2,82x	2,55x	2,66x	3,89x	3,25x	2,34x	3,26x
Median	4,05x	4,69x	2,64x	2,01x	2,62x	3,45x	3,06x	2,39x	3,26x

Source: Appendix A.13

Solstad has acquired more debt over the period and which has naturally led to an increase in interest expenses. Because operating income has not followed in the same manner it gives an indication of long-term liquidity risk. This is also observed for Solstad's peers, which means that the company does not deviate from its peers in any noteworthy way.

Net interest bearing debt (NIBD) vs. EBITDA

By comparing NIBD up against EBITDA, we are able to get an indication for how many years it will take the company to repay its debt if NIBD and EBITDA are constant. Ratios over 3x EBITDA is viewed as high gearing. The key ratio is popular among analytics and often used as an indicator of company's ability to handle its debt. Ratios higher than 4-5 is typically seen as alarmingly high as it indicates that the company is less likely to be able to take on additional debt.¹²⁷ Ultimately, it depends on the industry that is being benchmarked, and from table 18 we see a historical average of around 6x EBITDA, which indicates a significant liquidity risk. The Norwegian OSV companies has proved to possess a constant appetite for vessel expansion through debt financing.

¹²⁷ Investopedia, "Net Debt To EBITDA Ratio Definition", 2011

Table 18: NIDB/EBITDA margins of OSV-peer group 2008-2015

NIBD/EBITDA	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	3,22x	4,60x	8,99x	9,38x	5,85x	5,52x	6,45x	8,11x	6,52x
Farstad	2,13x	2,61x	3,62x	3,85x	4,94x	5,18x	5,74x	7,98x	4,51x
Siem	3,22x	5,37x	7,64x	6,47x	5,18x	5,55x	5,21x	7,55x	5,77x
DESSC	4,08x	5,63x	5,91x	9,94x	8,64x	2,54x	6,25x	6,22x	6,15x
DOF	5,97x	8,02x	9,24x	9,68x	6,42x	7,11x	5,87x	6,23x	7,32x
Mean	3,72x	5,25x	7,08x	7,87x	6,21x	5,18x	5,90x	7,22x	6,05x
Median	3,22x	5,37x	7,64x	9,38x	5,85x	5,52x	5,87x	7,55x	6,15x

Source: Appendix A.13

For comparison, the international offshore support vessel company GulfMark Offshore has a 2x EBITDA over the last three years.¹²⁸ This further underlines the aggressive debt image previously discussed. Through the good years to 2008 and the somewhat improvement from 2010 to 2014 the companies have been active in ordering new builds thus gearing up the company. This has come at the cost of the possibility of paying down their debt through refinancing under better market conditions, which would have led to Solstad and its Norwegian OSV-peer cluster being better equipped, having established a more robust balance. Such a scenario would have given a lot healthier liquidity picture than what we see today. The decrease in Solstad's ratio during some of the years is not due to down payments of debt, but because of growth in EBITDA.

6.6 Conclusion of financial analysis

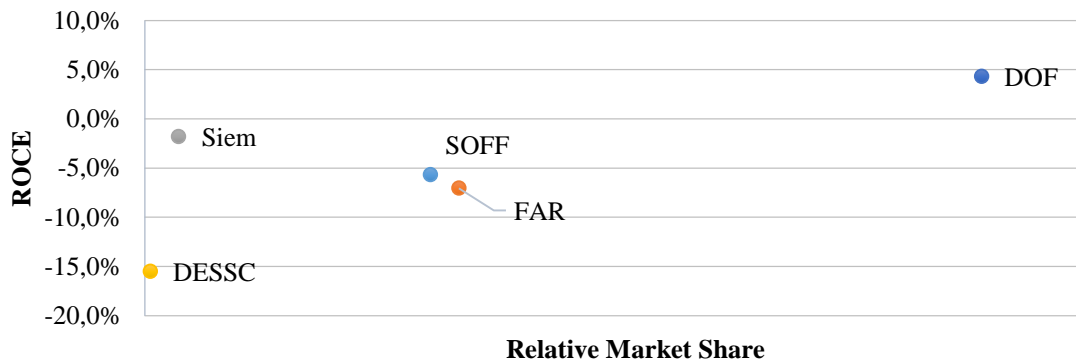
In section 7.3 we analyzed the historical profitability and performance of Solstad and its peers. Solstad, compared to its peers, is doing averagely in 2015. Their ROIC is average, but with a slight below average ROE that comes from significant jump in financial gearing the last year, they do not maintain their position as financially stable and robust company. By looking at Solstad and its peers return on capital employed (ROCE) vs. relative market share we can describe each company's strategic and financial position, and the higher market share and ROCE – the better return for shareholders, theoretically.¹²⁹

As illustrated in figure 31 below it is evident that DOF has the largest market share and ROCE. Based on the comparison we see that Solstad has the second highest score and can be explained by their increased focus on more profitable CSV-vessels.

¹²⁸ Carnegie. (January 2015: 18). *Slashing estimates and ratings - adjusting to the new reality*.

¹²⁹ Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis*

Figure 31: ROCE and relative market share of OSV-peer group



Source: Appendix A.12

It cannot be stressed enough that the industry and its involved companies are struggling, profits are non-existent and firm differences are quickly withering away. What was historically a competitive advantage has now changed into a mountain of debt. In light of this, Solstad's CEO Lars Peder Solstad recently went out and said that there are now clearly too many OSV companies and there is a definite need in the Norwegian OSV sector to renegotiate debt covenants, and possibly consolidate in order to strengthen balance sheets, balance supply and demand, and cut costs. We will analyze this further in section 12. *Scenario analysis* where we will look into different possibilities Solstad can undertake in the future.

7. Weighted average cost of capital (WACC)

Equity and debt investors are normally deemed risk averse and so when capital is raised for a company they expect compensation for the risk they undertake by requiring a certain return on their investments. The required return that is given is termed the company's cost of capital. In order to calculate the present value of future cash flows for Solstad we have to estimate the weighted average of the required return for creditors and equity investors. The cost of capital for the company is calculated as followed:

Equation 1: Cost of capital

$$WACC = r_d(1 - t) * \frac{NIBD}{NIBD + E} + r_e * \frac{E}{NIBD + E}$$

The WACC represents a weighted average of all capital providers' required return, and consists of three components: cost of equity, cost of debt and target capital structure. We assume that WACC is constant in all foreseeable future. WACC is applied as a discount rate in the DCF-and EVA-model.

7.1 The cost of equity

There exist different methods in order to calculate the required return on equity, but the Capital Asset Pricing Model (CAPM) is the most recognized method in most economic literature and will therefore be used in this thesis. The model which was developed by Markowitz, Miller and Sharpe¹³⁰ is based on any investor having the possibility of creating a diversified portfolio of stocks, which means each investor only receives compensation for the systematic risk. The cost of equity therefore consists of three components: the risk free rent, the market risk premium and adjustments for systematic risk (β).

Equation 2: Cost of equity

$$r_e = r_f + \beta[E(r_m) - r_f]$$

This renowned method for finding the cost of equity is only dependent on the elements shown above, and is therefore a single factor model. Many believe there are more variables that decide the return on equity, and it has later been applied several expansions to the model above. In our case we find that the model requires one extension in order to give a fairer return on equity for the OSV investors. Damodaran have released several articles on the estimation of the cost of equity where, among other things, argue for the extension of a liquidity premium. This is because of illiquid shares requiring a premium, as a buyer of the share is more difficult to come by. Thus, we have expanded the CAPM with a liquidity premium since Solstad's shares are traded with significantly low volumes on the Oslo Stock Exchange. The formula that will be used when calculating the weighted cost of capital for Solstad is the following:

Equation 3: Weighted cost of capital

$$r_e = r_f + \beta[E(r_m) - r_f] + \text{liquidity premium}$$

7.2 The cost of debt

In order to estimate the cost of debt we will apply the model that account for the risk free rent in relation to the risk premium that is required on the debt and tax shield for the company. This method is also verified and used by professor Damodaran, where the company's "credit spread" is added to the risk free rent.¹³¹

The cost of debt shall reflect the current cost to the firm of borrowing funds to finance projects, and should echo the risk the market deems reasonable when loaning out cash to the companies.¹³² In order to estimate the return that lies closest to this assumption, the yield to maturity on issued bonds

¹³⁰ Sullivan, E. J. (2006). *A brief history of the capital asset pricing model*.

¹³¹ Damodaran, A. (2010: 213). *Investment Valuation*.

¹³² Damodaran, A. (2010: 211). *Investment Valuation*.

for Solstad is usually applied. Currently Solstad has one bond issued with maturity in 2019 with a margin above the risk free rate of 5.15% with a market price of 100 million.¹³³

However, in order to get a more accurate picture of the borrowing risk for Solstad, we assign an implied credit rating for the company based on certain financial ratios and can be seen in appendix A.14. Credit ratings range from “AAA” to “CCC”, and ratings between “AAA” and “BBB” are considered investment grade, while ratings below “BBB-” corresponds to a speculative grade, which sometimes is referred to as high yield bonds.¹³⁴ We thereafter assign this credit rating to a credit spread given by Damodaran shown in appendix A.14.¹³⁵

From the credit rating analysis sheet we see that Solstad is assigned a credit rating of “CCC”, indicating that Solstad, according to Peterson and Plenborg is vulnerable and dependent on favorable business, financial, and economic conditions to meet financial commitments. This gives us a credit spread of 8% according to Bondsonline and Damodaran.¹³⁶ By averaging out the credit spread and the bond issued by Solstad we obtain a credit spread of 6,58%, which we find to be a fair assessment for Solstad in today’s market.

The applied tax rate which is used for the tax shield is based on the Norwegian tax rate at 27%. Optimally, a historical average effective tax rate would be used, but because of Solstad’s significant volatile tax rate this is deemed impossible.

Looking at the table to the right it is evident that acquiring more capital is expensive for Solstad. This is because of the large credit spread over the risk free rate in today’s market. By looking at Solstad and its peer’s effective returns against the tight OSV-industry, and in light of the high financial gearing among the players, it makes sense that the market will have a large risk premium when lending money to the companies. The weighted average cost of capital is extrapolated by applying the cost of equity and cost of debt in regards to Solstad’s capital structure into the WACC formula. This results in a WACC of 10.70%.

Table 19: Solstad cost of debt

Solstad cost of debt	
Risk free rate	1,59 %
Credit spread	6,58 %
Cost of debt before tax	8,15 %
Tax shield	27 %
Cost of debt after tax	5,95 %

Source: Authors own creation

¹³³ Solstad Offshore, “Annual report”, 2015: 36

¹³⁴ Plenborg, T., & Petersen, C. V. (2012: 277). *Financial Statement Analysis*.

¹³⁵ Damodaran, A. (2010: 213). *Investment Valuation*.

¹³⁶ Damodaran, A. (2010: 213). *Investment Valuation*.

7.3 The risk free rate

The risk free rate expresses how much an investor can earn without incurring any risk. Though, whether the risk free rate is in fact completely risk free is debatable, but most consider government bonds as the best proxy for this rate.¹³⁷ The chosen government bond should be in the currency that fits the underlying cash-flow of the company the best. This means that it does not matter where the company operates or where its main offices are, but in what currency the cash-flows are denoted in. As the underlying cash flows for Solstad is in the Norwegian Krone, a 10 year Norwegian government bond is used, since according to PwC it is the one most applied by analytics,¹³⁸ and the risk associated with inflation is avoided.¹³⁹¹⁴⁰ At the end of 2015, the rate on 10 year Norwegian government bonds was 1,57%.¹⁴¹

7.4 The risk premium

The calculations for the risk premium are a complex and widely discussed subject. In particular, the issue whether an ex-post or ex-ante methodology gives the closest and best estimate is up for debate. In order to estimate the risk premium, we have looked at PwC's and Damodaran's ex-ante estimates. PwC provides an annual survey of the market risk premium in Norway, and PwC at approximately 5% in 2014. Damodaran has estimated a risk premium of 6% for the Norwegian market in January 2016.¹⁴² We use the average of these two estimates, which result in a risk premium of 5,5%.

7.5 Liquidity premium

Solstad shares are traded at significant low volumes. This can cause problems when converting shares into money, since there are few buyers in the current OSV-stock market. Therefore, investors will usually demand a discount on illiquid shares.¹⁴³ A liquidity premium ranging between 3%-5% is the usual. For analytical purposes a focus on an historical bid-ask spread for each share was chosen.¹⁴⁴ The premium will therefore be based on actual company specific data from historical illiquidity effects from low volume, rather than apply a premium based on personal preferences. We use the bid-ask spread as a proxy for Solstad premium and this gives us a liquidity premium for Solstad at 2,5%.

7.6 Beta

The beta value in the CAPM model is an indicator of the risk of a stock relative to the market portfolio, and tells us something about the company's systematic risk. The market has a beta value

¹³⁷ Plenborg, T., & Petersen, C. V. (2012: 249). *Financial Statement Analysis*.

¹³⁸ PwC. (2013/2014: 5). *The Norwegian Market Risk Premium 2013 and 2014*

¹³⁹ Damodaran, A. (2010: 156). *Investment Valuation*.

¹⁴⁰ Plenborg, T., & Petersen, C. V. (2012: 251). *Financial Statement Analysis*.

¹⁴¹ <http://www.norges-bank.no/en/Statistics/Interest-rates/Government-bonds-annual/>

¹⁴² Damodaran, A. (2016). *Country Default Spreads and Risk Premiums*

¹⁴³ Plenborg, T., & Petersen, C. V. (2012: 265). *Financial Statement Analysis*.

¹⁴⁴ Damodaran, A. (2010: 686). *Investment Valuation*.

of one, and a company with a beta over one will move more than the market and a company with a beta lower than one will move less than the market. Beta of zero is equivalent of a risk free asset.

Historical beta

The beta can be estimated with use of different methods. One of the most common methods is to perform a regression between the shares and the market returns, but this method has several weaknesses. The reason is mostly due to illiquidity in the share. If there is lack of liquidity and volatility in the company's share, the beta values will not necessarily reflect the underlying risk of the company.¹⁴⁵ This has proved as an especially poor indication of the beta in the case of Solstad, due to the problem of illiquidity mentioned above. A regression analysis of Solstad based on a weekly 2-year period resulted in a beta estimate of 0.89.¹⁴⁶ A beta under one would seem unrealistically low, taking considering the company's financial situation and risk. The research has therefore decided to weight it at 5% up against the final beta estimates for Solstad.

Bottom-Up beta

Another method in order to calculate the beta and overcome the problem of illiquidity is to include other variables that can help to estimate the correct systematic risk. By using Damodaran's *bottom-Up* calculation for beta we are able to estimate a more precise risk for Solstad. To find the industry beta for Solstad we break down Solstad's business into where Solstad earns its income, which is Europe and emerging markets, and weight it up against the industry beta of these specific regions. The unlevered industry beta's is published through Damodaran's database.¹⁴⁷ Taking a weighted average of this beta and adjust it for Solstad's target financial leverage (60/40), we find the levered industry beta for Solstad (see Appendix A.16).

Table 20: Solstad levered beta

Target	Average beta	Weight
Historical beta	0,89	5 %
Peer group beta	0,5	15 %
Industry beta	2,96	80 %
Applied levered beta	2,50	

Source: Appendix A.15, A.16

Thereafter, we find the levered beta for Solstad's peer group and unlever them up against their debt/equity-ratio. The peer group beta is found by using Bloomberg and Reuters. Finally, we unlevered the beta of each company in the peer group in order to lever them towards Solstad's

future capital structure.¹⁴⁸ Because of the low liquidity in tradable shares in Solstad's peer group, we have decided to weight Solstad's industry beta at 80% compared to the unlevered beta found from its peers at 15 percent. While the weightage is discretionary and grounded on subjective

¹⁴⁵ Plenborg, T., & Petersen, C. V. (2012: 252). *Financial Statement Analysis*.

¹⁴⁶ Appendix A.15

¹⁴⁷ Damodaran, A. (2016). *Country Default Spreads and Risk Premiums*

¹⁴⁸ Appendix A.16

assumptions, the paper finds the beta result to better reflect the company's risk and therefore more applicable when calculating cost of equity and WACC. The calculations based on these assumptions resulted in a beta of 2,50, which we find to be a better indicator of Solstad's systematic risk in regards to the company's high financial gearing.

7.7 Summary of CAPM and WACC

The sum of the aforementioned totals a cost of equity of 17,7%¹⁴⁹ which is displayed on table 22. From table 21 we find a WACC of 10,68%,¹⁵⁰ which we find reasonable when looking at today's market conditions outlined in the strategic analysis.

Table 21: Solstad – WACC

WACC	
AVG financial leverage	60 %
Unlevered equity	40 %
Rd after tax	5,95 %
Re	17,77 %
WACC	10,70 %

Source: Plenborg, T., & Petersen, C. V. (2012: 96)

Table 22: Solstad – Cost of Equity

Cost of Equity (CAPM)	
Rf	1,57 %
Beta	2,47
Market risk premium	5,50 %
Liquidity premium	2,50 %
Return on Equity	17,70 %

Source: Plenborg, T., & Petersen, C. V. (2012: 249)

7.8 Capital structure

The choice of capital structure will be based on a practical approach. Solstad informs in their annual report and investment presentations their target capital structure. It is based on the objective of raising capital in the future when they are financing newbuilds. Solstad reports a target capital structure of 60/40. However, Solstad's capital structure has been largely affected by the colossal drop in market value which in the end of 2015 gives Solstad a D/E ratio of ~95%. The future capital structure will therefore be based on Solstad's target capital structure, and not the current D/E ratio as we believe this portrays a more realistic picture. The capital structure for Solstad and the peer group is listed in appendix A.17.

7.9 Summary of strategic and financial analysis

The SWOT-framework summarizes the key central value drivers of Solstad based on the explanations shown in the strategic and financial analysis in the previous sections. These drivers lay the foundation for the assumptions made in the budgeting phase, and subsequently the implementation of the DCF – and EVA valuation models. The value drivers are divided into two distinct categories; financial drivers and strategic drivers. The strategic drivers are strategic – or operational initiatives by the company with the intention of generating value. The financial drivers

¹⁴⁹ $Re = 1.57\% + 2.50 \cdot (5.5\%) + 2.5\%$

¹⁵⁰ $WACC = Rd_{after\ tax} \cdot D/EV + Re \cdot E/EV$

are key numbers that reflect the economic performance of the company as a whole. Thus, the financial drivers do not drive value per se, but rather explain the success or failure of strategic decisions and measure their effect on company value. These drivers also play an important role in forming realistic and coherent scenarios that Solstad may encounter in the future, and also how these scenarios can be either assessed as risks or capitalized on as opportunities for future growth. The thesis will develop and analyze these scenarios in greater detail further into the research in section 12. *Scenario analysis*.

7.10 Solstad Offshore ASA SWOT analysis

	Positive growth	Negative growth
	Strengths	Weaknesses
Internal factors	<ul style="list-style-type: none"> ○ Diversified fleet and strong presence in the three main segments of the OSV-sector ○ Increased demand of subsea-vessels attractive as Solstad operates a relative large fleet of CSVs with 90% utilization 2016 – key to their revenue stream in the coming years ○ Global presence with offices on most continents and key markets ○ Family owned business enable for organizational flexibility and decision making ○ Cash and cash equivalents depleting, but healthy to that of its peers ○ Green fleet and crew development programs 	<ul style="list-style-type: none"> ○ Relatively old fleet compared to its peers and competitors ○ Low contract coverage, continuous decline expected for 2017 – high exposure to spot market ○ Operational costs continue to rise in tandem with vessel age ○ E&P-activity is the key driver to a sustainable revenue stream ○ Second highest gearing among peers may make it difficult to attract investors ○ Financial uncertainty and risk in capital structure (highly leveraged; ~95% D/E) ○ Solstad has no opportunity to affect the oil price ○ Industry is highly controlled by state regulation and interests
	Opportunities	Threats
External factors	<ul style="list-style-type: none"> ○ Possibility for increased E&P-activity and oil price drives day rates back up to profitable margins ○ Increased activity and interest in deep sea exploration ○ New oil and gas exploration blocks put on tender for E&Ps – especially in Barents Sea and Lofoten ○ Increased demand for maintenance, inspection and installation of subsea drilling rigs ○ Tighter legislative environment in the future addressing quality and safety of vessels and personnel can benefit the high quality workforce and traditions of Solstad compared to other international players ○ Increased demand for high-end vessels 	<ul style="list-style-type: none"> ○ Continued volatility of oil price and low global E&P activity ○ Continued influx of OSV-vessels delivered to the market due to speculation on future demand ○ Decrease of qualified personnel stemming from competition in Asia and restrictions in employing specific nationalities. ○ Production slowdown by E&P-companies because of increased complexity in drilling and exploitation of oil; deeper and less accessible ○ Progress of shale oil and gas E&P, as well as increased interest in green, renewable energy ○ Political and public pressures that make the regulatory and legislative environment more difficult to generate acceptable profits in. ○ Better technical quality of cheaper Asian new builds lower entrants' barriers ○ OPEX expected to increase

Source: *Compiled by authors*

8. Forecasting

In order to get the most out of the different value estimates and future solvency scenarios for Solstad, the analysis will try to depend on the most realistic and solid budget assumptions. The focus for the forecast will be on the most essential value drivers, primarily the development of the day rates in the North Sea and the utilization rate of the vessels in the different markets they operate in.

This part will therefore present several assumptions and estimations of the future value drivers for Solstad, previously presented in the strategic analysis. It is important to note that when making the forecast, it is unavoidable to not apply subjective assessments and perceptions. Regardless, the paper will after its best ability try to build on reliable estimates such as historical numbers, the company's development, and relevant external factors. The paper will apply a technique based on *Petersen and Plenborg's* (2012) sales-driven forecasting approach where the different accounting items are calculated based on a percentage of revenue, however modified in order suit the OSV market better.¹⁵¹

As already mentioned, the day rates for the different vessels is one of the primary value drivers for future revenue stream and profitability, making it an essential component when designing the forecast. The findings in the strategic analysis will be used in combination with several regression analyses to forecast the day rates for the respective vessel segments. Data is collected for a ten-year period from 2005 to 2015, which should be sufficient to cover a normal business cycle (7-9 years) in the shipping industry. The day rates for the PSV and AHTS segments will be forecasted by doing two separate regression analysis in order to find the statistical relationship between the variables. For the Subsea segment the paper will do a fundamental analysis based on the historical earnings per Subsea vessel for Solstad in order to estimate future day rates. This is done because of the size and the technical competence for the subsea vessels vary to a much higher degree than the other vessel segments. Profits allocated to these vessels differ more based on the services the different OSV players offer to their customer group.

8.1 Adjustments and stationarity

Since the variables used for the regression are not homogenous, we need to convert them into natural logarithms. Normally it is important in order to achieve a successful regression, that the data used is stationary; meaning the mean, variance and autocorrelation structure is constant over time. We have plotted the dependent variables up against the explanatory variable in order to see whether the mean drifts on the variables. To correct for such an outcome, the data set is transformed into a new time series by differentiating the data. This means that given the time series X_t , we get a new series $Y_t = X_t - X_{t-1}$ in return for losing one observation. The result is growth values of the natural

¹⁵¹ Plenborg, T., & Petersen, C. V. (2012: 175). *Financial Statement Analysis*.

logarithms. This has been done for the PSV dayrates, as it provided satisfactory results as the data is in fact stationary. However, when doing the multiple regression analysis for the AHTS segment and adjusting for stationarity the results returned unsatisfactory. We ended up discussing the issue with a statistician from the consultancy firm Capgemini Norge, and together we concluded that in such a small sample size, stationarity would almost be impossible to prove. We therefore decided not to adjust for stationarity when doing the AHTS regression, which in our view resulted in a more meaningful outcome. It is important to note that the data size for the PSV regression were the same as AHTS, though the result from that regression proved more meaningful and we therefore concluded to keep this result. This is one of the shortcomings of a regression with a relatively small sample size.

8.2 Forecasting day rates – PSV segment

In order to forecast day rates for the PSV segment the paper chose to run a multiple regression based on three explanatory variables¹⁵²; the oil price, number of PSV vessels, and the rig count. However, the research did not find a statistical relationship between the

Table 23: PSV dayrates regression output

Summary – PSV dayrates output		
R-Square	0,59470	
	Beta coefficient	P-value
Constant	0,0196	0,7716
Ln growth Oil Price	0,7210	0,0090

Source: Appendix A.17

variables and appeared not significant from the regression. The paper therefore chose to perform a simple linear regression where the oil price was the only explanatory variable.¹⁵³

Table 23 above tells us that a change in the oil price explains ~60% of changes in the PSV day rates, and that the oil price is significant at a 99% confidence level. The beta coefficient at 0,7210 tells us that an increase in the oil price has a positive effect on the day rates. This is in line with the studies in the strategic analysis.

Thus, the future day rates for PSV is calculated with the help of the following equation:

Equation 4: PSV day rates

$$= 0.0196 + 0.7210 * \text{oil price}$$

¹⁵² Revenue drivers

¹⁵³ The strategic analysis underlines the oil price as the fundamental driver to the overall economic health of the OSV-sector. Thus, the strong, positive correlation between freight rates and oil price shown is the regression further confirms this assumption

In order to use the formula, the logarithmic terms need to be removed and is done through the following equation:

Equation 5: PSV day rates_t reformulated

$$= \text{Day rates}_{t-1} * e^{\ln \text{ growth dayrates}}$$

The results from the regression corresponds well with the findings in the paper's strategic analysis (See A.18 for additional calculations).

Table 24: Forecasted PSV spot rate – North Sea region 2016E-2023E

Year	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
North Sea spot rate PSV	6 854	6 239	7 128	7 808	8 178	8 558	9 056	9 236	9 419
YoY growth		-9 %	14 %	10 %	5 %	5 %	6 %	2 %	2 %

Source: Appendix A.17

By applying the equation above we get the estimated revenue streams for the PSV segment illustrated in table 24. Section 3.8. *Solstad regional exposure* illustrate that 33% of company revenue is generated from the North Sea which makes it the most meaningful market to conduct this regression on.

8.3 Forecasting day rates – AHTS segment

To forecast the AHTS day rates, a multiple regression analysis based on historical data for the period 2005-2015 was performed. The 10-year period captures the 7-9-year cyclical interval which the OSV-industry seems to follow. The dependent variable used was high-end AHTS vessels¹⁵⁴ (>18 000 BHP) and the explanatory variables used were the international rig count, oil price, and the number of high-end AHTS vessels in the market. The output is summarized below and the complete output from the regression can be found in Appendix A.18.

¹⁵⁴ Solstad is most exposed to this segment; see section 3.6.1 for fleet composition

Table 25: AHTS day rates regression output

Summary – AHTS dayrates output		
R-Square	0,64109	
	Beta coefficient	P-value
Intercept	-4,4710	0,5784
Ln Rig	3,2359	0,0814
Ln Oil	1,8981	0,1064
Ln AHTS	-1,2440	0,0118

Source: Appendix A.18

The output from the analysis reveal that an increase in both number of rigs and the oil price will affect the day rates positively, while an increase in number of AHTS vessels will have a negative effect on the day rates. The rig count is significant at an ~91% confidence level, the oil price at an ~89% confidence level, and the number of AHTS vessels at a ~98% confidence level with an R-squared of 64%. The interception of -4,4710 is the

constant in our equation. This leads is to the following equation:

Equation 6: AHTS dayrates

$$= -4.4710 + 3.2359 * rigs + 1.8981 * oil\ price - 1.2440 * AHTS\ vessels$$

As the inputs in the model is in Logarithmic terms, the forecasted day rates in the regression model is found through the following equation:

Equation 7: AHTS Dayrates_t reformulated

$$Dayrates_t = e^{\ln dayrates}$$

It has to be emphasized that the data set we operate with is relatively small and some statistical interference may be plausible. However, it is important to note that these are strictly scientific tools that try to paint the most realistic picture possible given the data at hand. The authors are aware of, and has already mentioned in section 1.1. that data was difficult to attain and some of the analysis might be not be as robust because of the relative short period the sample data represents. Nevertheless, given the output from the regression, we found them to be plausible and in line with most analysts' consensus and as such assume the results representable and applicable when making our forecast due to the reasons summarized below:

- The parameters in the regression is in line with the findings in our strategic analysis, where rig and oil growth is positive, and AHTS vessel growth is negative in relation to the day rates. Capacity increase implies more ships, tighter competition and consequently lower freight rates.
- R-square is a good indicator of jointly explaining the relation between the parameters, and 64% is an acceptable value.

- The results seem to be in line with respected OSV brokerages' and analysts' consensus. Among these are Clarksons (formerly RS Platou), DnB Markets, Pareto, and Fearnley.¹⁵⁵
- The sample size was fairly small, and a larger one would most likely increase the accuracy of the test. Weekly or monthly observations could also possibly have increased the validity.

The forecasted day rates for the AHTS segment is summarized below, and will be used when forecasting the revenue stream for the AHTS segment.

Table 26: Forecasted AHTS spot rate (£) – North Sea region 2016E-2023E

Year	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
North Sea spot rate AHTS	16 895	10 484	12 389	13 861	15 765	18 068	20 163	23 379	27 378
YoY growth		-38 %	18 %	12 %	14 %	15 %	12 %	16 %	17 %

Source: Appendix A.18

In 2016 we forecast a fairly large dip in the AHTS day rates of -38%. This is due to a significant drop in rig count activity, and expectations of a stagnant oil price. Through the analysis and calculations, it is found that 2016 will possibly be the bottom line for the segment and the market, and most likely signal an end to the significant downturn the market has experienced the last couple of years. We expect day rates to slowly recover in 2017 in conjunction with a growth in the oil price. The order book for AHTS vessels have decreased recently, and a high amount of slippages and scrapping leads us to believe that market balance will slowly be renewed over the forecasted horizon. Because of the large decrease in day rates in 2016 we forecast an upwards YoY growth throughout the forecasted period in order for the day rates to stabilize to normal levels.

Based on the comparison between our forecasts and the findings from the strategic analysis, we find the forecasted data plausible. There is data to justify some indication that the market will slowly recover. However, the degree of increase and the tempo of which the day rates will increase is certainly hard to predict, but we believe our estimates to not be too aggressive nor too moderate based on the analysis we have done in the strategic analysis and financial analysis. To further illustrate how the growth rate is relatively moderate in the forecasted period, the 2013 fiscal year average rate for AHTS vessels (>16-19,999 BHP) operating in the North Sea spot market was GBP 26,738 and GBP 41,141 for AHTS vessels (>20 000 BHP). Looking at the forecasted period our estimates state that AHTS vessels (> 18 000 BHP) should be expecting an average rate of GBP 27,378 in 2023.¹⁵⁶ Thus, we expect the market to neither perform on par with the “golden years” of

¹⁵⁵ Resources used in the strategic analysis shows to be in line with the outcome of this thesis' forecasts

¹⁵⁶ RS Platou. (June 2014). *Weekly North Sea Spot Market Update*.

OSV-industry growth nor be without a certain, gradual recovery as the memory of the 2014 oil crash left behind.

8.4 Forecasting of day rates – Subsea segment

In order to forecast the day rates for the Subsea segment, the paper has chosen not to estimate the day rates on the same preconditions as the PSV and AHTS fleet due to the size and the technical competence differ largely from vessel to vessel. This leads to a basis for comparison that is not grounded enough in order to generalize daily income and development for the segment. There is also limited historical information on the Subsea market making the regression highly susceptible to inaccurate results.

Earnings are therefore divided on total operational days, and further allocated to total number of Subsea vessels Solstad has in the segment. Since Solstad's Subsea fleet primarily operates on long-term contracts, this method will catch the average level of all the contracts for Solstad, and give a general indication to where the day rates lies for the Subsea segment. Overview of the day rates are illustrated in table 27 below:

Table 27: Forecasted Subsea spot rate (£) – North Sea region 2016E-2023E

Year	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
North Sea spot rate Subsea	29,082	27,628	29,009	34,811	41,774	43,862	44,739	45,634	46,547
YoY growth		-5 %	5 %	20 %	20 %	5 %	2 %	2 %	2 %

Source: Appendix A.19

Compared to the AHTS segment we do not see a significant drop in 2016 as we expect the Subsea segment to remain the most stable out of all the vessel segments. This is mainly due to there being more stable demand for Subsea vessels, and that there still exists possibilities for increased growth in this segment. Day rates for Subsea has also traditionally been less volatile than the other segments due to them mainly being on long-term contracts. However, this trend has changed slightly in recent time with a higher number of Subsea vessels entering the spot market or pending charters. Arguably, the Subsea segment will follow the forecasted changes in the oil price. Thus, it is highly beneficial for Solstad to be in a position where they are exposed to the Subsea market rather than the other segments, and we believe this can be a strong market point relative to many of its peers.

8.5 Long term contracts

Solstad has an expected contract coverage with options in 2016-2017 of 80% and 41% respectively. The drop in 2017 is a result of many of Solstad's vessel coming of contract with no or few indications of possible renewals.

Vessels on long term contracts have fixed charters and are not susceptible to the volatile spot market, making them highly beneficial when the market is in decline. The vessels operating in the spot market has a much higher uncertainty regarding future revenue compared to vessels on long-term contracts as the day rates will fluctuate significantly, leading to higher revenue risk for Solstad. All vessels on contract is assumed to have a utilization rate of 100%. Hence, it is extremely imperative for Solstad to maintain and sign the beneficial long-term contracts for its vessels in order to ensure high utilization rate. The drop in contract coverage will significantly lower utilization rates for Solstad and negatively affect its future revenue stream. We remain, however, cautiously positive towards Solstad compared to the industry average due to its high exposure to the Subsea segment. A segment we are convinced will do comparably better than the PSV and AHTS segments.

If Solstad does not manage to renew or write new contracts on existing vessels they will see a dramatic drop in income. As of March 1st Solstad reported a significant drop in contract coverage to about 45% and 39% including options for 2016 and 2017 respectively.¹⁵⁷

Table 28: Solstad contract coverage (total fleet) 2016E-2019E

Contract coverage	2016E	2017E	2018E	2019E
Solstad total fleet	80 %	41 %	20 %	20 %

Source: Solstad, "Annual Report", 2015

In order to calculate the revenue contributed from vessels on contract for the Subsea segment we have used Normand Reach (delivered 2013) as a proxy for all the other contracts in this segment. This is due to most of the contracts being confidential and information is hard to come by. The value of Normand Reach's contract was MNOK ~650 with a duration of 5 years, giving Solstad a revenue of MNOK 130 every year from 2015 to 2019, or ~22 750 GBP every day. The revenue stream for each vessel can be found in appendix A.20. Due to lack of information on future contract rates for the PSV and AHTS segment and whether options are exercised, it is assumed that the vessels in this segment mostly trade in the spot market which is a common interpretation among practitioners.

8.6 Forecasted utilization rates

As described in 2.4, utilization is a measure of fleet efficiency. Historically, utilization rates for AHTS vessels have averaged 70%, and 90% for PSVs. This is due to AHTS vessels having higher spot exposure than the PSVs, usually leading to a lower overall utilization rate. Subsea is the segment with most long-term contracts because of their highly specialized components making

¹⁵⁷ See section 3.6.1 *Fleet comparison*

them useful on a project to project basis leading to a more contract oriented segment. They have historically experienced a utilization rate of close to 100%.¹⁵⁸ However, the paper and several analysts have estimated a drop in utilization for all the segments including Subsea.

The drop is partially related to the PSV block in Brazil, where two of Solstad's PSV vessels had to be laid up. The Brazilian Oil giant Petrobras decided to terminate the contracts for both PSV vessels as they were blocked by local tonnage and work permission. The contracts were therefore not renewed by Petrobras.

However, the announced multi-year contract for the DLB Norce Endeavour for 4+3y is seen as very positive. Pareto further states that in 2018 the currently cold stacked vessels will be reactivated, possibly leading to higher utilization and greater revenue stream in the following period.

Table 29: Solstad utilization rates forecast

Solstad utilization rate	2014H	2015H	2016E	2017E	2018E	2019E	2020E	2021E
PSV	58 %	70 %	74 %	83 %	85	85 %	85 %	85 %
Growth		-18 %	6 %	12 %	2 %	0 %	0 %	0 %
AHTS	80 %	65 %	69 %	70 %	70 %	75 %	75 %	75 %
Growth		-19 %	6 %	1 %	0 %	7 %	0 %	0 %
CVS	93 %	91 %	92 %	98 %	100 %	100 %	100 %	100 %
Growth		-2 %	1 %	7 %	2 %	0 %	0 %	0 %

Source: Pareto Securities. (2016). & own contribution

As illustrated in table above we find the Subsea segment experiencing the highest utilization with 93% and 91% in 2014 and 2015 respectively. The PSV segment has the second highest utilization with 85% and 70% in 2014 and 2015, seeing a greater decrease due to oversupply and tougher market conditions in 2015. The AHTS segment has experienced the lowest utilization and is expected to follow this trend based on our findings in the strategic analysis. We argue that Solstad's AHTS fleet will face difficult market conditions in a market currently characterized by oversupply. Moreover, Solstad's AHTS fleet is comparatively old to its peers, making it harder to secure new clients, and retain old ones.

Yet, we argue that the market will stabilize more and more the next several years and we find that most of the segments will see a slow increase in utilization and stabilization in the end. We believe that Solstad will be able to retain a high utilization rate for their Subsea vessels as their fleet is relatively young and specialized, while the AHTS and PSV segment will most likely see a slower and more volatile utilization rate as they face similar market conditions and possibly higher exposure to the spot market. We argue that the AHTS and PSV segment will increase slightly the

¹⁵⁸ (Pareto Securities, Jan. 2016)

next couple of years due to market stabilization, but it will be difficult to say how much they will benefit from a possible market equilibrium. One of the most important questions at the beginning of 2016 was how well Solstad was able to maintain and renew their contracts. As reported in their first quarterly report of 2016, shows that many of these did in fact not get renewed and severely impacted expected contract coverage for the remaining year and 2017.

8.6 Notes on forecasting assumptions

Essential for a realistic forecast is a strong understanding of the company, its strategy and the industry it operates in. We therefore base our forecast assumptions directly on our findings in the strategic analysis, giving us a strong link between Solstad's operating environment and its financial capabilities. The budgeting period is set to seven years as we believe Solstad will reach a steady state by then, and as already mentioned, covering a complete business cycle. The forecasting method is based on Petersen and Plenborg's (2012) sales driven forecasting approach, where the developments in value drivers are directly linked to revenue. However, the shipping industry differs from a typical retail industry which the approach is based on. Thus, some modifications have been made in order to create a more realistic forecasting picture.

Terminal Growth

The terminal growth is based on what we believe to be the expected long-term growth in the OSV-industry. The terminal period indicates a "steady-state" environment where it assumes that everything remains constant forever. Based on our findings in the strategic analysis, and recent developments in the industry we have set a terminal growth of 2,5%, which is the level of inflation the Norwegian Bank has set. This might prove too pessimistic, but considering the historical development of the market we find it to be a realistic overall growth value for the industry.

Pro Forma income statement

Estimating Solstad's future expenses will be based on the company's historical marginal levels, as well as future strategic goals found in the strategic analysis.

Revenue forecast

The forecasted revenue is based on the specific information found in the previous section.

Crew expenses

Crew expenses is the most important cost driver for the EBIDTA-margin, as the expense constitute, by far, the largest proportion of total costs in the company. Historically, the percentage ratio between revenue and crew expenses have been characterized by which market the vessels operate in and what types of vessels. The budgeted forecast will therefore be based on where Solstad wants to allocate its vessels in the future, with what types of vessels and expectations for that specific market. This is largely reflected in the historical margins and it is therefore natural to base the future

crew expenses on the historical levels in conjunction with the different expectations for the future. Yet, with the significant lay-ups Solstad has done to its fleet, we set an initial decrease in crew expenses with a steady upwards development as the vessels cold stacked enters the market again.

Maintenance and other operating costs

Illustrated in the common size analysis in section 7.3.4 it is clear that other operating costs is of a relatively stable character. The budgeting for future development costs such as lube oil, insurance and other operating costs will therefore primarily be based on the historical average levels. Likewise, CAPEX maintenance will be based on its historical levels. Though, the analysis will account for marginal corrections for costs based on Solstad's statement on maintenance in the annual report.¹⁵⁹

Other operating income

Other operating income has historically amounted to an average of 0,5% of total revenue. There is no reason to believe this will change or have a significant impact in the future, and we therefor set the forecast to remain constant with the historical average.

Gains on sale of vessel

The authors have decided to include gains on sale of vessel in the operating income as we believe it is an important factor in order for Solstad to remain competitive. However, predicting the future gains or losses on sales of vessels is highly difficult. Regardless, based on our strategic analysis we find that the market will start to improve in 2017 and therefore set forecasted gains on sale of vessel based on the observed historical trend. This results in gains of sales of assets at around 2% of total income approximately every other year.

8.7 Notes on income from investments in associated companies

Tax rate

The future tax rate is, as earlier described, of a more complex nature. The reason for this complexity stems from the company mainly pays tax on net tonnage tax, and not on the revenue stream from the vessels. The tax for Solstad and other OSV players in relative terms, is not of a significant level because the vessels have a much lower weight than other types of vessels. This also explains why there is a lower amount of recoverable steel OSVs have when scrapped.¹⁶⁰ To account for the different tax regimes, the historical average for the tax rate could be used. However, as outlined earlier, it is disrupted by changes in the tonnage tax regime, making the historical effective tax rate useless in this setting. We further believe that similar tax on financial and operational to be unrealistic, as this is mainly taxed 27% in Norway, and therefore subject to different tax rates. The

¹⁵⁹ Solstad Offshore, "Annual Report", 2015: 28

¹⁶⁰ Clarksons. (September 2015). *Studying The Support Vessel Surplus*.

analysis will therefore apply a weighted tax rate from where the company has its earnings and its subsidiaries.

Depreciation

Future depreciation policy is assumed to be based on Solstad's recent depreciation policy. However, due to large write-downs in 2015 we will emphasize 2012-2014 more as we believe this will give the analysis a more realistic view of the company's depreciation policy. Furthermore, it is expected that Solstad will only purchase vessels to maintain fleet size, and vessels are not depreciated until they have finished construction. We therefore set a depreciation level of 3% for the budgeted period, in correlation with what we have historically seen from Solstad.

Pro Forma balance sheet

Budgeting of balance sheet items will be based on the main items affecting value estimated and the credit risk of the companies.

Investments

The most important budgeting driver for the company is the expected investments in new vessels. Investments in vessels has a negative impact on the company's cash-flow, and therefore a great effect on the valuation. When doing the investments forecast for the company, the sales-driven approach will be applied but with slight modifications. A significant increase in day rates does not implicitly mean that the company's assets increase similarly. The forecast will therefore base its assumptions on an absolute investment level, rather than a relative one.

Investments in vessels

In order to forecast Solstad's expected investments the paper will apply the company's official newbuilding program. There is one vessel expected for delivery. The investments in vessels will therefore be based on when the new vessel arrives and how it is paid for in their accounts. The information is found in the company's annual report. Solstad and its peers have just recently finished a significant increase in fleet size, and in line with today's market situation it is not expected that Solstad will make any investments in fleet size over the budgeted period.

Investments in maintenance of vessels (CAPEX vessels)

Solstad will make continuous investments in maintenance of the hull and equipment of the vessels. These costs are usually related to the modification and improvement of the vessels. This leads to expenses in short dockings and replacement of components. The docking costs is depreciated over the period until next maintenance. These maintenances happen on average every 30th month for

Solstad.¹⁶¹ The size of the investment is based on the historical expenses, though adjustments are made when there is an increase in vessel supply.

Net working capital

Net working capital consists of current operating asset and current operating liabilities. The development in the net working capital is highly dependent on activity. Solstad has a historical positive trend in net working capital, with a larger proportion being current operating assets in relation to its operating liabilities. The close relationship between revenue and net working capital makes the sales-driven budgeting method highly suitable for forecasting this entry. The analysis will therefore base its forecast on the historical average, as it gives the best representation for future development of the net working capital.

Net interest bearing debt

Net interest bearing debt (NIBD) is calculated as a percentage of invested capital. The proportion of debt Solstad holds represents the expected future relationship between equity and NIBD. During the analyzed period, Solstad's NIBD has increased by 287% as a consequence of the company's aggressive newbuilding program. Further, NIBD constitutes 75% of invested capital in 2015, a significant increase from 51% in 2008. Combined with an all-time low market value of equity this gives a financial leverage of 94.8%, which is clearly unsustainable in the long-run.

¹⁶¹ Solstad Offshore ASA, "Annual Report", 2015: 28

9. Valuation

Until now, the objective of the paper has been to get a profound understanding of Solstad and the environment it is operating in. As mentioned earlier, from a perspective as external reviewers, the budgeted value drivers are grounded on the paper's own assumptions and subjective ideas about Solstad's potential for future earnings. The paper has decided to apply a fundamental valuation analysis and a relative valuation approach. By applying a set of different valuation technologies the paper is able to give the reader a more in depth view of Solstad's expected financial capabilities in the future and predict a share price deemed reasonable based on the findings in the model. For the fundamental analysis, the paper has chosen to use the discounted cash flow (DCF) model and economic value added (EVA) model. For the relative valuation the paper chose to use a multiple valuation analysis. The EVA-model is included in order to give the DCF-model validity, and gives further insight into Solstad's capabilities to create economic value in the future for its shareholders. The multiple valuation model is popular among practitioners, and is chosen due to its simplicity, transparency and comparability. The values are estimated by using prices from comparable firms relative to a variety of accounting items such as EBIDTA, EBIT, cash flows and book value of equity. Based on a thorough and comprehensive analysis, the paper will try to establish a reasonable share price for Solstad. However, due to the circumstances these companies face in the marker today, the paper suggests not to put too much emphasis on the given share price, as it does not necessarily reflect the underlying risk of the company.

The valuation will be accompanied with a sensitivity analysis and a scenario analysis in order to give the reader the possibility to see the value of the company based on different assumptions and real world scenarios. However, as the share price is notoriously hard to predict and most get it wrong, the paper will, with the scenario analysis, give the reader a more in depth analysis of the company's future options and obstacles.

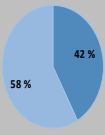
9.1 Valuation: Discounted cash flow

The discounted cash flow model is among the most popular valuation models, and estimates the "intrinsic value" of the company based on future cash flows that are discounted back by the WACC. The cash flow in the model is divided in to two periods, the forecast period and the terminal period. The terminal period is estimated through the Gordon growth method with the following formula:

Equation 8: Enterprise value

$$= \sum_{t=1}^n \frac{FCFF_t}{(1+WACC)^t} + \frac{FCFF_{n+1}}{(WACC-g)} * \frac{1}{(1+WACC)^n}$$

The results from the valuation indicate whether the company is under- or overvalued compared to the market as of 18.04.2016 based on the assumptions made in the paper. The forecasting inputs for the EVA and DCF-models are found in appendix A.20 and A.21.

DCF-model	Budgeting period							Terminal period Growth	
	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2,5 %
Free cash flow to the firm	-1 074 785	1 181 394	1 350 200	1 314 361	1 632 530	1 531 502	1 786 785	1 052 788	
WACC	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %	
Discount factor	0,90	0,82	0,74	0,67	0,60	0,54	0,49		
Discounted FCFF	-970 899	964 050	995 303	875 234	982 026	832 208	877 080		
Discounted, budgeting period	4 555 001								
Discounted, terminal period	6 302 223								
EV	10 857 224								
NIMB	10 554 083								
Market value NOK	303 141 022	<i># of shares</i> 38 324 000							
Market value per share	8,2								

The growth in the terminal period in the DCF-model is based on the expected growth in regards to the Norwegian Central Bank's expected inflation at 2,5%.¹⁶² The model is as mentioned based on a budgeting period of seven years. The purpose is to put more weight on the budgeting period in order to ascribe more weight to the total value estimate of equity. It is expected that the day rates will decrease the next year, which will reduce short-term profits. This is assumed due to the uncertainty in the oil price level, over supply of vessels in the spot market and many of Solstad's vessels being laid-up and/or coming off contract. As described, a drop in utilization for Solstad will lead to uncertainty in future profitability.

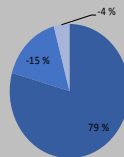
Nevertheless, the paper estimates that Solstad will manage to write new contracts or renew enough contracts to see a steady growth after 2017e. This is conjunction to the market slowly recovering over the budgeted period and stabilize up to a more normal growth scenario within 7 years. The model will include all the announced investment decisions and expectations contained in the latest annual report.

9.2 Valuation: Economic value added

In order to understand how Solstad creates value we have supplemented the DCF analysis with the EVA model. The model relies upon the same inputs as the DCF model, and shows to what extent the company generates or destroys value for its shareholders. However, the model does not derive its value from the cash flow, but uses NOPAT adjusted for capital costs directly.

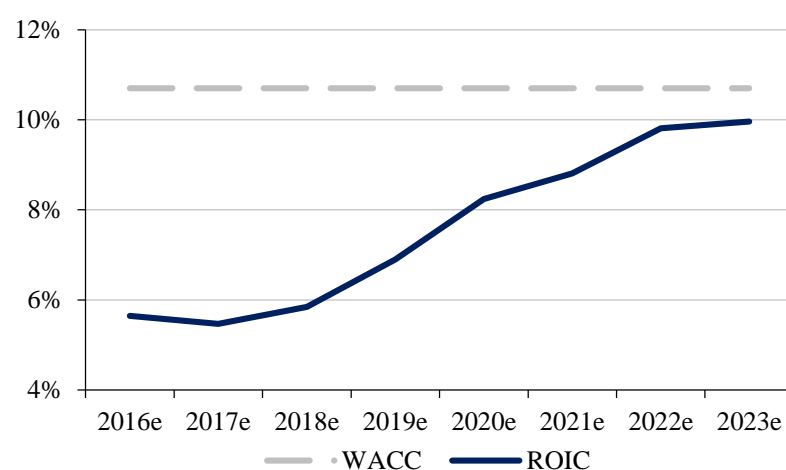
¹⁶² <http://www.norges-bank.no/Statistikk/Inflasjon/> - The Norwegian Central Bank (In Norwegian)

EVA-model	2016e	2017e	Budgeting period		2018e	2019e	2020e	2021e	2022e	Terminal period	Growth
			2018e	2019e						2023e	2,5 %
NOPAT	901 459	855 938	889 016	1 030 558	1 196 635	1 255 318	1 358 421	1 413 587			
Invested capital, beginning	14 666 580	16 642 824	16 317 368	15 856 185	15 572 382	15 136 487	14 860 303	14 431 938			
WACC	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %	10,70 %			
Cost of capital	1 569 324	1 780 782	1 745 958	1 696 612	1 666 245	1 619 604	1 590 052	1 544 217			
EVA	-667 865	-924 844	-856 942	-666 054	-469 610	-364 286	-231 632	-130 631			
Discount factor	0,90	0,82	0,74	0,67	0,60	0,54	0,49				
Discounted FCFF	-603 310,6	-754 698,1	-631 696,9	-443 525,8	-282 487,3	-197 950,6	-113 701,2				
Invested capital, beginning	14 666 580,0										
Discounted, budgeting period	-3 027 370,4										
Discounted, terminal period	-781 985,2										
EV	10 857 224										
NIMB	10 554 083										
Market value NOK	303 141 022										
Market value per share	8,2										



The EVA model shows that in both the budgeted and the terminal period the company generates a negative EVA. This is correlated to the company's ROIC, which never exceeds the company's WACC of 10.7%, shown on table 21. Observing from figure 32 there is however a positive trend, in that the ROIC is

Figure 32: Solstad ROIC 2016E-2023E



Source: Appendix A.21

converging up towards the WACC. Since the present value of the EVA is negative it helps infer that Solstad is traded below its book value of invested capital. This is in line with the market outlook, and the uncertainties of the oil price discussed above.

9.3 Relative valuation: Multiples

To gain a wider perspective on the valuation done through the DCF and EVA it is helpful for an investor to look at the relation between the present value models and the multiples. As described earlier, an essential requirement for a successful analysis is to use the right multiples. In order to predict the value of the multiples, empirical evidence has shown that forward looking values are better predictors than historical ones.¹⁶³ When calculating the company's value of equity, the paper

¹⁶³ Koller, T., Goedhart, M., & Wessels, D. (2010: 311). *Valuation*.

chooses to base it on the average multiples of the selected peers and then multiply it with the expected normalized estimated EBITDA and GAV from end of 2015.

EV/GAV	EV/ EBITDA	P/B
Strengths	Strengths	Strengths
Shows whether the company is traded below or above the cumulative value of its tangible assets including debt.	Can be used to compare companies in the same industry with different levels of debt. Also removes the effects of depreciation and amortization which in some cases can have a big influence in the result.	Provides a good impression to investors of the company if the ratio is high – and financial reports back up these expectations. Book value is generally more stable than earnings as well which makes the multiple better suited.
Weaknesses	Weaknesses	Weaknesses
A very high NIBD such as the OSV-industry currently shows, the company will usually show a low multiple and skew the number.	Does not work for comparing companies in different industries, and may in some cases overlook minority interests that can result in misinterpreted numbers	A high P/B can however negatively affect the stock value if the company's financial reports posts results below investor and management expectations. Also, intangible assets are not included which can skew the actual value.

The aforementioned multiples are also commonly used among analysts. Because of the extreme capital structure Solstad has, we decided not to use P/E multiple, which is also typical among practitioners when analyzing capital intensive markets. This is because the multiple is directly affected by the company's capital structure, and not just its operating performance. In this case, this leads to a high amount of noise in the values. Further, net income is calculated after non-operating items such as amortizations of intangible asset and one-time gains and losses. This can lead to significantly lower earnings, resulting in an artificially high P/E multiple. The paper has chosen to measure the average based on the harmonic average. This is according to researchers, a more accurate value estimate than a multiple based on median, mean and value-weighted average.¹⁶⁴ In table below we have summarized the forward-looking multiples for Solstad's peer group based on an average from several analysts.¹⁶⁵

Table 30: Solstad peer group multiples

Company	EV/GAV	EV/EBITDA 2016e	EV/EBITDA 2017e	EV/EBITDA 2018e	P/B 2016e	P/B 2017e
DOF	0,67x	9,1x	9,6x	11,5x	0,1x	0,1x
Deep Sea Supply Plc	0,54x	21,2x	23,5x	24,5x	0,1x	0,1x
Siem	0,68x	10,5x	12,4x	16,9x	0,1x	0,1x
Farstad Shipping ASA	0,59x	10,2x	9,4x	10,5x	0,1x	0,1x
Harmonic mean	0,61x	11,42x	11,99x	14,18x	0,1x	0,1x
Solstad Offshore	0,60x	7,95x	7,84x	7,70x	0,1x	0,1x

Source: Appendix A.22

¹⁶⁴ Plenborg, T., & Petersen, C. V. (2012: 234). *Financial Statement Analysis*.

¹⁶⁵ Factset Database

Both the EV-multiples take into consideration the different capital structures, as they are based on the EV of the company, which include net interest bearing debt. How Solstad and its peers have financed their vessels and leveraged their income is excluded from the analyses, and reduces the noise from the different capital structures the companies have. The EV/GAV multiple is based on the gross value of the respective companies' fleet at the end of 2015. The multiple for Solstad and its peers is estimated to be below 1 (0,62x average). This indicates that the companies are priced below the total value of their fleet including debt. As mentioned in the EVA analysis, an explanation for a pricing below 1 could be that the companies over time has generated a return below its required rate of return. Furthermore, the actual market value of Solstad's fleet might deviate from what is reported in their annual reports if the company was to be liquidated on short notice. In a scenario of distressed liquidation, it is possible that the price of its shares would be dramatically lower than what is reported in table 30, which leads to a drop in the share price. A share price valuation has been done through EV/GAV and is listed in Appendix A.22.

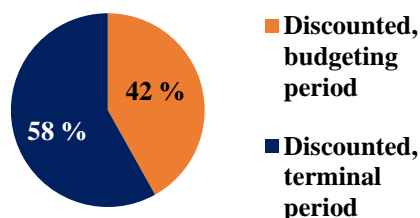
The EV/EBITDA is based on the average of several brokerage firms. The multiple show, between Solstad's peers, an indication of Solstad being priced at a significantly lower level. This could be explained by underlying factors like difference in growth and focus areas. Further, there could be difference in the subjective assumptions that affect the underlying factors, resulting in differences in the multiple. Another reason for large differences in the multiple could be the significant financial restructuring many of the companies are undertaking in order to meet their debt obligations/covenants. However, this sheds light on the weaknesses of using multiples, and should therefore be used as an indicative value only, and in conjunction with other multiples and valuation models.

The P/B ratio looks at the relationship between the share price and the book value of equity for the company. All the companies are traded at a P/B of 0,1, indicating investors are highly pessimistic of future earnings. This results in a market value of equity that is almost completely worthless. The combination of more debt and lower market value of equity is the reason for such an extreme P/B multiple.

9.4 Sensitivity analysis

The estimated values through the DCF- and EVA-model is, as explained, largely dependent on the respective budgeted value drivers and rate of returns set in the forecast. The value estimates are

Figure 33: Share of budgeted and terminal period



Source: Appendix A.21

therefore dependent on the authors own subjective assumptions of inputs deemed the most reasonable.

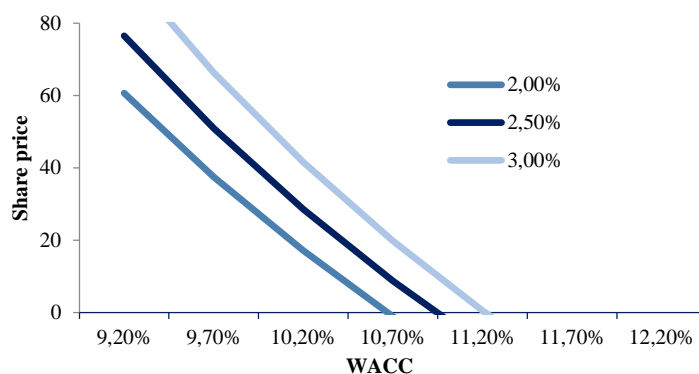
In order to get a more nuanced and objective look at the stock returns, it is necessary to present the sensitivity of the model by changes these inputs. This section will mainly be based on the development of the share price by changing inputs that affect the cost of capital for the company. In

addition, the estimated share price will be based on +/- 1,5 % point in WACC and terminal growth. Finally, looking at the sensitivity in revenue growth and OPEX.

9.5 Growth in terminal period and WACC

As stated earlier, the growth in the terminal period is set at 2,5%. Since the terminal period constitutes 58% of total EV it is crucial, in order to gather a more objective look, to see the changes in share price by also changing the growth in the terminal period. The steep slope in figure 34 indicates a highly sensitive share price towards the WACC. In fact, a 50 basis point increase in the WACC decreases the share price by 202% (-8,9 NOK), the opposite results in a change of 227% (28,5 NOK). An increase in the growth rate by 50 basis points “only” increases the share price by 127% (19,8 NOK). We therefore set a realistic price

Figure 34: Terminal growth effect on WACC and share price



Source: Appendix A.23

estimate for the share in appendix A.23, where all the different estimates are shown and a related share price is given. This is also indicative of the difficulty of setting a “correct” value estimate for the company and the companies in the industry, as the share price is very sensitive to the underlying assumptions.

Changing the underlying WACC assumptions

A slight change in WACC has a large effect on the share price. It is therefore valuable to look at the underlying assumptions that determines the WACC. By changing these underlying assumptions

separately we believe the sensitivity will portray a more nuanced perspective on the different value estimates given in the paper.

Table 31: Change of underlying assumptions effect on share price

Beta		Liquidity premium		Risk free rent		Credit spread		WACC +1,5		WACC -1,5	
Share price		Share price		Share price		Share price		Share price		Share price	
Adjusted	8,2	Adjusted	8,2	Adjusted	8,2	Adjusted	8,2	10,7	8,2	10,7	8,2
0,2	-6,7	+1 %	-5,4	+0,5 %	1,6	-1 %	10,3	11,2	-8,9	10,2	28,5
-0,2	26,2	-1 %	24,6	-0,5 %	16,5	-2 %	27,7	11,7	-24,7	9,7	50,9
-0,4	45,5	No premium	51,1	+1,0 %	-5,4	-3 %	47,1	12,2	-39,0	9,2	76,5
-0,6	67,1										

Source: Appendix A.23

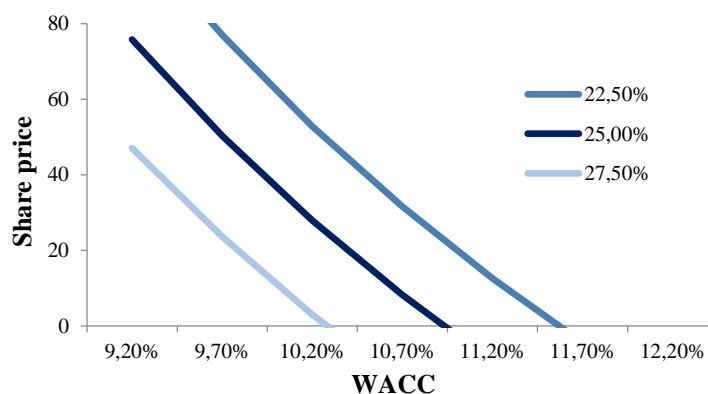
Table 31 shows the different inputs in the WACC and the effect they have on the share price if we change one of these factors, all else equal.

Revenue and OPEX

The thesis affirms - due to many of Solstad vessels being laid up - that OPEX will decrease in 2016. With less operating vessels, naturally crew expenses and other operating expenses will decrease. However, since this is a subjective assumption it is important for any investor to see the sensitivity in the share price in relation to these costs.

The share price - as we can see from the gap between the lines in figure 35 - is highly sensitive to changes in crew expenses as it constitutes such a high percentage of total revenue. An increase in crew expenses from 25% to 27,5% results in a decreases in the share price by 286% (-15,2 NOK). The sensitivity in the rest of total OPEX are shown in appendix A.23.

Figure 35: OPEX effect on WACC and share price



Source: Appendix A.23

Revenues – Day rates and utilization

Day rates and utilization are the key drivers affecting Solstad's revenues. The factors that determine the budgeted revenue growth also contain a fair amount of subjective assumptions, such as utilization, vessel contracts and vessel price.

The paper estimates a significant drop in freight revenue in 2016. If we adjust our assumption in order for freight revenue growth to increase by 2% we find a share price of 28,8, an increase of 252%. A further decrease in freight income by -2% results in a share price of 0,92, a decrease in share price by 89%. The sensitivity analysis illustrates how sensitive the share price is towards small incremental changes in revenue growth.

10. Scenario analyses

10.1 TOWS Matrix analysis

The TOWS matrix is a model that utilizes the factors outlined in the SWOT-analysis matrix in section 9 to try and capture strategies for the whole organization. The main difference between the two techniques is TOWS focuses more on how the internal resources of the company can be used more in order to effectively manage the external environment. The model is useful as it helps the analyst to develop strategic alternatives that the organization may face in the future. It is a creative tool that has the purpose of generating strategies designed to tackle possible socio-economic events. Furthermore, it does not merely highlight risks and opportunities, but also assist the company in assessing their relevance to strategic reformulation. However, the strategic options summarized as a result of the TOWS-analysis is indeed based on subjective assumptions made about the future and should be approached critically by the external user. Two of the scenarios are developed in the coming sections.

Table 32: TOWS analysis

		Internal factors	
		Strengths	Weaknesses
		<ul style="list-style-type: none"> ○ Attractive Subsea-fleet ○ Knowledge about core markets ○ Global presence ○ Established management ○ Crew and fleet green programs ○ Diversified fleet 	<ul style="list-style-type: none"> ○ Old fleet ○ Low contract coverage ○ OPEX increase ○ Revenue dependent on oil price ○ High gearing ○ Exposed to socio-political interests ○ Price taker
External factors	Opportunities	Focus 1: Solstad can strengthen its market position in Norway through an acquisition of a peer or competitor	Prioritize new markets and focus on delivering high quality vessels while slashing OPEX
	Threats		
	<ul style="list-style-type: none"> ○ New E&P regions ○ Increased Subsea demand ○ Quality workforce and fleet prioritized over intl. competitors ○ Increased demand in high-end segment 	Focus 2: Enable itself to appear as an attractive acquisition	Look for opportunities in expanding to offshore renewables or aquaculture
	<ul style="list-style-type: none"> ○ Global E&P activity ○ OPEC and shale oil production ○ Continued overcapacity ○ Low GDP growth ○ OPEX increase ○ Renewable energy 		

Source: *Heinz Weihrich. (1982). & compiled by authors*

10.2 Acquisition case

Current market conditions have made companies in the industry very exposed to potential bankruptcies. As emphasized throughout the thesis, all the Norwegian oil supply firms have amassed significant amounts of debt which they are now barely managing to service – even with much needed help from lenders. The value of these companies have plummeted, and for many, a scenario in which mergers are performed seems like the only sensible solution for survival and future growth. Although mergers may appear desperate and unfavorable in the eyes of the shipowners, the strategy can provide several economic and operational synergies if executed correctly.

Solstad has shown potential for stability even in the distressed market largely due to its strong and modern Subsea fleet which has continue to provide the company with a stable revenue stream. Although Solstad is struggling with its capital structure, we believe that the company should take advantage of the depressed market to secure opportunities to grow, gain market share on the Norwegian Continental shelf, and increase its global presence. It can be argued further that having a larger fleet, while at the same time removing competition, can increase Solstad's bargaining power with its customers. This is however questionable as shown in section 4.5. *Porter's five forces and the OSV-sector*, where figure 25 display that the bargaining power of suppliers are relatively weak. On the other side, a company combining forces should increase competitiveness to its peers and have access to a wider customer base. In light of this, combined with one of the scenarios outlined in the TOWS-analysis we have chosen to look at an exercise in which Solstad joins forces with the Norwegian, family-owned oil support company Remøy Offshore ASA (REM). We argue that REM and Solstad would both see benefits in a merger.

There are several reasons in merging these two companies. First, Solstad and REM are both Norwegian family-owned which would imply certain similarities in corporate culture and managing style. Second, they both have a focus on Subsea and deepwater operations, leading to greater exposure to this market. Third, the fact that REM is lacking a significant AHTS fleet amplify the argument for a Solstad takeover. Our research has shown that AHTS and PSV are the most exposed segments under the current market conditions, which reduces the amount of risk Solstad would add to its fleet composition. Buying an established Subsea-fleet instead of investing in newbuilding-programs also removes some of the uncertainties. One of the external factors that argues for buying a company under the current market conditions is the heavily discounted price Solstad can expect to receive. Further, we assume that Solstad will not be able to single-handedly execute a merger due to their own economic position. Therefore, in order for the exercise to be realistic we assume that a third-party must be involved in the merger as an intermediary investor. In the following

analysis a potential injection of equity to service the combined debt of Solstad and REM has not been calculated because of thesis scope and limitation, but we recognize this as an essential ingredient in practice.

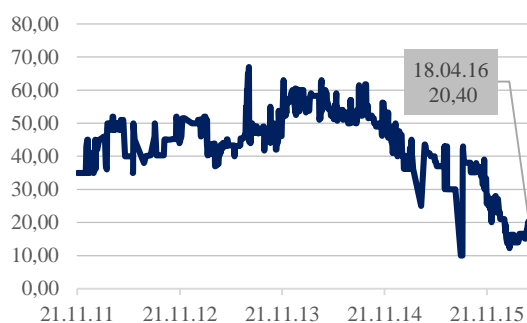
REM Offshore



Rem Offshore is a Norwegian family owned OSV-company where its roots can be tracked all the way back to 1978 when Åge Remøy bought together with his family their first refurbished fishing vessel from Canada. Rem Maritime AS was founded in 1996 which is now the company managing REM's current fleet of supply vessels. The first pure OSV, REM Fortune (PSV) was procured in 2004. In 2007 REM Offshore ASA became listed in OSEBX. Today the company's main offices are located in Fosnavåg.¹⁶⁶ Åge Remøy stated in their 2015 annual report that REM is struggling to service its debt, and that "in order for the company to continue being named REM and managed from Fosnavåg would require everyone in the firm to roll up their sleeves and do what is necessary."¹⁶⁷ The reason to why REM was not included in the peer group for most parts of the thesis is mainly due to the company's fleet size. However, as we can observe from its corporate culture, financial structure, and fleet composition, REM may appear like an attractive acquisition for Solstad.

Stock price development 2011-2016

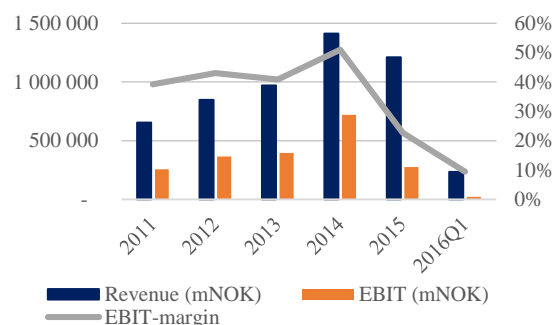
Figure 36: REM stock price 2011-2016



Source: Oslobors.no

Financial development 2011-2016

Figure 37: REM historical sales and EBIT 2011-2016



Source: Appendix A.24

¹⁶⁶ <http://www.rem-offshore.no/fleet/company/9/0/>

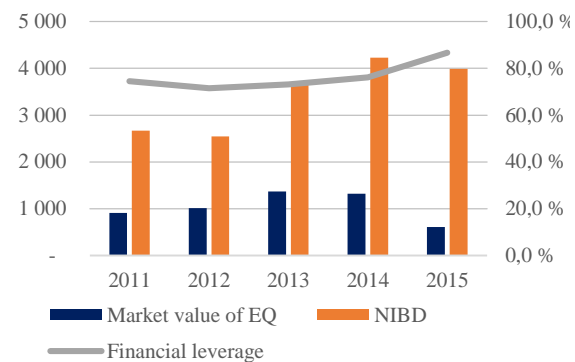
¹⁶⁷ REM Offshore, "Annual Report", 2015: 2 (Norwegian, paraphrased)

Company data – Summary

Fleet	PSV 11	CSV 6	OCV 1	On order 1
Contract coverage	2016E 46%		2017E 17%	
Market price			30,00	
Equity market value			NOK 161 789 565	
NIBD			NOK 3 514 990 000	
			Source: A. 10; A.25; A.26	

Financial leverage & market cap 2011-2016

Figure 38: REM Market cap. and financial leverage



Source: Appendix A.10

10.3 Synergies

Damodaran explains that synergy is value created when two companies are merged. Through a successful merger new opportunities and synergies for the combined firm emerge, which would not be possible if they worked independently.¹⁶⁸ He further distinguishes between two types of synergies that are most likely to be realized in a merger. Financial synergies consider factors such as increase in debt capacity, tax benefits, and business diversification. Operational synergies, on the other hand, deal with better growth potential, increased revenue streams and the strength of combining the merging companies' operational strengths¹⁶⁹. However, research by the Boston Consulting Group (BCG) shows that approximately 2/3 of M&As effectively destroys value for the buyer which accentuate the need for proper consolidation management.¹⁷⁰ One of the reasons for a takeover is buying targets "near their cyclical lows"¹⁷¹ – and argument that coincides well with our hypothesis. In calculation the synergies in a merger between Solstad and REM we have decided to focus on the synergies related to cost as opposed to synergies related to revenue. The reasoning behind this is twofold; first, quantifying cost synergies derived from specific parts of the organization such as administration costs, is easier to pinpoint and has higher estimate accuracy. Second, revenue synergies are more difficult to realize in practice, as these often are affected by externally controlled factors such as customers and market fluctuations. However, the potential gains in realizing revenue synergies can be considerable if the takeover is handled correctly.¹⁷²

¹⁶⁸ Damodaran, A. (2005). *The Value of Synergy*.

¹⁶⁹ Damodaran, A. (2005). *The Value of Synergy*.

¹⁷⁰ Kengelbach, J., Utzerath, D., Kaserer, C., & Schatt, S. (March 2013). *Divide and Conquer: How Successful M&A Deal Split the Synergies*.

¹⁷¹ Kengelbach, J., Utzerath, D., Kaserer, C., & Schatt, S. (March 2013: 3). *Divide and Conquer: How Successful M&A Deal Split the Synergies*.

¹⁷² Kengelbach, J., Utzerath, D., Kaserer, C., & Schatt, S. (March 2013: 6-7). *Divide and Conquer: How Successful M&A Deal Split the Synergies*.

Operational synergies

Greater pricing power is an example of an income synergy that can arise through an acquisition. By acquiring REM, the combined company would be able to achieve higher market share and greater market control. Theoretically, greater market control should result in higher margins and operating income for the merged company as they would be able to demand a better price for its products. This could lead to higher margins and operating income. However, this is not the case for the OSV-segment, as OSV-players are price-takers and not price-makers and thus have no significant influence on the price the market sets. This would only be the case if they acquired a market share big enough to control the market for price, which at this point in time seems unrealistic. While this might be the scenario in the short-term, it seems plausible that they could as a larger company be more amendable to signing new contracts, and thereby increase its vessel utilization and overall margins. Such an operating synergy would only be visible far into the future, and would depend on a whole range of market variables, which are difficult to predict and define. Therefore, the paper chooses to focus only on the synergies arising from costs rather than income. Economies of scale in relation to operational costs, as well as savings related to management are cost synergies likely to arise when merging the two companies. These potential cost synergies will be further discussed in the following sections.

OPEX and CAPEX

The paper assumes that OPEX as a percentage of revenue will likely remain the same, as Solstad and REM has similar OPEX on their respective fleet. It is therefore assumed that a merge will not lead to a lower overall OPEX as there are no particular economies of scale in having a larger fleet. However, the merged company, will increase in size making them a larger and more dominating player in the market, which may lead to the company having greater bargaining power when signing new contracts. This could result in the company being able to negotiate better contracts for their vessels. Regardless, it is highly difficult to arrive at a specific value on how great some of these savings would be. The paper therefore chooses to estimate different scenarios where the percentage savings in OPEX is calculated. Investors will then be able to see the effect of different OPEX savings have on the total synergy value.

We do not expect any changes in CAPEX, as both companies are only operating with CAPEX maintenance expenses and is unlikely to save any of these costs through a merger. We will however show the effect of synergies by changing the percentage CAPEX in relation to freight income.

Administration synergies

REM's administration expenses include wages/fees related to the management and the board of directors. The paper assumes that the merged company will only need one management, one board

of directors, and one auditor. This means we are able to deduct these costs related to REM. In appendix A.31, the paper finds the compensation for managers, board of directors and auditors amount to an average of 28,7% in 2014 and 2015 of the total administration expenses. The paper assumes this will also be the case in the future as well. Moreover, the paper assumes that the merged company will be able to realize audit expenses at once, while management and board of director's fee will first be able to be realized in 2017, as it is realistic to believe that there will be a phase where management assists operations and directors of REM receive severance pay.

Financial synergies

Financial synergies may emerge through higher cash flows or a lower cost of capital or both.¹⁷³ If the two merged companies have cash flows that are not perfectly correlated, a merger would reduce the volatility of the merged company's cash flows. Thus, the merged company would be able to acquire a higher and more stable revenue stream. The capital market, all else equal, would consider a larger company with higher and more stable income as less risky, resulting in a lower borrowing cost when the company is in the market for more capital. A lower borrowing rate would again reduce the company's cost of capital. If the merged company is able to acquire more debt through its financing, it will be able to further reduce its cost of capital through a higher tax shield. Since the cost of capital is used as a discount factor when estimating the value of the company, *ceteris paribus*, a lower cost of capital would result in a higher enterprise value.

Changes in WACC

In this section the paper will calculate and discuss the cost of capital for the merged company, in order to evaluate the financial synergies arising from a change in the cost of capital (WACC). Calculations and estimations for REM's cost of capital is shown in appendix A.26 and is based on the same principles as the calculations for Solstad in earlier sections.

In order to calculate the merged company's cost of capital, the cost of equity, cost of debt and the capital structure need to be estimated. The calculations will be based on a weighted average of the two company's respective EV. The new WACC for the merged company is estimated to be 10,9%, which is 20 basis points higher than the WACC for Solstad estimated earlier, but lower than REM's WACC. Even though there is an increase in the cost of capital compared to Solstad's current cost of capital, the merged company will still be able realize some financial synergies, as REM's estimated cash flow is now discounted at a lower rate compared to REM's cash flow if it was operating independently.

¹⁷³ Damodaran, A. (2005). *The Value of Synergy*.

Furthermore, the WACC does not take into account that Solstad will be able to receive a larger and more stable cash flow in the future. This could enable the merged company to acquire cheaper debt, as the banks will see the merged company as less risky compared to smaller companies working independently. Being able to borrow at a lower cost, they will have the possibility to renew and upgrade their existing fleet more cheaply. This could lead to new and larger investment opportunities in the future.

Total value of the merged company

We estimate the value of the merged company based on the same principals we did for Solstad and REM in section 9 and appendix A.27 and A.28. The calculations include both the financial and operating synergies we believe the merged company will be able to obtain. We therefore use the new estimated WACC as well as the estimated cost savings from REM's administration expenses. The merged DCF-model can be found in appendix A.30.

Table 33: Total value of synergies

MNOK	EV	NIBD	Equity Value
Solstad Offshore	10 857	10 554	303
Rem Offshore	3 677	3 515	162
Merged company without synergies	14 534	14 069	465
Merged company with synergies	14 724	14 142	582
Value of synergies	190		

The EV of the merged company including synergies amounts to MNOK 14.724 as of 18/04-16. By adding the companies individual EV we end up with a value of MNOK 14.534 as of 18/04-16. Implicitly, this result indicates that a merger could realize a total synergy value of MNOK 190.

Decomposing the synergies

In this section we will see how much of the synergy value is derived from the change in WACC and how much is derived from cost savings related to administration expenses. This section will try to shed light on the value creations stemming from the merger in order for investors to consider the realism in the values estimated. The value of synergies related to administration expenses is calculated by discounting the yearly saving with the discount value calculated in the aforementioned section.

Table 34: Administration synergies – Solstad and REM

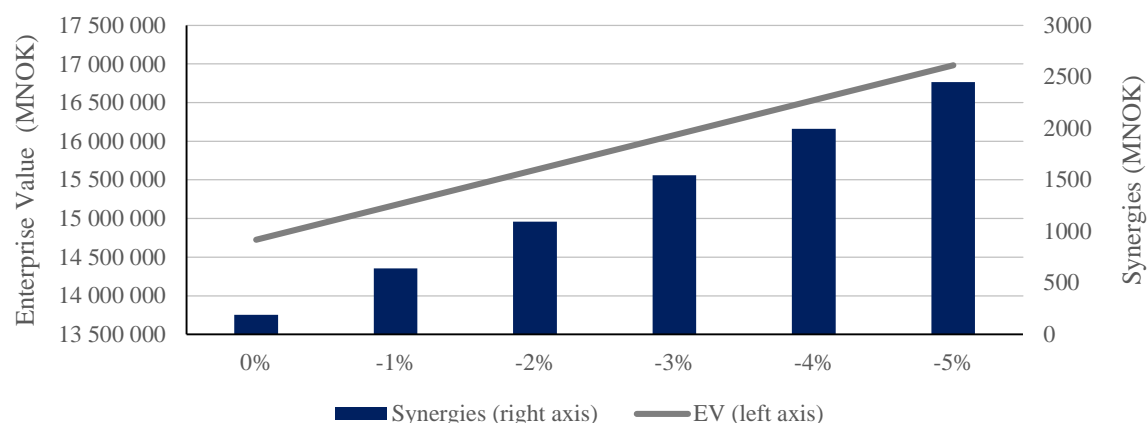
NOK 000'	2016	2017	2018	2019	2020	2021	2022	2023
Solstad	73 479	74 477	81 688	91 161	98 852	105 724	108 367	111 076
Rem	31 172	27 054	23 622	27 724	29 095	29 848	30 594	31 359
Total	104 651	101 531	105 310	118 886	127 947	135 572	138 961	142 435
Cost savings		5 964	5 208	6 112	6 414	6 580	6 745	6 913
After synergy	104 651	95 567	100 102	112 774	121 533	128 991	132 216	135 522
PV of cost savings related to synergy	28 293							

From table 34 above we find that the cost savings related to administration expenses amount to MNOK 28,293. The value from the financial synergies related to the change in cost of capital is found by calculating the difference in total value (MNOK 190) and the value from the operational synergies (MNOK 28,293). The value of the financial synergies thus amounts to MNOK 161,707. The WACC for the merged company is higher than Solstad's WACC, but lower than REM's. Even though Solstad has the larger cash flow and therefore is discounted more heavily, the change from 10,7% to 10,9% is not significant enough to outweigh the greater change in WACC REM is experiencing, with a change from 11,8% to 10,9%. This results in the merged company's cash flow being discounted at an overall more favorable rate, resulting in a higher merged EV.

We further believe that if the merged company was able to merge successfully it would stand the possibility of acquiring an even lower WACC than what the Solstad is already estimated to have. This is a result of the company being seen as more stable and less risky in the eyes of credit lenders. As an illustration; if the company was able to lower its WACC by 0,005%, through a decrease in their cost of debt, to a WACC of 10,44% the total value of synergies would amount to MNOK 1115, an increase of 486%. This is further evidence of how highly sensitive the values are to a change in the cost of capital.

Potential synergies related to CAPEX and OPEX will have a direct effect on the total value of the merged company. Realizing synergies related to OPEX by 3% will have a potential synergy effect of MNOK 1355. A decrease in CAPEX of 1% could result in a synergy effect of MNOK 39. While we do not believe a reduction in CAPEX is likely, as their CAPEX spending is already bare minimum, we believe a reduction in OPEX, specifically crew expenses, could prove realizable. Figure 39 below illustrates the total value of the company and the potential value of synergies related to percentage changes in crew expenses in relation to freight income.

Figure 39: Expected change in enterprise value and synergies on crew expenses (%)



Realizing the synergies from the acquisition

In order for the two companies to successfully merge, it is of vital that a comprehensive and encompassing plan on how the merger will realize its potential synergies is laid out. McKinsey (2010) states that almost 50 percent of the time, due diligence conducted before mergers fails to provide an adequate roadmap to capture synergies and value creation.¹⁷⁴ PwC (2014) further supports the idea of a comprehensive plan where an early integration plan, together with a long-term focus on integration, increases the likelihood for the goals initially set to be realized.¹⁷⁵ A common cause for companies not being able to realize its synergies is often due to a slow or delayed integration process.¹⁷⁶ When calculating whether an acquisition is favorable or not, the projected synergies are discounted back to present value in order to see value of the synergies today. Thus, a delayed realization of synergies will subsequently lead to the final value of synergies being reduced in relation to what it originally was estimated to. Furthermore, having a prolonged integration process will incur additional expenses as the management and employees will have to spend time on the integration process instead of working on daily operations.

EY and PwC conducted a survey among managers in companies that have been involved in M&A projects, where they asked managers questions relating to M&A integration processes.¹⁷⁷¹⁷⁸ From their research it is evident that IT- and system integration, as well as organizational procedures, are factors that are the most time consuming and expensive to integrate. Large unforeseen expenses related to IT- and system integration is due to them being generally more time consuming than

¹⁷⁴ McKinsey. (2010). *Perspective on merger integration*. McKinsey

¹⁷⁵ PwC. (March 2014). *M&A Integration: Looking beyond the here and now*.

¹⁷⁶ McKinsey. (2010). *Perspective on merger integration*. McKinsey

¹⁷⁷ PwC. (March 2014). *M&A Integration: Looking beyond the here and now*.

¹⁷⁸ EY (2013). *The right combination: Managing integration for deal success*.

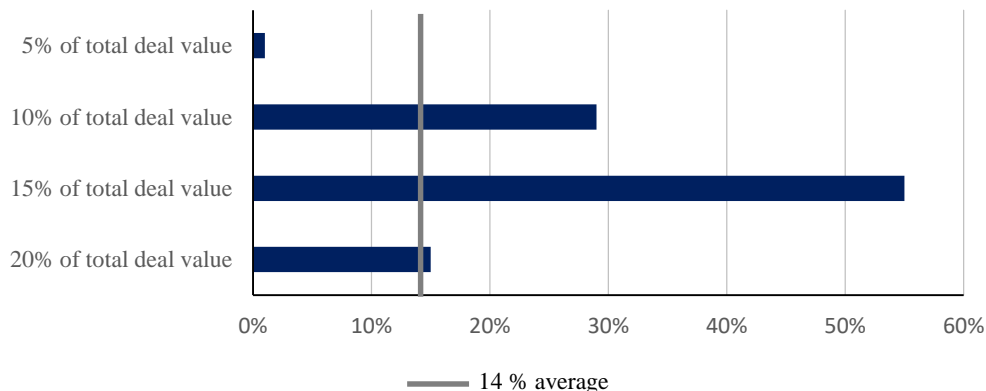
initially anticipated. As a result, executives need to spend more time on unanticipated problems, leading to value erosion.

Furthermore, aligning operating procedures, business processes and the companies' employees also proved difficult.¹⁷⁹ This might be due to the difficulties of aligning two different cultures in a company. We believe, however, in this case that it is realistic to think that Solstad and REM will not experience large cultural problems. This is mainly because their cultures being relatively equal, as they operate under the same conditions and already have extensive experience and knowledge about each other. There is therefore reason to believe that any large cultural problem leading to increased costs in the post-integration process is unlikely.

The cost of realizing synergies

EY conducted a survey in the report mentioned above, asking managers how much of total deal value was spent on realizing integration synergies.¹⁸⁰ Illustrated in figure 40, on average the integration cost was 14% of total deal value. In order for a deal to be viable from a financial perspective, the synergies realized from a merger should be greater than 14% of the total value of the deal.

Figure 40: Cost of realizing synergies



Conclusion merger with REM Offshore

Usually when a merger takes place, the acquirer has to pay a premium on the acquired company's market value of equity. However, due to the current market situation in the segment we find it unlikely that Solstad will have to pay a premium in order to acquire REM. The total value of REM Offshore as of 18/04-2016 was MNOK 4 594. If we assume that the estimated cost of realizing

¹⁷⁹ PwC. (March 2014). *M&A Integration: Looking beyond the here and now*.

¹⁸⁰ EY (2013). *The right combination: Managing integration for deal success*.

synergies are 14%, based on EY's survey report, the total cost for REM would amount to MNOK 643,202.

If Solstad were to only realize MNOK 190 through a successful merger with REM, the merger would not prove favorable from a financial perspective. We believe, however, that this scenario might be too pessimistic, and that small synergies related to crew expenses and/or a reduction in WACC would be probable following a successful merger. In that case, a reduction in WACC from 10,94% to 10,64% would lead to a potential synergy effect of MNOK 732. Further, a reduction of 1% in crew expenses could potentially realize synergies of more than MNOK 642, *ceteris paribus*.

Based on the discussions and calculations in this chapter, we believe that a successful merger with REM would prove valuable for Solstad and its shareholders. REM and other OSV players are currently priced at a severe discount, and a prime target for a potential acquisition. Furthermore, considering the oversupply of vessels in the market, it would not only prove beneficial but necessary in order for the market to rebalance. Yet, Solstad is not in a position today to be able to acquire a company without significant financial backing from an external investor or other financial intermediaries.

10.4 Potential buyers

The oil-price crash has made the OSV-industry extremely vulnerable. As shown in the strategic and financial analysis it is apparent that no company has escaped unscathed as a result of the poor market conditions. The value of OSV-companies has dropped significantly, and Solstad is no exception. In light of this it is realistic to assume that a mid to large maritime company may seize the opportunity to buy Solstad. Traded at a discount, Solstad can appear very attractive for a company looking to secure future growth before regains some of its balance. A potential buyer of Solstad should be looking at many of the same arguments outlined in the section above. A company wanting to buy Solstad should be interested in future growth and capturing market share – especially in the North Sea region. Moreover, a potential buyer should at least possess financial strength and technological experience to effectively integrate and manage a company with an advanced OSV-fleet in a way that creates long-term value. Solstad has, as mentioned, publicly expressed a need in the sector for consolidation or other forms of cooperation in order for the market to balance out the current overcapacity. Whether the Solstad-family is willing to sell their company for a discounted price - which is something to be assumed under the existing market conditions - is hard to predict. This stems mostly from the fact that family owned (and run) business has a more personal bond to their company. However, due to the severe, financial position Solstad has found itself in as a result of the financial crisis in 2014, selling off their company may be the solution in order to secure its future

survival. In the following paragraphs we have a selection of companies that may be potential buyers of Solstad.

DESSC

Deep Sea Supply is an interesting buyer for several reasons. Firstly, it has expressed the same wish as Solstad in considering “industry consolidation, mergers and acquisitions”.¹⁸¹ Although DESSC is a considerably smaller company both in terms of fleet-size and market cap, it has currently the most stable financial structure of the peer group outlined earlier in the thesis. More importantly is the company owned by shipping magnate John Frederiksen which indicate that Deep Sea Supply would be able to buy Solstad with the financial backing of Mr. Frederiksen. In 2016 he had an estimated net worth of \$9,1 Billion.¹⁸² The owners of a potential merged DESSC and Solstad would also be able to provide many years of business experience outside the offshore supply industry. In addition to Mr. Frederiksen’s ownership in OSVs, he owns highly successful companies in drilling, fish farming and oil tanker shipping. Among many of his companies, he is the chairman and CEO of the world’s largest oil tanker shipping company Frontline Ltd. With rumored cash reserves exceeding 5 billion USD, the shipping giant is well-positioned to buy cheap in a bleeding industry.¹⁸³ The wide, maritime network DESSC is involved in (through its owners) would be very helpful when integrating Solstad and expanding the business. Apart from the strong, financial backing DESSC can show for, they are also Cyprus based. Flagging out Solstad’s vessels to Cyprus may be a strong cost-savings incentive and cut down on operational costs. One of the arguments against an acquisition is that DESSC would increase their debt-ratios and get a relatively older fleet on their hands.

Maersk Supply Service

The Danish supply service company is part of the gigantic Maersk Group conglomerate that operates in a wide range of maritime industries from container shipping, oil and gas drilling to port and inland infrastructure. Although the conglomerate suffered badly as a result of the oil-crash in 2014, the Group still posted profits of USD 925m in 2015.¹⁸⁴ During the market decline throughout 2015 Maersk Supply Service (MSS) still managed to post USD 117m in profits. Further, MSS has stated that their primary focus is creating innovate and cost-effective solutions for the deepwater segment. 6 of their OSVs are Subsea, while another 4 is on order.¹⁸⁵ Merging Solstad’s strong CSV

¹⁸¹ <http://www.deepseasupply.no/106/strategy>

¹⁸² <http://www.forbes.com/profile/john-fredriksen/>

¹⁸³ <http://www.forbes.com/profile/john-fredriksen/>

¹⁸⁴ Maersk Group, “Annual Report”, 2015

¹⁸⁵ Maersk Supply Service, “Fleet List”, September 2015

fleet with Maersk's highly advanced and innovative deepwater operations should help the company in increasing cost-saving by integrating and streamlining a larger part of the oil supply-chain from drilling to supply service. Contract coverage for Maersk Supply for 2016 was 42% and 16% for 2017. Solstad being an industry specialist and its client-relations portfolio may help contribute positively to MSS future contract coverage. In its first quarterly report of 2016 the company stated that they were looking into ways of taking advantage of the depressed market conditions which may offer acquisition opportunities at heavily discounted prices.¹⁸⁶ Q1 2016 Group highlights a strong, financial fundament with a liquidity reserve of USD 11,9bn.¹⁸⁷

GulfMark Offshore

Another interesting Solstad buyout candidate is GulfMark. The company is the largest operator of PSVs in the North Sea. It currently has 32 vessels deployed in the region. Contrary to the two aforementioned companies, GulfMark, and American offshore supplier, has a U.S. flagged fleet which means a strong foothold in the Gulf of Mexico. U.S. GoM is a protected market and domestic law requires all vessels operating in the area to be owned and managed by a United States citizen.¹⁸⁸ Despite the fact that most of its fleet is composed of PSVs, we believe that GulfMark can use its long-standing business relationships in south-east Asia and GoM advantages to gain significant market shares in the regions.¹⁸⁹ Moreover, investing in CSVs which has proven to be a profitable segment even during a distressed market can help GulfMark decrease their dependency on the PSV segment and financial exposure.

Bourbon

The French oil service company Bourbon operates in 45 countries with more than 510 vessels providing different segments in the offshore oil and gas industry. Boasting an impressive deepwater AHTS-fleet of over 30 vessels with an average age of 6,4 years and a total AHTS-fleet composed of more than 100 vessels gives just an idea of the scale in which Bourbon operates.¹⁹⁰ In addition to its worldwide coverage of the OSV-industry, the Group fully owns the integrated offshore supply ship company Bourbon Offshore Norway with affiliates in key markets. The Bourbon Group has a very diversified client portfolio from National and International Oil Companies such as Petrobras and Statoil to supermajors such as BP, Shell and Exxon.¹⁹¹ 98% of vessels operate outside Europe, with noticeable growth in West Africa and South East Asia. We believe that the stable revenue growth expected by Bourbon of 1,1%, cost of net debt down 15%, and its improved operational

¹⁸⁶ Maersk Supply Service, "Quarterly Report Q1", 2016

¹⁸⁷ Maersk Supply Service, "Interim Report Q1", 2016: 3

¹⁸⁸ GulfMark Offshore, "Annual Report", 2014

¹⁸⁹ <https://www.gulfmark.com/company-overview.html>

¹⁹⁰ Bourbon Offshore, "Annual Presentation", 2015

¹⁹¹ Bourbon Offshore, "Annual Presentation", 2015: 11

profitability in 2015 enables them to have the financial strength, international maritime network and industry know-how to effectively integrate Solstad's fleet into their own.¹⁹²

11. Conclusion

In the wake of the 2014 oil price crash, companies through the whole oil production value chain have slashed their budgeted investments by ~25%. Focus has shifted from extraction and exploration to cost-efficiencies and downsizing. These factors have also affected the OSV-sector which is dependent on both upstream and downstream activity to maintain acceptable day rates and profitable operations.

It is evident in our analysis that Solstad, together with its industry peers have not managed to secure a satisfactory contract coverage for 2016 and 2017. Unless the price of oil, which is the OSV-sector's most influential revenue driver, increases to around \$60-70/bbl. in the foreseeable future, Solstad will continue to struggle to service its long-term debt obligations and operate at unfavorable day rates. However, Solstad's subsea-fleet has shown to be an important resource in providing revenues and some level of competitive advantage since the late 2014 market decline.

Based on our fundamental analysis and forecasts, the valuation technologies produce a target share price of NOK 8,18 for Solstad on the 18th of April 2016 in contrast to its market price of NOK 15,20. Although the results imply a present overvaluation of the company at OSEBX, we do not carry out any recommendations in regards to investments on the stock. This is due to the extremely volatile and uncertain market conditions the industry is currently experiencing. Until debt-obligations have been restructured and the future going concern of Solstad has been secured, investors and researchers alike should remain highly critical of any investment related to the Norwegian OSV-players as of today.

We believe a merger between either a larger group or acquiring a smaller company will be the next step for Solstad. We therefore looked into smaller competitors, and concluded that REM Offshore would be an interesting and suitable company for Solstad to acquire. REM is also a Norwegian family owned business with a fleet consisting mostly of high-end Subsea vessels, which we believe to present the strongest growth prospect out of the three segments analyzed. Based on our calculations, acquiring REM would cost Solstad MNOK ~643 and would realize synergies worth MNOK 190. However, we believe this outlook be too pessimistic, and conclude that a merger would most likely prove to be well-above this estimate if the integration process is executed properly. Moreover, we believe that without financial intermediary Solstad will not have the funds to realize such an acquisition. Another plausible scenario is the potential for Solstad to be acquired by a larger

¹⁹² Bourbon Offshore, "Annual Presentation", 2015

company. Solstad's share price has taken a tumble as a result of poor revenue, high credit risk, and uncertainty from investors' belief in future profitability. Therefore, an International actor with solid balance sheet may be interested in acquiring the company at a discount to strengthen its market position.

12. Thesis review

We welcome the reader to gain a broader perspective on the content while at the same time draw attention to potential weaknesses in the research. The alternative methods, models or areas of research discussed below is excluded from the thesis in order to narrow its focus and increase relevancy. They are however considered relevant in the eyes of an external decision maker. First and foremost, the has thesis been written post-valuation date which would initially limit the usefulness of the results presented. It became evident when investigating the extremely poor market conditions of the industry that the research's practical usefulness would be to gain a better understanding of the difficulties a company faced, rather than to "simply" assess and recommend a share price. Instead of creating a traditional valuation, it became clear that under this difficult and uncertain period in the OSV-industry recommending a share value provided little insight in practice. Nonetheless, the framework, valuation technologies and methods applied in the *investment case* are considered effective in developing a nuanced and objective look of the industry, but perhaps lack some flexibility and accuracy under challenging and unpredictable market conditions. Applying an asset based (NAV) approach to the valuation would give the analysis a deeper, more fundamental understanding of the underlying asset values. e.g. the vessels, and could be interesting to investigate further.

We have used a wide range of research reports from brokerages, consultancies and organizations that specializes in oil price estimates. The accumulation of this information has been used to come up with forecasts to the best of our knowledge. Regardless, the price of oil is affected by numerous macroeconomic factors that are changing rapidly and on many occasions unexpectedly. Since much of the fundamental analysis relies heavily on oil price estimates, the calculations and outcomes that has followed must be put into context. Furthermore, synergy calculations are based on subjective and non-existing information about the internal managerial decisions and capabilities of both REM and Solstad. Cost-savings are on a stand-alone basis difficult to estimate, and even more challenging when estimating synergies resulting from a merger. Inside information on Solstad's would enable us to develop a much more detailed and accurate merger-case. Furthermore, an investment case could in the future focus more on scenarios, and specifically mergers, as we believe they provide the reader with higher quality material, especially under distressed market conditions.

When we first began actively researching the OSV-sector in May, one of our earliest observations was that consolidations would be a high possibility in the near future due to the industry overcapacity, low oil price and OSV-companies' immense gearing. In late July 2016 REM Offshore did in fact enter into an agreement to merge with Solstad. Later, on the 24 of November the same year, Siem Offshore acquired 50,1% ownership of Farstad Shipping under refinancing deal worth approximately NOK 1 billion. These two mergers solidified our earliest assumptions, and have helped the Norwegian oil supply vessel owners on their long and uncertain way to recovery.

13. Bibliography

Books

- Damodaran, A. (2010). *Investment Valuation*. Wiley.
- Gaughan, P. (2010). *Mergers, Acquisitions, and Corporate Restructuring*. John Wiley & Sons
- Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation*.
- Pearl, J., & Rosenbaum, J. (2009). *Investment Banking: Valuation, Leveraged Buyouts and Mergers & Acquisitions*. Wiley
- Penman, S. H. (2007). *Financial statement analysis and security valuation*. Boston.
- Plenborg, T., & Petersen, C. V. (2012). *Financial Statement Analysis: Valuation, Credit Analysis and Executive Compensation*. Trans-Atlantic Publications, Inc.
- Porter, M. E. (1985). *Competitive Advantage*. Harvard Business Review.
- Porter, M. E. (1979). *How Competitive Forces Shape Strategy*. Harvard Business Review.
- Stopford, M. (2009). *Maritime Economics*. Routledge.
- Sørensen, O. (2009). *Regnskapsanalyse og verdiansettelse – En praktisk tilgang*. Gylling.

Industry research

- Alix Partners. (2016). *Global Oil and Gas industry Outlook*. Alix Partners.
- Baffes, J., Ayhan, M. K., Ohnsorge, F., & Stocker, M. (2015). *The Great Plunge in Oil Prices: Causes, Consequences and Policy Responses*. World Bank Group.
- British Petroleum. (2016). *Energy Outlook 2016*. BP.
- Carnegie. (January 2015). *Slashing estimates and ratings - adjusting to the new reality*. Carnegie.
- Clarksons Research. (April 2016). *Offshore Support Vessel Monthly*. Clarksons.
- Clarksons Research. (May 2012). *Overview of the Offshore Supply Vessel Industry*. Clarksons Capital Markets.
- Clarksons. (September 2015). *Studying The Support Vessel Surplus*. Clarksons Research.
- Deloitte. (2015). *Integration Report: Putting the pieces together*. Deloitte
- DnB Markets. (7. March 2016). *Oil Services – No improvement in fundamentals*. DnB.
- DnB Markets. (April 2016). *Oil Services - More tough years ahead*. DnB.
- DnB Markets. (29. January 2016). *Offshore Supply – Foundations continuing to crumble*. DnB.
- Earnst & Young. (2011). *IT as a driver for M&A success*. Earnst & Young

- EY (2013). *The right combination: Managing integration for deal success*. EY.
- Fearnley. (2014). *The Offshore Report, Summary*. Fearnley.
- Fearnley. (2015). *The Offshore Report, Summary*. Fearnley.
- Fearnley. (April 2016). *The Offshore Report*. Fearnley.
- Fearnley Securities. (2016). *Offshore Supply*. Fearnley Securities.
- International Monetary Fund. (Jan. 19, 2016). *World Economic Outlook*. IMF.
- OPEC. (October 2015). *World Oil Outlook*. OPEC Secretariat
- Pareto Securities. (25. February). *Refinancing will be key*. Pareto
- Pareto Securities. (2016). *Pareto E&P survey*. Pareto.
- Pareto Securities. (Jan. 2015). *Muted market outlook*. Pareto.
- Pareto Securities. (Jan. 2016). *Few signs of improvement*. Pareto.
- PwC. (2013/2014). *The Norwegian Market Risk Premium 2013 and 2014*. PwC.
- RS Platou. (2015). *The Platou Report*. RS Platou.
- RS Platou. (June 2014). *Weekly North Sea Spot Market Update*. RS Platou.
- Tidewater. (2016). *Scotia Howard Weil 2016 Energy Conference*. Tidewater.
- U.S. Energy Information Administration. (April 13th, 2012-2016). *Weekly Petroleum Status Report*. U.S. EIA.
- U.S. Energy Information Administration. (March 2016). *Short-Term Energy Outlook*. EIA.
- World Bank Group. (Jan. 2016). *Global Economic Prospects*. WBG.

Articles

- Aas, B., Halskau Sr, Ø., & Wallace, S. M. (2009, August 13). The role of supply vessels in offshore logistics. *Maritime Economics & Logistics*, pp. 302-325.
- Rouse, T., Frame, T. (2009). *The 10 steps to successful M&A integration*. Bain & Company.
- Damodaran, A. (2005). *The Value of Synergy*. Wiley.
- Damodaran, A. (2016). *Country Default Spreads and Risk Premiums*. stern.nyu.edu.
- Deloitte. (September 30, 2013). *Post-deal Integration: Top M&A Concern for Directors and CFOs*. The Wall Street Journal.
- Deloitte. (May 4, 2015). *Five Factors for Effective M&A Integration: Survey Report*. The Wall Street Journal.

- Financial Times. (Jan. 2016). Oil price are at the mercy of geopolitics. *Financial Times*.
- Hegnar.no. (February 2016). Vi ønsker å ta en aktiv rolle i konsolideringen. *Hegnar.no*.
- Hesterley, B., & Barney, JB (2011). Strategic management and competitive advantage - concepts and cases. *Pearson Prentice Hall*, 95-108.
- Kengelbach, J., Utzerath, D., Kaserer, C., & Schatt, S. (March 2013). *Divide and Conquer: How Successful M&A Deal Split the Synergies*. Boston Consulting Group.
- KPMG. (2011). *Post Merger People Integration*. KPMG
- KPMG. (2016). *U.S. executives on M&A: full speed ahead in 2016*. KPMG
- Lorch-Falch, S. (2016). Dette må til før rederiene rister av seg stormen. *e24.no*.
- McKinsey. (2010). *Perspective on merger integration*. McKinsey
- Norges Rederiforbund. (2011). *Norwegian offshore shipping companies - local value creation, global success*. Norges Rederiforbund.
- Offshore Energy Today. (2013). *Douglas Westwood: Golden Triangle to dominate deepwater expenditure over 5 years*. Offshore Energy Today.
- Porter, M. E. (2008, January). The Five Competitive Forces That Shape Strategy.
- PwC. (March 2014). M&A Integration: Looking beyond the here and now. PwC
- Sullivan, E. J. (2006). A brief history of the capital asset pricing model.
- The Economist. (December 14, 2014). *Why the oil price is falling*. The Economist.
- Tingyao, M., & Howard, G. (November 2015). Weak oil price plagues OSV sector. *Lloyd's List*.
- Trautwein, F (1990). *Merger Motives and Merger Prescriptions*. Strategic Management Journal, Vol. 11, 283-295.
- Vosgraff, S. K. (2015, June 11). Siem Offshore vil hente penger. *Hegnar.no*.
- Wilkinson, J. (2013, July 24). Porter's Intensity of Rivalry Definition. *The Strategic CFO*.

Annual Reports

- Deep Sea Supply, "Annual Report", 2008, 2009, 2011, 2012, 2013, 2014, 2015
- Rem Offshore, "Annual Report", 2008, 2009, 2011, 2012, 2013, 2014, 2015
- DOF Shipping, "Annual Report", 2008, 2009, 2011, 2012, 2013, 2014, 2015
- Farstad Shipping, "Annual Report", 2008, 2009, 2011, 2012, 2013, 2014, 2015
- Siem Offshore, "Annual Report", 2008, 2009, 2011, 2012, 2013, 2014, 2015
- Solstad Offshore, "Annual Report", 2008, 2009, 2011, 2012, 2013, 2014, 2015
- A.P. Møller – Mærsk A/S, "Annual Report", 2015
- Bourbon Offshore, "Annual Report", 2015
- GulfMark Offshore, "Annual Report", 2014

Quarterly Reports and presentations

- Rem Offshore, Q1 2016
- Deep Sea Supply, Q1 2016
- DOF Shipping, Q1 2016
- Farstad Shipping, Q1 2016
- Siem Offshore, Q1 2016
- Solstad Offshore, Q1 2016
- Maersk Supply Service, Q 2016

Other resources

- www.oslobors.no
- www.wikipedia.com
- www.investopedia.com
- www.bloomberg.com
- www.e24.no
- www.hegnar.no
- www.lloydslist.com
- www.norskindustri.no
- www.eia.gov
- www.forbes.com

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A.1: Introduction to primary OSVs.¹

Very simplified overview of the most common vessels types operating in the oil supply vessel-sector.

Summarised description of OSVs

Vessel types	Classes	Typical areas of operation	Development features over time	Key figures
Dive Support Vessel (DSV) 	Classed according to deadweight (dwt) and/or dive spreads.	Dive support, subsea maintenance and repair activities.	More advanced dynamic positioning, larger accommodation, and equipped with fire-fighting capabilities.	104 units. Average age 21.5.
Construction Support Vessel (CSV) 	Classed according to crane capacity, and bollard pull (bp).	Subsea installation and construction, remote operations, and dive support activities.	Increasing brake horse power, and bollard pull.	444 units. Average age 23.0.
Well Intervention Vessel 	Classed according to deck area, deck crane capacity, ROV system capabilities, and well intervention depth.	Perform production logging, re-perforation, and repair work for improving oil recovery purposes.	Well intervention vessel is a relatively new vessel.	
Platform Supply Vessel (PSV) 	Classed according to deadweight tonne (dwt) and/or deck area (sqm).	Transport wet and dry bulk cargoes for offshore platforms, deck cargoes, and pipes for pipelaying purposes.	Increasing dwt, more advanced dynamic positioning, and equipped with fire fighting capabilities.	1,027 units. Average age 14.1
Anchor Handling Tug Supply (AHTS) 	Classed according to brake horse power (bhp) and/or bollard pull (bp)	Tow and anchor mobile platforms, cranes, and pipelaying vessels. Supply cargoes for platforms.	Increasing bhp, bp, winch strengths, and dwt capacity. More advanced dynamic positioning ("dp") capabilities.	1,349 AHTS units. Average age 15.6.
Anchor Handling Tug (AHT) 	Classed according to brake horse power (bhp) and/or bollard pull (bp)	Tow and anchor mobile platforms, cranes, and pipelaying vessels.	Increasing bhp, bp, and winch strengths. More advanced dynamic positioning ("dp") capabilities.	178 units. Average age 14.5.
Harbour Tug 	Classed by bollard pull.	Tow barges, and manoeuvre vessels in harbours and open seas.	Increasing size and manoeuvrability.	

Sources: Pareto Research, ODS-Petrodata, Clarksons

¹https://www.marinemoneyoffshore.com/sites/marinemoneyoffshore.com/files/uploads/2010/06/MMMag_2010_04_web-24.jpg

A.2: Ownership – Solstad Offshore ASA

Top 20 owners of Solstad control an accumulated 83,12% of all company shares. Aker Capital is the new main shareholder *after* merger, data ex ante 18.04.2016 was no longer available. Source: *Solstad.no*

Investor	Number of shares	% of top 20	% of total	Type	Country
AKER CAPITAL AS	20,000,000	37.19%	30.92%	Comp.	NOR
SOFF HOLDING AS	16,063,256	29.87%	24.83%	Comp.	NOR
PARETO AKSJE NORGE	3,180,195	5.91%	4.92%	Comp.	NOR
IVAN II AS	2,723,883	5.07%	4.21%	Comp.	NOR
SKAGEN VEKST	2,417,853	4.50%	3.74%	Comp.	NOR
SOLSTAD INVEST A/S	2,150,318	4.00%	3.32%	Comp.	NOR
FLPS - PRINC ALL SEC STOCK SUB	1,189,882	2.21%	1.84%	Comp.	USA
MOMENTUM INVESTMENTS INC	840,697	1.56%	1.30%	Comp.	CYM
ESPEDAL & CO AS	738,438	1.37%	1.14%	Comp.	NOR
VINDBALEN AS	707,987	1.32%	1.09%	Comp.	NOR
SOLHAV INVEST X AS	623,080	1.16%	0.96%	Comp.	NOR
PARETO AS	514,014	0.96%	0.79%	Comp.	NOR
BANQUE INTERNAT. A LUXEMBOURG SA	468,487	0.87%	0.72%	Nom.	LUX
PACTUM AS	389,281	0.72%	0.60%	Comp.	NOR
FORSVARETS PERSONELLSERVICE	352,368	0.66%	0.54%	Comp.	NOR
MP PENSJON PK	336,466	0.63%	0.52%	Comp.	NOR
CITIBANK, N.A.	304,748	0.57%	0.47%	Nom.	USA
ULSTEIN GROUP ASA	300,000	0.56%	0.46%	Comp.	NOR
KLP AKSJENORGE	272,579	0.51%	0.42%	Comp.	NOR
ØIE GUNNAR	197,390	0.37%	0.31%	Priv.	NOR
Total number owned by top 20	53,770,922	100%	83.12%		
Total number of shares	64,687,377		100%		

A.3: Contract coverage – Peer group

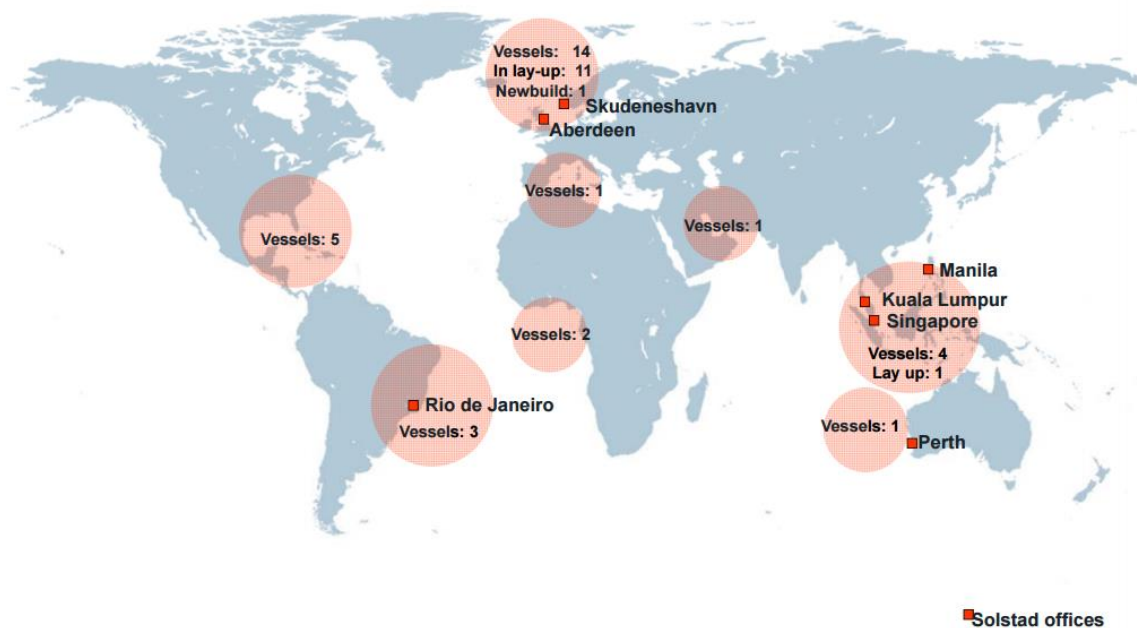
Contract coverage of Solstad and peer group as reported first quarter of 2016

	Contract coverage 2016 (incl. options)	Contract coverage 2017 (incl. options)
Farstad	50 %	43 %
DOF	81 %	63 %
DESSC	30 %	28 %
Siem	52 %	36 %
Solstad	45 %	39 %

A.4: Share price peer group 2012-2016

	2012	2013	2014	2015	2016	% change since 2014
Farstad	148,25	134	131,5	47,9	15,1	-89 %
DOF	19,08	24,5	27,65	13,31	3,98	-86 %
DESSC	8,03	9,9	11,28	5,43	1,6	-86 %
Siem	8,19	7,8	9,77	3,95	1,4	-86 %
Solstad	80,42	100,27	118,64	78,43	20,35	-83 %

A.5: Solstad fleet deployment²



Solstad's fleet deployment and regional coverage. Offices are mainly centered around SEA and Northern Europe with one exception being an office in Rio de Janeiro.

A.6: Safety core value – Solstad.³

“We recognize our employees as our most valuable asset, and we will not compromise their safety. On a Solstad-vessel anyone who feels unsafe or sees potential danger has the power to stop any operation.”

A.7: ROIC pre-tax Solstad analysis

ROIC pre tax	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	5 %	3 %	1 %	6 %	8 %	8 %	-3 %	4,05 %
Farstad	14 %	8 %	7 %	6 %	6 %	5 %	-5 %	5,78 %
Siem	3 %	3 %	3 %	3 %	5 %	7 %	1 %	3,58 %
DESSC	8 %	5 %	3 %	4 %	6 %	3 %	-13 %	2,33 %
DOF	3 %	3 %	5 %	7 %	7 %	9 %	7 %	5,79 %
Mean	6,8%	4,2%	3,7%	5,2%	6,4%	6,4%	-2,6%	4,31 %
WACC	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,00 %

² Source: Solstad Offshore – Highlights 31.03.2016

³ Source: <https://solstad.no/about-us/core-values/>

A.8: Vessel segments revenue and cost development

Solstad - Vessels	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2011-15
AHTS	20	14	12	13	15	15	22	20	18	18	4,7%
Revenue	44 636	84 963	104 025	97 407	72 442	80 409	57 936	64 863	75 147	52 069	-10,3%
Cost	-25 054	-39 525	-55 267	-62 753	-63 456	-71 188	-45 745	-47 025	-51 245	-76 362	1,8%
	-56 %	-47 %	-53 %	-64 %	-88 %	-89 %	-79 %	-72 %	-68 %	-147 %	
PSV	5	5	5	5	5	5	5	5	5	8	12,5%
Revenue	60 297	69 167	58 358	59 411	71 947	80 563	88 389	89 283	95 723	49 179	-11,6%
Cost	-34 509	-35 209	-39 107	-59 679	-67 832	-68 156	-72 660	-71 504	-78 658	-134 338	18,5%
	-57 %	-51 %	-67 %	-100 %	-94 %	-85 %	-82 %	-80 %	-82 %	-273 %	
CSV	10	9	9	13	15	16	19	17	20	20	5,7%
Revenue	68 883	75 971	74 310	74 311	78 034	90 006	86 614	105 545	100 116	116 765	6,7%
Cost	-50 280	-57 227	-57 395	-73 264	-66 376	-89 361	-58 982	-63 489	-68 798	-77 557	-3,5%
	-73 %	-75 %	-77 %	-99 %	-85 %	-99 %	-68 %	-60 %	-69 %	-66 %	
Partially owned (50)	4	6	9	10	9	10					
Total	39	34	35	41	44	46	46	42	43	46	0,00 %
% of total revenue											
AHTS	47 %	54 %	57 %	50 %	42 %	40 %	38 %	37 %	35 %	26 %	-10,0%
PSV	16 %	16 %	13 %	12 %	14 %	13 %	13 %	13 %	12 %	10 %	-6,7%
CSV	37 %	31 %	30 %	38 %	45 %	47 %	49 %	51 %	52 %	64 %	7,9%

A.9: Solstad costs, revenues and EBITDA-margins by vessel segments 2005-2015

AHTS	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net revenues	625786	892721	1189477	1248300	1266289	1086628	1206130	1274585	1297259	1352640	937235
Operating cost	-439404	-501079	-553346	-663204	-815783	-951837	-1067821	-1006385	-940492	-922405	-1374512
EBITDA	186382	391642	636131	585096	450506	134791	138309	268200	356767	430235	-437277
EBITDA-margin	30 %	44 %	53 %	47 %	36 %	12 %	11 %	21 %	28 %	32 %	-47 %
PSV	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net revenues	356420	301484	345834	291788	297054	359733	402816	441946	446414	478615	393432
Operating cost	-166600	-172544	-176046	-195535	-298393	-339161	-340779	-363298	-357519	-393288	-1074706
EBITDA	189820	128940	169788	96253	-1339	20572	62037	78648	88895	85327	-681274
EBITDA-margin	53 %	43 %	49 %	33 %	0 %	6 %	15 %	18 %	20 %	18 %	-173 %
CSV	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net revenues	439862	688832	683740	668792	966040	1170504	1440100	1645672	1794265	2002327	2335292
Operating cost	-327427	-502803	-515040	-516555	-952433	-995635	-1429774	-1120659	-1079313	-1375962	-1551142
EBITDA	112435	186029	168700	152237	13607	174869	10326	525013	714952	626365	784150
EBITDA-margin	26 %	27 %	25 %	23 %	1 %	15 %	1 %	32 %	40 %	31 %	34 %
Total freight income	1 422 068	1 883 037	2 219 051	2 208 880	2 529 383	2 616 865	3 049 046	3 362 203	3 537 938	3 833 582	3 665 959
AHTS	44 %	47 %	54 %	57 %	50 %	42 %	40 %	38 %	37 %	35 %	26 %
PSV	25 %	16 %	16 %	13 %	12 %	14 %	13 %	13 %	13 %	12 %	11 %
CSV	31 %	37 %	31 %	30 %	38 %	45 %	47 %	49 %	51 %	52 %	64 %

A.10: Analytical income statements and balance sheets Solstad, REM, and peer group

General overview:

- Reformulated peer groups income statement and balance sheet to match Solstad's
- Classified profit on sale of fixed assets as operational income, as it is recurring and matches Solstad's reformulated income and balance sheet
- Operating expenses of the same items as Solstad's operating expenses
- Comprehensive income is therefore comparable with Solstad
- Net working capital for the peer group consists of the same items as Solstad's
- DESSC is the only peer taxed 10%, while Solstad and the other peers are taxed 27%. Please refer to section 6.3 – "Tax issue" for more information on taxation.

Solstad Offshore - Analytical Income Statement									
OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015	
Freight income	2 134 860	2 518 532	2 613 557	2 975 101	3 287 920	3 495 073	3 737 349	3 546 418	
Other income	10 470	10 851	3 308	4 988	20 581	14 248	10 443	39 372	
Gains/(losses) from sale of assets	63 550	-	-	-	53 702	26 274	46 591	-	
Revenue	2 208 880	2 529 383	2 616 865	2 980 089	3 362 203	3 535 595	3 794 383	3 585 790	
Income from investments in associated companies	40 799	2 413	2 511	9 433	19 929	63 327	64 655	64 854	
Revenue incl. Income From Associated Companies	2 249 679	2 531 796	2 619 376	2 989 522	3 382 132	3 598 922	3 859 038	3 650 644	
Crewing expenses	545 770	733 869	882 369	1 087 445	1 119 492	1 231 480	1 219 758	1 207 450	
Operating expenses									
Technical cost	318 554	343 369	378 683	412 082	431 340	456 850	391 785	287 083	
Bunkers and lube oil	24 392	36 284	40 412	37 101	66 018	67 938	69 789	78 539	
Insurance, IT and other costs	106 569	153 335	258 638	314 207	201 509	217 845	374 887	534 052	
Total operating costs vessels	965 285	1 266 857	1 560 102	1 850 835	1 818 359	1 974 113	2 056 219	2 107 124	
Gross profit	1 254 394	1 264 939	1 059 274	1 138 687	1 563 773	1 624 809	1 802 819	1 543 520	
Employees, administration	62 521	70 383	78 426	92 332	109 507	159 775	174 356	188 114	
EBITDA	1 191 873	1 194 556	980 848	1 046 355	1 454 266	1 465 034	1 628 463	1 355 406	
Depreciation	520 851	728 948	638 593	918 526	584 817	431 366	461 827	1 829 546	
EBIT	671 022	465 608	342 255	127 829	869 449	1 033 668	1 166 636	-474 140	
Taxes	-194 859	-32 774	-54 209	-161 600	-83 514	-211 486	-325 780	-360 722	
NOPAT	476 163	432 834	288 046	-33 771	785 935	822 182	840 856	-834 862	
NON OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015	
Financial income	101 676	478 243	261 790	93 418	93 336	76 807	38 970	29 190	
Interest expenses	-315 493	-254 153	-370 654	-549 593	-524 362	-449 970	-454 241	-480 426	
Other financial expenses	-489 440	-63 450	-130 695	-66 130	-23 852	-48 202	-93 714	-137 977	
Net Financial Expenses before tax excluding currency gains/losses	-703 257	160 640	-239 559	-522 305	-454 878	-421 365	-508 985	-589 213	
Total agio/disagio	-238 056	240 102	30 476	-48 134	31 502	-166 497	-598 734	-654 218	
Net Financial Expenses before tax	-941 313	400 742	-209 083	-570 439	-423 376	-587 862	-1 107 719	-1 243 431	
Tax shield	254 155	-108 200	56 452	154 019	114 312	158 723	299 084	335 726	
Net Financial Expenses after tax	-687 158	292 542	-152 631	-416 420	-309 064	-429 139	-808 635	-907 705	
Concern Result	-210 996	725 376	135 415	-450 191	476 870	393 042	32 221	-1 742 567	
Total other comprehensive income									
Comprehensive Income	-210 996	725 376	135 415	-450 191	476 870	393 042	32 221	-1 742 567	
TAX ADJUSTMENTS	2008	2009	2010	2011	2012	2013	2014	2015	
Norwegian tax rate	27 %	27 %	27 %	27 %	27 %	27 %	27 %	27 %	
Reported tax	170 994	171 441	-114 158	-7 581	34 103	-56 409	-31 355	-24 996	
Reported tax adjusted for tax regime	40 318	-140 974	2 243	-7 581	34 103	-56 409	-31 355	-24 996	
Net Financial Expenses before tax	-941 313	400 742	-209 083	-570 439	-423 376	-587 862	-1 107 719	-1 243 431	
Tax shield	-254 155	108 200	56 452	154 019	114 312	158 723	299 084	335 726	
Tax on non-operating items	18 977	-	-	-	-3 306	3 645	4 659	-	
Tax on core operations	-194 859	-32 774	-54 209	-161 600	-83 514	-211 486	-325 780	-360 722	
Effective tax rate	29,04 %	7,04 %	15,84 %	126,42 %	9,61 %	20,46 %	27,92 %	-76,08 %	

Solstad Offshore - Analytical Balance sheet

NET OPERATING ASSETS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Account receivables, freight income	497 218	466 456	521 736	700 208	518 041	707 846	756 794	635 073
Bunkers and other inventories	19 358	39 471	59 377	59 843	73 470	68 893	61 188	57 507
Other short-term receivables	141 091	264 653	215 586	161 213	199 640	267 653	357 660	282 800
Current Operating Assets	657 667	770 580	796 699	921 264	791 151	1 044 392	1 175 642	975 380
Accounts payable	167 399	162 735	311 048	257 067	187 303	111 495	371 529	126 178
Other current liabilities	206 306	205 851	250 200	275 185	391 754	323 112	353 750	279 079
Accrued salaries and related taxes	40 855	49 756	50 650	58 468	46 388	89 083	51 502	40 821
Taxes payable	50 966	91 845	105 677	75 364	67 702	15 321	40 697	58 273
Current Operating Liabilities	465 526	510 187	717 575	666 084	693 147	539 011	817 478	504 351
Net Working Capital	192 141	260 393	79 124	255 180	98 004	505 381	358 164	471 029
Investments in associated companies	4 135	18 789	21 300	13 798	222 072	309 531	345 691	386 335
Vessels etc. and newbuild contracts	7 525 124	9 884 944	13 770 850	13 875 910	12 664 918	12 136 612	14 773 404	13 765 513
Deferred tax benefit	24 244	-	17 362	43 061	115 397	58 934	61 966	37 987
Loan to associated companies	-	-	-	87 849	41 685	24 517	30 210	14 852
Non-Current assets	7 553 503	9 903 733	13 809 512	14 020 618	13 044 072	12 529 594	15 211 271	14 204 687
Deferred tax liabilities	-	26 970	-	-	3 000	-	-	-
Deferred income	-	8 596	-	-	-	-	9 339	9 136
Taxes payable	214 816	-	77 544	39 933	-	-	-	-
Non-Current Liabilities	214 816	35 566	77 544	39 933	3 000	-	9 339	9 136
Invested Capital	7 530 828	10 128 560	13 811 092	14 235 865	13 139 076	13 034 975	15 560 096	14 666 580

INVESTED CAPITAL (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Total Equity	3 697 624	4 630 320	4 989 443	4 415 914	4 624 933	4 954 275	5 057 532	3 667 575
Average total equity		4 163 972	4 809 882	4 702 679	4 520 424	4 789 604	5 005 904	4 362 554
Pension liabilities	-	-	-	-	67 998	72 018	98 781	50 672
Other long-term loans	37 338	34 668	33 600	36 487	50 954	161 099	331 886	367 703
Debt to credit institutions/leasing obligations	4 793 870	6 379 214	7 470 527	9 472 153	7 114 130	7 539 122	10 094 844	8 905 838
Bank overdraft	438 694	100 332	102 734	102 205	64 938	90 933	121 908	82 656
Current interest bearing liabilities	473 023	565 866	2 101 877	878 016	2 057 178	1 631 593	1 122 371	2 520 002
Forward currency and interest swap contracts	92 466	10 392	73 103	62 687	51 112	37 083	91 849	312 727
Total Interest-Bearing Debt	5 835 391	7 090 472	9 781 841	10 551 548	9 406 310	9 531 848	11 861 639	12 239 598
Pension funds	9 954	17 074	9 350	2 682	-	-	-	-
Other long-term receivables	15 072	5 971	9 589	27 060	2 462	50 183	30 935	1 945
Shares	1 100 368	3 099	4 873	5 418	5 425	3 466	3 373	3 220
Assets held for sale	-	-	12 790	4 644	-	135 754	-	24 112
Forward currency and interest swap contracts	-	44 068	40 038	31 140	51 651	21 881	4 031	2 250
Other current financial assets	46 857	77 348	11 834	14 569	25 524	-	-	-
Cash & cash equivalents	829 936	1 444 672	871 718	646 084	807 105	1 239 864	1 320 736	1 209 066
Total Interest-Bearing Assets	2 002 187	1 592 232	960 192	731 597	892 167	1 451 148	1 359 075	1 240 593
Net Interest-Bearing Debt	3 833 204	5 498 240	8 821 649	9 819 951	8 514 143	8 080 700	10 502 564	10 999 005
Average net interest-bearing debt		4 665 722	7 159 945	9 320 800	9 167 047	8 297 422	9 291 632	10 750 785
Invested Capital	7 530 828	10 128 560	13 811 092	14 235 865	13 139 076	13 034 975	15 560 096	14 666 580
Average invested capital		8 829 694	11 969 826	14 023 479	13 687 471	13 087 026	14 297 536	15 113 338

REM Offshore - Analytical Income Statement

OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Freight income	719 969	385 137	454 047	632 968	719 301	941 769	1 366 820	1 153 602
Other income	8 887	26 349	14 635	20 067	20 700	28 302	45 950	32 924
Gains/(losses) from sale of assets	50 553	268 832			107 305	-	-	24 154
Revenue	779 409	680 318	468 682	653 035	847 306	970 071	1 412 770	1 210 680
Income from investments in associated companies	-	-4 159	2 811	181	1 864	4 265	-1 979	-17 590
Revenue incl. Income From Associated Companies	779 409	676 159	471 493	653 216	849 170	974 336	1 410 791	1 193 090
Crewing expenses	199 931	112 749	129 433	204 804	245 682	299 629	365 106	395 252
Operating expenses								
<i>Technical cost</i>	20 850	23 293	48 502	60 139	49 214	66 638	71 711	56 175
<i>Bunkers and lube oil</i>	-	3 145	6 705	11 763	13 415	8 103	6 977	10 828
<i>Insurance</i>	10 960	7 328	6 590	10 811	12 208	16 114	17 800	17 376
<i>Other operating expenses vessels</i>	26 077	9 745	-	-	29 399	36 636	40 965	62 404
Total operating costs vessels	257 818	156 260	191 230	287 517	349 918	427 120	502 559	542 035
Gross profit	521 591	519 899	280 263	365 699	499 252	547 216	908 232	651 055
Employees, administration	16 000	14 878	11 190	15 789	20 911	22 171	27 607	28 301
Other operating costs	12 657	12 016	13 351	16 339	15 944	15 204	20 109	19 732
EBITDA	492 934	493 005	255 722	333 571	462 397	509 841	860 516	603 022
Depreciation	41 115	33 733	50 714	77 881	97 919	113 338	140 975	327 295
EBIT	451 819	459 272	205 008	255 690	364 478	396 503	719 541	275 727
Taxes	-30 113	33 865	-35 023	-36 332	-21 547	-55 262	-96 418	-108 897
NOPAT	421 706	493 137	169 985	219 358	342 931	341 241	623 123	166 830
NON OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Financial income	115 128	27 220	19 408	9 464	9 854	16 397	58 652	12 888
Interest expenses	-149 303	-57 923	-97 028	-143 484	-168 429	-214 790	-240 251	-243 167
Other financial expenses	-28 104	-2 866	-2 630	-7 326	-10 055	-34 379	-50 357	-69 787
Net Financial Expenses before tax excluding currency gains/losses	-62 279	-33 569	-80 250	-141 346	-168 630	-232 772	-231 956	-300 066
Total agio/disagio	-92 966	23 127	16 795	25 940	34 256	25 192	-113 800	-96 649
Net Financial Expenses before tax	-155 245	-10 442	-63 455	-115 406	-134 374	-207 580	-345 756	-396 715
Tax shield	41 916	2 819	17 133	31 160	36 281	56 047	93 354	107 113
Net Financial Expenses after tax	-113 329	-7 623	-46 322	-84 246	-98 093	-151 533	-252 402	-289 602
Concern Result	308 377	485 514	123 663	135 112	244 838	189 708	370 721	-122 772
Comprehensive Income	308 377	485 514	123 663	135 112	244 838	189 708	370 721	-122 772
TAX ADJUSTMENTS	2008	2009	2010	2011	2012	2013	2014	2015
Norwegian tax rate	27 %	27 %	27 %	27 %	27 %	27 %	27 %	27 %
Reported tax	6 748	9 801	-17 890	-5 172	4 003	785	-3 064	-1 784
Reported tax adjusted for tax regime	6 748	9 801	-17 890	-5 172	4 003	785	-3 064	-1 784
Net Financial Expenses before tax	-155 245	-10 442	-63 455	-115 406	-134 374	-207 580	-345 756	-396 715
Tax shield	-41 916	-2 819	-17 133	-31 160	-36 281	-56 047	-93 354	-107 113
Tax on non-operating items	5 055	26 883	-	-	10 731	-	-	-
Tax on core operations	-30 113	33 865	-35 023	-36 332	-21 547	-55 262	-96 418	-108 897
Effective tax rate	7 %	-7 %	17 %	14 %	6 %	14 %	13 %	39 %

REM Offshore - Analytical Balance sheet

NET OPERATING ASSETS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Account receivables, freight income	166 707	94 196	49 685	70 197	93 363	157 479	254 041	178 215
Bunkers and other inventories								
Other short-term receivables	38 816	21 362	30 204	50 282	28 589	36 741	37 036	48 902
Current Operating Assets	205 523	115 558	79 889	120 479	121 952	194 220	291 077	227 117
Accounts payable	48 370	35 558	43 279	35 877	17 582	23 911	24 240	25 975
Other current liabilities	9 684	31 333	12 265	19 010	12 503	17 224	156 356	151 304
Accrued salaries and related taxes	17 200	8 079	11 083	16 382	17 473	21 756	32 833	30 341
Taxes payable	3 352	7 879	10 885	2 999	3 301	-	772	-
Current Operating Liabilities	78 606	82 849	77 512	74 268	50 859	62 891	214 201	207 620
Net Working Capital	126 917	32 709	2 377	46 211	71 093	131 329	76 876	19 497
Investments in associated companies	-	20 548	23 358	23 539	25 403	29 668	27 689	10 099
Vessels	3 404 670	1 516 275	3 082 352	4 121 149	4 127 634	5 300 113	6 349 794	6 074 756
Newbuilding contracts	331 079	153 644	236 552	119 879	223 994	214 073	80 990	72 375
Machines and other operating equipment	3 238	2 509	2 118	1 935	2 271	2 182	1 890	1 480
Deferred tax benefit	7 528	6 635	8 136	13 463	5 711	5 660	5 335	5 301
Goodwill	38 934	17 011	20 111	20 111	20 111	20 111	20 111	20 111
Non-Current assets	3 785 449	1 716 622	3 372 627	4 300 076	4 405 124	5 571 807	6 485 809	6 184 122
Deferred tax liabilities	-	1 485	4 538	12 345	-	-	-	-
Deferred income								
Taxes payable	26 814	-	5 159	4 800	-	-	-	767
Non-Current Liabilities	26 814	1 485	9 697	17 145	-	-	-	767
Invested Capital	3 885 552	1 747 846	3 365 307	4 329 142	4 476 217	5 703 136	6 562 685	6 202 852

INVESTED CAPITAL (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Total Equity	1 522 988	1 216 295	1 463 650	1 657 560	1 933 565	1 994 764	2 335 016	2 218 080
Average total equity		1 369 642	1 339 973	1 560 605	1 795 563	1 964 165	2 164 890	2 276 548
Pension liabilities	1 272	-	-	-	5 649	7 590	13 033	11 041
Other long-term loans	2 123 370	895 812	1 798 343	2 372 095	2 360 859	2 974 226	3 532 583	3 438 111
Short-term part of long-term debt	211 917	86 766	154 582	242 991	284 138	367 936	616 863	519 984
Debenture loan	248 646	-	391 474	393 541	469 423	715 543	778 107	781 761
Derivatives, current	23 095	-	-	-	5 763	9 096	-	-
Derivatives, non-current	42 876	3 400	-	-	-	-	-	-
Debt to owners	-	-	-	4 941	22 093	19 193	-	-
Accrued interest	29 133	10 628	18 343	33 092	32 109	48 814	-	-
Other short-term interest bearing debt	114 613	-	-	-	-	-	-	-
Total Interest-Bearing Debt	2 794 922	996 606	2 362 742	3 046 660	3 180 034	4 142 398	4 940 586	4 750 897
Investments in shares, non-current	50	50	200	614	225	7 810	7 585	6 684
Marketable shares	45 710	97 568	121 778	22 260	10 787	61 245	40 357	28 425
Derivatives	-	19 343	16 807	318	1 398	2 141	-	-
Assets held for sale	162 060	-	-	-	-	-	-	-
Pension fund	-	2 463	1 421	165	-	-	-	-
Loan to other companies	40 000	3 871	4 008	96	891	-	-	-
Other current financial assets	2 201	-	-	-	-	-	-	-
Cash & cash equivalents	182 337	341 760	316 871	351 625	624 081	362 830	664 975	731 016
Total Interest-Bearing Assets	432 358	465 055	461 085	375 078	637 382	434 026	712 917	766 125
Net Interest-Bearing Debt	2 362 564	531 551	1 901 657	2 671 582	2 542 652	3 708 372	4 227 669	3 984 772
Average net interest-bearing debt		1 447 058	1 216 604	2 286 620	2 607 117	3 125 512	3 968 021	4 106 221
Invested Capital	3 885 552	1 747 846	3 365 307	4 329 142	4 476 217	5 703 136	6 562 685	6 202 852
Average invested capital		2 816 699	2 556 577	3 847 225	4 402 680	5 089 677	6 132 911	6 382 769

Siem Offshore - Analytical Income Statement

OPERATING ITEMS (USD '000)	2008	2009	2010	2011	2012	2013	2014	2015
Freight income	182 395	176 521	217 507	328 594	352 141	352 083	498 491	424 259
Other income	10 378	7 037	10 794	12 034	16 072	11 871	-7 178	-4 582
Gains/(losses) from sale of assets	-8 011	1 047	6 281	75	13 692	29 827	18 728	16 317
Revenue	184 762	184 605	234 582	340 703	381 905	393 781	510 041	435 994
Income from investments in associated companies	483	7 660	10 036	2 367	463	2 046	1 808	-1 560
Revenue incl. Income From Associated Companies	185 245	192 265	244 618	343 070	382 368	395 827	511 849	434 434
Crewing expenses	48 773	59 671	73 707	108 927	137 128	113 945	124 451	105 457
Other operating expenses	40 692	46 333	53 929	73 534	73 670	76 646	125 702	159 869
Administration expenses	15 570	19 620	26 024	35 215	46 817	50 701	47 033	38 575
Total Expenses	105 035	125 624	153 660	217 676	257 615	241 292	297 186	303 901
EBITDA	80 210	66 641	90 958	125 394	124 753	154 535	214 663	130 533
Depreciation	32 080	37 191	59 286	81 348	82 749	75 841	96 883	107 025
EBIT	48 130	29 450	31 672	44 046	42 004	78 694	117 780	23 508
Taxes	-17 475	17 757	-5 144	-10 272	-1 093	-19 984	-9 243	-54 112
NOPAT	30 655	47 207	26 528	33 774	40 911	58 710	108 537	-30 604

NON OPERATING ITEMS (USD '000)	2008	2009	2010	2011	2012	2013	2014	2015
Gain/(loss) on interest rate derivatives (CIRR)	342	6 097	368	368	368	368	368	368
Gain/(loss) on currency exchange forwards	-47 308	52 805	-4 789	1 450	12 479	-7 756	-3 023	-30 775
Net currency gain/(loss)	-18 283	19 124	2 962	-10 624	2 916	-22 651	34 092	22 110
Impairment of vessels					-		-29 000	-159 465
Impairment of intangible assets								-6 705
Financial income	10 588	7 760	8 130	5 719	4 161	5 434	9 091	11 184
Financial expenses	17 283	13 238	28 027	44 785	42 302	36 132	55 868	54 677
Net Financial Expenses before tax	71 944	(72 548)	21 356	47 872	22 378	60 737	44 340	217 960
Tax shield	-19 425	19 588	-5 766	-12 925	-6 042	-16 399	-11 972	-58 849
Net Financial Expenses after tax	52 519	-52 960	36 946	82 819	38 714	105 075	76 708	377 071
Concern Result	-21 864	100 167	-10 418	-49 045	2 197	-46 365	31 829	-407 675
Total other comprehensive income	-20 037	25 545	672	-5 122		-7 165	-24 212	-62 110
Comprehensive Income	-41 901	125 712	-9 746	-54 167	2 197	-53 530	7 617	-469 785
Minorities interest	-2 388	4 430	-583	-543	-1 900	-373	12 270	-9 520
Comprehensive income to equity shareholders	-39 513	121 282	-9 163	-53 624	4 097	-53 157	-4 653	-460 265

TAX ADJUSTMENTS	2008	2009	2010	2011	2012	2013	2014	2014
Norwegian tax rate	27 %	27 %	27 %	27 %	27 %	27 %	27 %	27 %
Reported tax	1 950	-1 831	622	2 653	4 949	-3 585	2 729	4 737
Tax on non-operating items	-19 425	19 588	-5 766	-12 925	-6 042	-16 399	-11 972	-58 849
Tax on core operations	-17 475	17 757	-5 144	-10 272	-1 093	-19 984	-9 243	-54 112

Effective tax rate	36,31 %	-60,30 %	16,24 %	23,32 %	2,60 %	25,39 %	7,85 %	230,19 %
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Siem Offshore - Analytical Balance sheet

NET OPERATING ASSETS (USD '000)	2008	2009	2010	2011	2012	2013	2014	2015
Account receivables, freight income	36 119	47 907	53 290	46 544	44 221	53 198	74 753	46 147
Inventories	1 215	1 943	4 399	9 249	7 772	7 555	7 481	7 739
Other short-term receivables	16 418	22 454	23 035	30 730	38 461	32 737	63 877	60 657
Current Operating Assets	53 752	72 304	80 724	86 523	90 454	93 490	146 111	114 543
Accounts payable	5 292	8 148	7 119	7 311	5 377	16 253	10 781	8 395
Other current liabilities	16 215	32 194	32 528	44 874	50 882	44 061	123 072	91 001
Taxes payable	13 351	13 290	14 955	3 160	8 856	3 759	5 005	3 496
Current Operating Liabilities	34 858	53 632	54 602	55 345	65 115	64 073	138 858	102 892
Net Working Capital	18 894	18 672	26 122	31 178	25 339	29 417	7 253	11 651
Vessels under construction	161 596	208 511	105 991	105 199	108 430	127 711	130 515	185 064
Vessels and equipment	452 402	761 921	1 268 799	1 414 548	1 260 118	1 440 332	1 743 693	1 391 695
Capitalized project costs	1 206	546	19 102	13 570	12 153	11 027	10 965	5 381
Intangible assets	9 232	9 232	8 903	29 441	30 020	29 737	25 937	16 849
Deferred tax asset	3 430	4 888	6 254	6 254	6 885	11 770	12 591	11 668
Investments in associated companies	15 432	25 352	28 591	4 218	4 222	20 951	20 222	16 660
Long-term receivables	3 287	8 013	9 197	7 674	7 111	6 639	23 432	51 598
Loan to shipyard	22 861	27 697	-	-	-	-	-	-
Non-current assets	669 446	1 046 160	1 446 837	1 580 904	1 428 939	1 648 167	1 967 355	1 678 915
Tax liabilities	4 027	2 589	1 936	13 337	6 799	6 679	6 368	5 483
Other non-current liabilities	284	1 772	6 878	17 865	14 992	18 826	26 565	34 142
Non-Current Liabilities	4 311	4 361	8 814	31 202	21 791	25 505	32 933	39 625
Invested Capital	684 029	1 060 471	1 464 145	1 580 880	1 432 487	1 652 079	1 941 675	1 650 941

INVESTED CAPITAL (USD '000)	2008	2009	2010	2011	2012	2013	2014	2015
Total Equity	425 944	702 728	769 070	769 751	786 397	793 888	823 649	665 508
Average total equity		564 336	735 899	769 411	778 074	790 143	808 769	744 579
Pension liabilities	480	235	512	199	742	2 778	3 812	2 195
Long term loans	250 410	403 134	739 095	839 031	714 699	863 074	1 087 757	1 007 925
Short-term portion of long term loans	28 286	43 036	71 125	95 472	82 287	98 426	126 603	114 660
CIRR loan deposit	66 482	73 225	65 006	56 469	53 194	41 718	28 453	88 002
Deferred CIRR loan	22 278	3 627	3 259	2 891	2 523	2 155	1 786	1 418
Derivative financial instruments	-	-	-	10 171	12 339	11 085	16 732	12 896
Forward currency contracts	30 801	-	-	-	-	-	-	-
Total Interest-Bearing Debt	398 737	523 257	878 997	1 004 233	865 784	1 019 236	1 265 143	1 227 096
CIRR loan deposit	66 482	73 225	65 006	56 469	53 194	41 718	28 453	88 000
Non-current assets held for sale	800	800	-	-	53 604	18 121	-	3 459
Derivative financial instruments	-	401	3 731	-	5 829	-	1 041	1 451
Cash & cash equivalents	73 371	91 088	115 185	136 635	107 068	101 206	117 623	148 753
Total Interest-Bearing Assets	140 653	165 514	183 922	193 104	219 695	161 045	147 117	241 663
Net Interest-Bearing Debt	258 084	357 743	695 075	811 129	646 089	858 191	1 118 026	985 433
Average net interest-bearing debt		307 914	526 409	753 102	728 609	752 140	882 058	921 812
Invested Capital	684 028	1 060 471	1 464 145	1 580 880	1 432 486	1 652 079	1 941 675	1 650 941
Average invested capital		872 250	1 262 308	1 522 513	1 506 683	1 542 283	1 687 081	1 651 510

Farstad Shipping - Analytical Income Statement

OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Freight income	2 943 241	3 237 111	3 323 899	3 578 870	3 709 941	3 998 418	4 352 040	3 998 347
Other income	15 383	20 468	3 802	6 019	4 083	8 749	16 898	17 348
Gains/(losses) from sale of assets	61 050	-	1 114	16 909	-10 252	7 044	15 015	-4 581
Revenue	3 019 674	3 257 579	3 328 815	3 601 798	3 703 772	4 014 211	4 383 953	4 011 114
Crewing expenses	789 673	926 878	1 161 855	1 389 567	1 514 873	1 569 794	1 748 411	1 707 594
Other operating expenses	350 428	421 208	582 968	559 231	593 965	637 354	728 912	650 138
Administration expenses	150 443	173 333	197 830	234 565	288 736	283 132	265 167	290 325
Total Expenses	1 290 544	1 521 419	1 942 653	2 183 363	2 397 574	2 490 280	2 742 490	2 648 057
EBITDA	1 729 130	1 736 160	1 386 162	1 418 435	1 306 198	1 523 931	1 641 463	1 363 057
Depreciation	365 438	454 909	516 237	544 808	575 928	654 407	856 143	2 176 822
EBIT	1 363 692	1 281 251	869 925	873 627	730 270	869 524	785 320	-813 765
Taxes	-130 401	166 241	-41 109	-130 832	-96 639	-139 332	-212 583	-259 953
NOPAT	1 233 291	1 447 492	828 816	742 795	633 631	730 192	572 737	-1 073 718
NON OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Gain from gradual acquisition				70 431				
Realised agio (disagio)	83 122	18 843	108 521	25 436	15 827	25 814	71 123	-86 401
Unrealised agio (disagio)	-315 804	349 506	-165 324	-92 915	-33 861	-111 161	-281 179	-548 586
Financial income	86 200	78 243	74 582	64 632	48 305	49 995	35 243	32 616
Financial expenses	307 942	304 153	395 155	410 900	435 844	554 201	617 505	670 187
Net Financial Expenses before tax	454 424	-142 439	377 376	343 316	405 573	589 553	792 318	1 272 558
Tax shield	-122 694	38 459	-101 892	-92 695	-109 505	-159 179	-213 926	-343 591
Net Financial Expenses after tax	331 730	-103 980	275 484	250 621	296 068	430 374	578 392	928 967
Concern Result	901 561	1 551 472	553 332	492 174	337 563	299 818	-5 655	-2 002 685
Total other comprehensive income	-59 674	76 017	15 707	-118 522	-46 303	-40 999	-127 875	6 280
Comprehensive Income	841 887	1 627 489	569 039	373 652	291 260	258 819	-133 530	-1 996 405
TAX ADJUSTMENTS	2008	2009	2010	2011	2012	2013	2014	2014
Norwegian tax rate	27,00 %	27,00 %	27,00 %	27,00 %	27,00 %	27,00 %	27,00 %	27,00 %
Reported tax	-316 287	-507 813	60 783	-38 137	12 866	19 847	1 343	83 638
Reported tax (adjusted for tax regime)	-7 707	127 782	60 783	-38 137	12 866	19 847	1 343	83 638
Tax on non-operating items	-122 694	38 459	-101 892	-92 695	-109 505	-159 179	-213 926	-343 591
Tax on core operations	-130 401	166 241	-41 109	-130 832	-96 639	-139 332	-212 583	-259 953
Freight income % change		10 %	3 %	8 %	4 %	8 %	9 %	-8 %
Account receivables, freight income % change		-11 %	0 %	18 %	12 %	-1 %	1 %	-17 %
Stock % change		51 %	36 %	2 %	38 %	9 %	36 %	-10 %

Farstad Shipping - Analytical Balance sheet								
NET OPERATING ASSETS (NOK '00	2008	2009	2010	2011	2012	2013	2014	2015
Account receivables, freight income	533 327	473 130	471 567	555 669	624 114	616 853	622 641	517 627
Bunkers and other inventories	19 665	29 743	40 480	41 319	57 020	61 969	84 278	75 540
Other short-term receivables	144 245	296 126	210 853	181 273	229 635	281 865	267 003	221 655
Current Operating Assets	697 237	798 999	722 900	778 261	910 769	960 687	973 922	814 822
Accounts payable	204 593	177 019	231 161	234 242	224 170	281 623	281 949	199 127
Other current liabilities	220 041	253 193	412 534	468 783	475 595	509 485	781 233	831 550
Current Operating Liabilities	424 634	430 212	643 695	703 025	699 765	791 108	1 063 182	1 030 677
Net Working Capital	272 603	368 787	79 205	75 236	211 004	169 579	(89 260)	(215 855)
Vessels etc.	7 871 618	10 237 712	11 467 552	11 759 850	12 394 071	14 179 071	15 984 824	15 383 886
Contracts newbuilds	495 380	191 242	64 149	358 894	527 973	333 620	33 715	18 336
Deferred tax benefit	54 831		47 242	67 894	68 764	63 506	83 865	55 106
Non-current assets	8 421 829	10 428 954	11 578 943	12 186 638	12 990 808	14 576 197	16 102 404	15 457 328
Deferred tax liabilities		14 902	30 279	48 125	43 607	41 790	42 657	43 140
Tax liabilities and environmental fund	508 476		9 516	4 758				
Taxes payable	99 514	22 325	46 487	38 046	27 158	31 639	26 540	38 271
Non-Current Liabilities	607 990	37 227	86 282	90 929	70 765	73 429	69 197	81 411
Invested Capital Excl. Goodwill	8 086 442	10 760 514	11 571 866	12 170 945	13 131 047	14 672 347	15 943 947	15 160 062
Goodwill	30 247	30 247	30 247	112 090	100 032	96 778	101 938	57 793
Invested Capital Incl. Goodwill	8 116 689	10 790 761	11 602 113	12 283 035	13 231 079	14 769 125	16 045 885	15 217 855
INVESTED CAPITAL (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Total Equity	4 439 988	6 251 895	6 582 368	6 820 235	6 775 849	6 877 974	6 624 758	4 344 077
Average total equity		5 345 942	6 417 132	6 701 302	6 798 042	6 826 912	6 751 366	5 484 418
Pension liabilities	56 181	60 118	61 901	64 469	112 324	105 431	97 043	55 324
Interest-bearing mortgage debt	4 719 722	5 466 499	6 287 220	5 855 651	6 595 642	8 702 740	9 932 526	11 287 530
Current portion of interest-bearing debt	510 681	771 771	991 818	1 012 058	1 295 915	945 750	1 383 119	1 036 333
Forward currency and interest swaps	153 134		24 900	45 791	54 970	40 633	224 694	290 618
Total Interest-Bearing Debt	5 439 718	6 298 388	7 365 839	6 977 969	8 058 851	9 794 554	11 637 382	12 669 805
Other long-term receivables	14 517	24 977	27 824	35 967	5 008	17 861	16 302	2 716
Shares	5 123	5 170	5 204	5 209	5 078	5 071	5 059	4 936
Forward currency and interest swaps		15 671	43 364	25 076	26 456	776		
Other current financial assets	198 998	188 291	133 338	106 661	71 932	79 028	73 818	58 318
Assets held for sale								151 438
Cash & cash equivalents	1 544 379	1 525 413	2 136 364	1 342 256	1 495 147	1 800 667	2 121 076	1 578 619
Total Interest-Bearing Assets	1 763 017	1 759 522	2 346 094	1 515 169	1 603 621	1 903 403	2 216 255	1 796 027
Net Interest-Bearing Debt	3 676 701	4 538 866	5 019 745	5 462 800	6 455 230	7 891 151	9 421 127	10 873 778
Average net interest-bearing debt		4 107 784	4 779 306	5 241 273	5 959 015	7 173 191	8 656 139	10 147 453
Invested Capital	8 116 689	10 790 761	11 602 113	12 283 035	13 231 079	14 769 125	16 045 885	15 217 855
Average invested capital		9 453 725	11 196 437	11 942 574	12 757 057	14 000 102	15 407 505	15 631 870

Deep Sea Supply - Analytical Income Statement								
OPERATING ITEMS (USD '000)	2008	2009	2010	2011	2012	2013	2014	2015
Freight income	190 405	167 633	132 346	115 902	124 140	59 089	88 050	70 155
Other income				-	-			
Gains/(losses) from sale of assets	20 225	-477	9 991					-
Revenue	210 630	167 156	142 337	115 902	124 140	59 089	88 050	70 155
Income from investments in associated companies			-	291	391	724	1 887	3 278
Revenue incl. Income From Associated Companies	210 630	167 156	142 337	116 193	124 531	59 813	89 937	73 433
Crewing expenses	30 277	36 368	45 877	46 606	43 563	16 218	23 267	17 086
Other operating expenses	25 935	27 127	17 060	20 397	19 696		22 297	19 783
Administration expenses	7 971	7 696	8 710	5 121	3 096	251	407	54
Total Expenses	64 183	71 191	71 647	72 124	66 355	16 469	45 971	36 923
EBITDA	146 447	95 965	70 690	44 069	58 176	43 344	43 966	36 510
Depreciation	30 277	36 368	36 445	28 826	32 304	12 924	29 763	114 727
EBIT	116 170	59 597	34 245	15 243	25 872	30 420	14 203	-78 217
Taxes	-7 967	-11 879	-5 249	-3 567	-3 083	-2 432	-3 163	-2 336
NOPAT	108 203	47 718	28 996	11 677	22 789	27 989	11 040	-80 553
NON OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Net foreign currency gains/(losses)	-8 319	-2 951	1 163	-5 579	1 572	2 570	-4 938	-1 295
Financial income	2 122	665	1 578	1 578	521	752	662	653
Financial expenses	42 374	35 667	29 065	31 454	23 802	23 847	25 744	20 969
Net Financial Expenses before tax	48 571	37 953	26 324	35 455	21 709	20 525	30 020	21 611
Tax shield	-4 857	-3 795	-2 632	-3 546	-2 171	-2 053	-3 002	-2 161
Net Financial Expenses after tax	43 714	34 158	23 692	31 910	19 538	18 473	27 018	19 450
Concern Result	64 489	13 560	5 304	-20 233	3 251	9 516	-15 978	-100 003
Total other comprehensive income	181	-3 430	1 276	-3 196	6 077	-4 181	-3 094	-3 094
Comprehensive Income	64 670	10 130	6 580	-23 429	9 328	5 335	-19 072	-103 097
TAX ADJUSTMENTS	2008	2009	2010	2011	2012	2013	2014	2015
Tax rate	10 %	10 %	10 %	10 %	10 %	10 %	10 %	10 %
Reported tax	-3 110	-8 084	-2 617	-21	-912	-379	-161	-175
Tax on non-operating items	-4 857	-3 795	-2 632	-3 546	-2 171	-2 053	-3 002	-2 161
Tax on core operations	-7 967	-11 879	-5 249	-3 567	-3 083	-2 432	-3 163	-2 336

Deep Sea Supply - Analytical Balance sheet

NET OPERATING ASSETS (USD '000)	2008	2009	2010	2011	2012	2013	2014	2015
Account receivables, freight income	47 867	22 483	26 017	29 475	30 010	22 323	21 661	10 012
Bunkers and other inventories	878	2 221	2 909	5 062	2 679	1 372	2 322	2 108
Other short-term receivables	6 173	6 349	9 374	6 468	9 541	28 989	40 157	18 979
Current Operating Assets	54 918	31 053	38 300	41 005	42 230	52 684	64 140	31 099
Accounts payable	25 039	3 588	11 519	13 307	23 667	5 554	11 684	6 200
Other current liabilities	-	-	-	-	-	-	-	-
Taxes payable	667	-	903	881	1 266	-	-	-
Current Operating Liabilities	25 706	3 588	12 422	14 188	24 933	5 554	11 684	6 200
Net Working Capital	29 212	27 465	25 878	26 817	17 297	47 130	52 456	24 899
Investments in associated companies	-	-	-	594	1 194	113 814	115 718	31 637
Vessels etc.	654 785	650 603	529 760	555 578	639 798	198 725	542 013	463 244
New building contracts	31 735	26 327	24 736	17 659	-	-	-	-
Deferred tax benefit	-	-	234	308	605	32	-	-
Long term receivables	-	-	455	647	687	7 448	7 678	-
Non-current assets	686 520	676 930	555 185	574 786	642 284	320 019	665 409	494 881
Deferred tax liabilities	5 336	-	1 806	873	-	-	-	-
Other non-current liabilities	-	-	-	-	-	-	-	-
Allocation liability in joint ventures	-	-	-	-	-	-	-	-
Non-Current Liabilities	5 336	-	1 806	873	-	-	-	-
Invested Capital	710 396	704 395	579 257	600 730	659 581	367 149	717 865	519 780

INVESTED CAPITAL (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Total Equity	112 221	163 994	161 585	162 714	157 007	257 220	443 148	291 584
Average total equity		138 108	162 790	162 150	159 861	207 114	350 184	367 366
Pension liabilities	310	79	695	892	1 219	20	267	-
Borrowings, non-current	266 998	260 698	211 603	223 473	278 426	90 790	274 803	184 415
Borrowings, current	23 274	25 207	20 639	22 074	26 447	10 805	18 027	91 378
Finance lease liabilities, non-current	225 119	210 901	195 895	179 827	163 487	25 423	23 974	20 825
Finance lease liabilities, current	15 495	14 298	15 129	16 069	15 655	6 114	3 832	4 065
Other non-current interest bearing debt	137 227	102 431	80 059	69 351	88 027	32 896	20 177	13 659
Derivatives, non-current	-	-	-	-	1 435	786	386	-
Derivatives, current	5 254	1 770	529	400	225	706	-	221
Other current interest bearing debt	13 574	11 097	58 611	9 651	9 873	6 367	3 346	2 806
Total Interest-Bearing Debt	687 251	626 481	583 160	521 737	584 794	173 907	344 812	317 369
Derivatives	-	-	-	-	-	-	143	-
Net pension assets	280	-	684	768	1 024	-	-	45
Other financing activities	54 997	54 464	122 872	42 635	40 773	32 285	22 663	15 942
Cash & cash equivalents	33 799	31 616	41 932	40 318	40 423	31 693	47 289	74 186
Total Interest-Bearing Assets	89 076	86 080	165 488	83 721	82 220	63 978	70 095	90 173
Net Interest-Bearing Debt	598 175	540 401	417 672	438 016	502 574	109 929	274 717	227 196
Average net interest-bearing debt		569 288	479 037	427 844	470 295	306 252	192 323	250 957
Invested Capital	710 396	704 395	579 257	600 730	659 581	367 149	717 865	518 780
Average invested capital		707 396	641 826	589 994	630 156	513 365	542 507	618 323

DOF - Analytical Income Statement

OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Freight income	3 969 672	4 258 507	5 403 000	6 503 000	8 136 000	9 415 000	10 196 000	10 291 000
Other income	52 269	76 656	-	-	-	-	-	-
Gains/(losses) from sale of assets	317 780	-7 887	59 000	33 000	210 000	8 000	468 000	332 000
Revenue	4 339 721	4 327 276	5 462 000	6 536 000	8 346 000	9 423 000	10 664 000	10 623 000
Income from investments in associated companies	124 834	191 749	-5 000	-	5 000	67 000	77 000	65 000
Revenue incl. Income From Associated Companies	4 464 555	4 519 025	5 457 000	6 536 000	8 351 000	9 490 000	10 741 000	10 688 000
Payroll expenses	1 636 825	1 960 483	2 486 000	3 121 000	3 167 000	3 927 000	4 077 000	4 159 000
Other operating expenses	1 147 178	1 133 137	1 266 000	1 367 000	2 179 000	2 698 000	3 170 000	3 166 000
Total Expenses	2 784 003	3 093 620	3 752 000	4 488 000	5 346 000	6 625 000	7 247 000	7 325 000
EBITDA	1 680 552	1 425 405	1 705 000	2 048 000	3 005 000	2 865 000	3 494 000	3 363 000
Depreciation	643 265	837 214	1 166 000	897 000	1 110 000	1 115 000	1 045 000	1 541 000
EBIT	1 037 287	588 191	539 000	1 151 000	1 895 000	1 750 000	2 449 000	1 822 000
Taxes	-536 294	362 082	-184 530	-683 340	-525 100	-508 400	-625 830	-704 400
NOPAT	500 993	950 273	354 470	467 660	1 369 900	1 241 600	1 823 170	1 117 600

NON OPERATING ITEMS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Currency gain/(loss)	-655 382	757 611	138 000	-722 000	-336 000	-539 000	-756 000	-1 093 000
Financial income	479 719	485 122	76 000	69 000	71 000	76 000	82 000	11 000
Financial expenses	984 747	647 904	953 000	1 189 000	1 365 000	1 357 000	1 355 000	1 238 000
Net Financial Expenses before tax	1 160 410	-594 829	739 000	1 842 000	1 630 000	1 820 000	2 029 000	2 320 000
Tax shield	-313 311	160 604	-199 530	-497 340	-440 100	-491 400	-547 830	-626 400
Net Financial Expenses after tax	847 099	-434 225	539 470	1 344 660	1 189 900	1 328 600	1 481 170	1 693 600
Concern Result	-346 106	1 384 498	-185 000	-877 000	180 000	-87 000	342 000	-576 000
Total other comprehensive income	123 142	70 366	89 000	-217 000	-428 000	-221 000	27 000	-1 253 000
Comprehensive Income	-222 964	1 454 864	-96 000	-1 094 000	-248 000	-308 000	369 000	-1 829 000

TAX ADJUSTMENTS	2008	2009	2010	2011	2012	2013	2014	2015
Norwegian tax rate	27 %	27 %	27 %	27 %	27 %	27 %	27 %	27 %
Reported tax	-222 983	201 478	15 000	-186 000	-85 000	-17 000	-78 000	-78 000
Tax on non-operating items	-313 311	160 604	-199 530	-497 340	-440 100	-491 400	-547 830	-626 400
Tax on core operations	-536 294	362 082	-184 530	-683 340	-525 100	-508 400	-625 830	-704 400

DOF - Analytical Balance Sheet

NET OPERATING ASSETS (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Account receivables, freight income	1 151 004	1 235 287	1 266 000	1 534 000	1 346 000	1 832 000	2 331 000	2 112 000
Bunkers and other inventories	13 441	16 116	28 000	51 000	54 000	70 000	84 000	79 000
Other short-term receivables	272 025	492 128	690 000	562 000	455 000	524 000	626 000	510 000
Current Operating Assets	1 436 470	1 743 531	1 984 000	2 147 000	1 855 000	2 426 000	3 041 000	2 701 000
Accounts payable	419 924	216 373	415 000	857 000	603 000	1 040 000	1 192 000	1 439 000
Other current liabilities	601 507	420 317	792 000	790 000	323 000	290 000	409 000	412 000
Current Operating Liabilities	1 021 431	636 690	1 207 000	1 647 000	926 000	1 330 000	1 601 000	1 851 000
Net Working Capital	415 039	1 106 841	777 000	500 000	929 000	1 096 000	1 440 000	850 000
Investments in associated companies	139 696	77 170	71 000	65 000	909 000	1 188 000	1 246 000	513 000
Vessels etc.	10 847 577	12 702 083	19 707 000	23 718 000	23 293 000	23 482 000	23 383 000	23 082 000
Contract newbuilds	3 940 763	4 594 689	1 925 000	1 969 000	423 000	406 000	483 000	106 000
Deferred tax benefit	123 330	-	29 000	211 000	249 000	327 000	638 000	1 341 000
Non-current assets	15 051 366	17 373 942	21 732 000	25 963 000	24 874 000	25 403 000	25 750 000	25 042 000
Deferred tax liabilities	353 438	513 472	402 000	219 000	103 000	78 000	49 000	42 000
Taxes payable	86 841	164 914	100 000	141 000	90 000	107 000	190 000	151 000
Non-Current Liabilities	440 279	678 386	502 000	360 000	193 000	185 000	239 000	193 000
Invested Capital Excluding Goodwill	15 026 126	17 802 397	22 007 000	26 103 000	25 610 000	26 314 000	26 951 000	25 699 000
Goodwill	505 161	441 839	478 000	401 000	392 000	403 000	418 000	436 000
Invested Capital Including Goodwill	15 531 287	18 244 236	22 485 000	26 504 000	26 002 000	26 717 000	27 369 000	26 135 000

INVESTED CAPITAL (NOK '000)	2008	2009	2010	2011	2012	2013	2014	2015
Total Equity	5 498 819	6 809 077	6 728 000	6 669 000	6 720 000	6 346 000	6 866 000	5 172 000
Average total equity		6 153 948	6 768 539	6 698 500	6 694 500	6 533 000	6 606 000	6 019 000
Pension liabilities	20 141	11 955	13 000	13 000	35 000	48 000	53 000	44 000
Bond loan	1 470 654	2 149 321	2 754 000	2 804 000	4 164 000	4 722 000	4 124 000	3 347 000
Long term debt to credit institutions	8 920 720	8 724 597	13 256 000	16 391 000	14 793 000	14 527 000	13 091 000	17 354 000
Short term debt to credit institutions	1 795 407	2 128 284	2 007 000	2 251 000	2 135 000	3 080 000	5 840 000	3 034 000
Long term liabilities	173 967	-	-	-	-	-	-	-
Other non-current liabilities	162 357	496 856	429 000	328 000	251 000	47 000	32 000	26 000
Other provisions and derivatives	228 820	77 202	77 000	256 000	375 000	356 000	384 000	244 000
Liabilities, assets held for sale								260 000
Public duties payable	98 170	72 319	80 000	108 000	86 000	92 000	101 000	91 000
Total Interest-Bearing Debt	12 870 236	13 660 534	18 616 000	22 151 000	21 839 000	22 872 000	23 625 000	24 400 000
Other long-term receivables	269	2 721	205 000	272 000	610 000	278 000	507 000	900 000
Investments in shares and units	5 999	8 910	9 000	7 000	5 000	5 000	5 000	5 000
Assets held for sale								477 000
Cash & cash equivalents	2 831 502	2 213 742	2 645 000	2 040 000	1 940 000	2 219 000	2 609 000	2 056 000
Total Interest-Bearing Assets	2 837 770	2 225 373	2 859 000	2 319 000	2 555 000	2 502 000	3 121 000	3 438 000
Net Interest-Bearing Debt	10 032 466	11 435 161	15 757 000	19 832 000	19 284 000	20 370 000	20 504 000	20 962 000
Average net interest-bearing debt		10 733 814	13 596 081	17 794 500	19 558 000	19 827 000	19 894 000	20 666 000
Invested Capital	15 531 285	18 244 238	22 485 000	26 501 000	26 004 000	26 716 000	27 370 000	26 134 000
Average invested capital		16 887 762	20 364 619	24 493 000	26 252 500	26 360 000	27 043 000	26 752 000

A.11: Return of Equity pre-tax Solstad peer group

ROE pre tax	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	21 %	3 %	-9 %	10 %	9 %	1 %	-39 %	-0,69 %
Farstad	27 %	8 %	8 %	5 %	4 %	0 %	-38 %	1,85 %
Siem	18 %	1 %	0 %	3 %	2 %	9 %	-26 %	0,97 %
DESSC	16 %	5 %	-12 %	3 %	5 %	-5 %	-27 %	-2,32 %
DOF	19 %	-3 %	-10 %	4 %	-1 %	6 %	-8 %	0,87 %
Mean	20,1%	2,8%	-5,0%	4,7%	3,9%	2,3%	-27,8%	0,14 %
Median	19,2%	2,8%	-9,4%	4,0%	4,1%	1,2%	-27,2%	-0,77 %

A.12: Relative market share and ROCE Solstad peer group

Relative market share and ROCE	Solstad	Farstad	Siem	DESSC	DOF
MS	3650644	4011114	434434	73433	10688000
ROCE	-5,7%	-7,0%	-1,8%	-15,5%	4,3%

A.13: Solstad credit rating and liquidity analysis 2009-2015

Adjusted US key industrial financial ratios	AAA 0	AA 1	A 2	BBB 3	BB 4	B 5	CCC 6	<CCC 7
EBIT interest cover	21,40	10,10	6,10	3,70	2,10	0,80	0,10	
EBITDA interest cover	26,50	12,90	9,10	5,80	3,40	1,80	1,30	
Operating cash flow/total liabilities	84 %	25 %	15 %	9 %	3 %	-3 %	-13 %	
Return on invested capital	35 %	22 %	19 %	14 %	12 %	7 %	1 %	
Total liabilities/total capital	23 %	38 %	43 %	48 %	63 %	75 %	88 %	

Implied credit rating	2009	2010	2011	2012	2013	2014	2015
EBIT interest cover	1,82	0,92	0,32	1,50	2,50	2,80	(0,99)
EBITDA interest cover	4,69	2,64	2,01	2,62	3,45	3,81	2,82
Operating cash flow/total liabilities	19,24 %	7,92 %	3,63 %	22,54 %	11,75 %	13,18 %	6,13 %
Return on invested capital	5,27 %	2,86 %	0,91 %	6,35 %	7,90 %	8,16 %	-3,14 %
Total liabilities/total capital	71,54 %	72,41 %	75,34 %	73,02 %	74,19 %	77,43 %	84,01 %
EBIT interest cover (x)	B	B	CCC	B	BB	BB	<CCC
EBITDA interest cover (x)	BB	B	B	B	BB	BB	B
Operating cash flow/total liabilities (%)	A	BB	BB	AA	BBB	BBB	BB
Return on invested capital (%)	CCC	CCC	CCC	CCC	B	B	<CCC
Total liabilities/total capital (%)	B	B	CCC	B	B	CCC	CCC
Yearly rating	4,4	5	5,4	4,4	4,2	4,4	5,8
Yearly rating	B	BB	CCC	B	B	B	CCC

US Treasury, 10 year spread (high/low)	AAA	AA	A	BBB	BB	B	B
3,38 %	1,90	2,40	3,60	4,70	11,20	13,10	13,10
3,38 %	0,60	0,70	0,80	1,30	2,60	3,20	3,20

Solstad total assets	2009	2010	2011	2012	2013	2014	2015
Total assets	10 674 313	14 606 211	14 941 882	13 835 223	13 573 986	16 386 913	15 180 067

CFO	2009	2010	2011	2012	2013	2014	2015
NOPAT	432 834	288 046	(33 771)	785 935	822 182	840 856	(834 862)
+/- Change in NWC	(68 252)	181 269	(176 056)	157 176	(407 377)	147 217	(112 865)
=Cash flow from operating activities	364 582	469 315	(209 827)	943 111	414 805	988 073	(947 727)

Liquidity risk analysis

Current ratio	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	1,41x	1,51x	1,11x	1,38x	1,14x	1,94x	1,44x	1,93x	1,48x
Farstad	1,64x	1,86x	1,12x	1,11x	1,30x	1,21x	0,92x	0,79x	1,24x
Siem	1,54x	1,35x	1,48x	1,56x	1,39x	1,46x	1,05x	1,11x	1,37x
DESSC	2,14x	8,65x	3,08x	2,89x	1,69x	9,49x	5,49x	5,02x	4,81x
DOF	1,41x	2,74x	1,64x	1,30x	2,00x	1,82x	1,90x	1,46x	1,78x
Mean	1,63x	3,22x	1,69x	1,65x	1,51x	3,18x	2,16x	2,06x	2,14x
Median	1,54x	1,86x	1,48x	1,38x	1,39x	1,82x	1,44x	1,46x	1,48x
Cash burn rate	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	2,51x	3,42x	2,81x	4,54x	1,03x	1,29x	1,09x	-3,14x	1,69x
Farstad	1,29x	1,37x	2,70x	1,73x	2,20x	2,19x	2,82x	-2,21x	1,51x
Siem	2,92x	5,62x	5,81x	4,38x	5,23x	2,05x	1,25x	10,28x	4,69x
DESSC	0,77x	1,45x	4,83x	5,49x	3,18x	2,10x	4,94x	-1,15x	2,70x
DOF	2,74x	3,78x	5,30x	2,01x	1,35x	1,43x	1,27x	1,89x	2,47x
Mean	2,05x	3,13x	4,29x	3,63x	2,60x	1,81x	2,27x	1,13x	2,61x
Median	2,51x	3,42x	4,83x	4,38x	2,20x	2,05x	1,27x	-1,15x	2,47x
Interest coverage ratio (EBITDA)	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	4,05x	4,69x	2,64x	2,01x	2,62x	3,45x	3,81x	2,82x	3,26x
Farstad	6,04x	5,98x	3,68x	3,89x	3,15x	2,85x	2,73x	2,03x	3,79x
Siem	4,78x	5,64x	3,76x	3,09x	3,08x	4,71x	3,84x	2,39x	3,91x
DESSC	3,17x	3,98x	2,16x	1,93x	2,12x	6,17x	3,06x	1,74x	3,04x
DOF	2,46x	2,22x	1,87x	1,86x	2,31x	2,25x	2,80x	2,72x	2,31x
Mean	4,10x	4,50x	2,82x	2,55x	2,66x	3,89x	3,25x	2,34x	3,26x
Median	4,05x	4,69x	2,64x	2,01x	2,62x	3,45x	3,06x	2,39x	3,26x
Financial leverage (Book)	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	1,76x	1,65x	2,12x	2,55x	2,18x	2,03x	2,51x	3,48x	2,29x
Farstad	1,46x	1,08x	1,23x	1,14x	1,30x	1,55x	1,93x	3,17x	1,61x
Siem	1,03x	0,83x	1,23x	1,42x	1,21x	1,40x	1,74x	2,06x	1,36x
DESSC	6,40x	3,84x	3,70x	3,30x	3,88x	0,70x	0,80x	1,11x	2,97x
DOF	2,61x	2,20x	3,02x	3,62x	3,42x	3,84x	3,71x	5,11x	3,44x
Mean	2,65x	1,92x	2,26x	2,41x	2,40x	1,90x	2,14x	2,99x	2,33x
Median	1,76x	1,65x	2,12x	2,55x	2,18x	1,55x	1,93x	3,17x	2,29x
Financial leverage (Market)	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	2,81x	1,75x	3,29x	3,43x	2,61x	2,18x	5,34x	20,73x	5,27x
Farstad	2,46x	1,35x	1,19x	1,25x	1,64x	2,11x	9,05x	26,98x	5,75x
Siem	1,47x	1,29x	1,35x	1,99x	1,77x	2,28x	12,75x	7,22x	3,77x
DESSC	5,63x	3,67x	2,30x	3,38x	2,54x	0,83x	3,26x	10,94x	4,07x
DOF	5,77x	5,19x	4,81x	8,94x	8,04x	7,08x	21,84x	60,28x	15,25x
Mean	3,63x	2,65x	2,59x	3,80x	3,32x	2,90x	10,45x	25,23x	6,82x
Median	2,81x	1,75x	2,30x	3,38x	2,54x	2,18x	9,05x	20,73x	5,27x

Solvency ratio	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	45,0%	43,4%	34,2%	29,6%	33,4%	36,5%	30,9%	24,2%	34,6%
Farstad	58,9%	62,8%	50,3%	46,2%	51,8%	45,6%	39,0%	37,1%	49,0%
Siem	58,9%	62,8%	50,3%	46,2%	51,8%	45,6%	39,0%	37,1%	49,0%
DESSC	15,1%	23,2%	27,2%	26,4%	22,9%	69,0%	60,7%	55,4%	37,5%
DOF	33,4%	35,6%	28,4%	23,7%	25,1%	22,8%	23,8%	18,6%	26,4%
Mean	42,3%	45,6%	38,1%	34,4%	37,0%	43,9%	38,7%	34,5%	39,3%
Median	45,0%	43,4%	34,2%	29,6%	33,4%	45,6%	39,0%	37,1%	37,5%
NIBD/EBITDA	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	3,22x	4,60x	8,99x	9,38x	5,85x	5,52x	6,45x	8,11x	6,52x
Farstad	2,13x	2,61x	3,62x	3,85x	4,94x	5,18x	5,74x	7,98x	4,51x
Siem	3,22x	5,37x	7,64x	6,47x	5,18x	5,55x	5,21x	7,55x	5,77x
DESSC	4,08x	5,63x	5,91x	9,94x	8,64x	2,54x	6,25x	6,22x	6,15x
DOF	5,97x	8,02x	9,24x	9,68x	6,42x	7,11x	5,87x	6,23x	7,32x
Mean	3,72x	5,25x	7,08x	7,87x	6,21x	5,18x	5,90x	7,22x	6,05x
Median	3,22x	5,37x	7,64x	9,38x	5,85x	5,52x	5,87x	7,55x	6,15x
Interest coverage ratio (EBIT)	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	2,40x	1,82x	0,92x	0,32x	1,50x	2,50x	2,80x	-0,99x	1,41x
Farstad	4,76x	4,41x	2,31x	2,46x	1,76x	1,63x	1,31x	-1,21x	2,18x
Siem	2,87x	2,49x	1,31x	1,08x	1,03x	2,40x	1,59x	0,43x	1,65x
DESSC	2,45x	2,68x	0,91x	1,01x	0,76x	5,26x	1,14x	-3,73x	1,31x
DOF	1,44x	0,42x	0,59x	1,04x	1,46x	1,38x	1,97x	1,47x	1,22x
Mean	2,78x	2,37x	1,21x	1,18x	1,30x	2,63x	1,76x	-0,81x	1,55x
Median	2,45x	2,49x	0,92x	1,04x	1,46x	2,40x	1,59x	-0,99x	1,41x
Financial gearing (Book)	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	1,04x	1,19x	1,77x	2,22x	1,84x	1,63x	2,08x	3,00x	1,85x
Farstad	0,83x	0,73x	0,76x	0,80x	0,95x	1,15x	1,42x	2,50x	1,14x
Siem	0,61x	0,51x	0,90x	1,05x	0,82x	1,08x	1,36x	1,48x	0,98x
DESSC	5,33x	3,30x	2,58x	2,69x	3,20x	0,43x	0,62x	0,78x	2,37x
DOF	1,82x	1,68x	2,34x	2,97x	2,87x	3,21x	2,99x	4,05x	2,74x
Mean	1,93x	1,48x	1,67x	1,95x	1,94x	1,50x	1,69x	2,36x	1,81x
Median	1,04x	1,19x	1,77x	2,22x	1,84x	1,15x	1,42x	2,50x	1,85x
Financial gearing (Market)	2008	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	1,65x	1,26x	2,74x	2,99x	2,20x	1,75x	4,42x	17,88x	4,36x
Farstad	1,40x	0,91x	0,74x	0,88x	1,20x	1,56x	6,67x	21,28x	4,33x
Siem	0,87x	0,79x	0,99x	1,48x	1,20x	1,76x	9,92x	5,19x	2,78x
DESSC	4,69x	3,15x	1,60x	2,76x	2,09x	0,51x	2,51x	7,68x	3,12x
DOF	4,04x	3,96x	3,73x	7,34x	6,76x	5,92x	17,58x	47,79x	12,14x
Mean	2,53x	2,01x	1,96x	3,09x	2,69x	2,30x	8,22x	19,97x	5,35x
Median	1,65x	1,26x	1,60x	2,76x	2,09x	1,75x	6,67x	17,88x	4,33x

Key financial ratios

Farstad Shipping	2009	2010	2011	2012	2013	2014	2015
ROE (after tax)	29,02%	8,62%	7,34%	4,97%	4,39%	-0,08%	-36,5%
ROE check	29,02%	8,62%	7,34%	4,97%	4,39%	-0,08%	-36,5%
ROIC	15,31%	7,40%	6,22%	4,97%	5,22%	3,72%	-6,9%
ROIC pre-tax	13,55%	7,77%	7,32%	5,72%	6,21%	5,10%	-5,2%
F-Gear	0,77	0,74	0,78	0,88	1,05	1,28	1,85
NBC	-2,53%	5,76%	4,78%	4,97%	6,00%	6,68%	9,2%
Spread	17,84%	1,64%	1,44%	0,00%	-0,78%	-2,96%	-16,0%
Profit margin, pre-tax	39,33%	26,13%	24,26%	19,72%	21,66%	17,91%	-20,3%
Profit margin, after tax	44,43%	24,90%	20,62%	17,11%	18,19%	13,06%	-26,8%
Turnover rate Invested Capital	0,34	0,30	0,30	0,29	0,29	0,28	0,26
ROCE	13,41%	7,11%	6,06%	4,80%	4,95%	3,58%	-7,0%

Siem Offshore	2009	2010	2011	2012	2013	2014	2015
ROE, after tax	17,75%	-1,42%	-6,37%	0,28%	-5,87%	3,94%	-54,8%
ROE check	17,75%	-1,42%	-6,37%	0,28%	-5,87%	3,97%	-54,8%
ROIC	5,41%	2,10%	2,22%	2,72%	3,81%	6,43%	-1,9%
ROIC pre-tax	3,38%	2,51%	2,89%	2,79%	5,10%	6,98%	1,4%
F-Gear	0,55	0,72	0,98	0,94	0,95	1,09	1,24
NBC	-17,20%	7,02%	11,00%	5,31%	13,97%	8,70%	40,9%
Spread	22,61%	-4,92%	-8,78%	-2,60%	-10,16%	-2,26%	-42,8%
Profit margin, pre-tax	15,32%	12,95%	12,84%	10,99%	19,88%	23,01%	5,4%
Profit margin, after tax	24,55%	10,84%	9,84%	10,70%	14,83%	21,20%	-7,0%
Turnover rate Invested Capital	0,22	0,19	0,23	0,25	0,26	0,30	0,26
ROCE	4,43%	1,80%	2,10%	2,81%	3,50%	5,50%	-1,8%

Solstad Offshore	2009	2010	2011	2012	2013	2014	2015
ROE	17,42%	2,82%	-9,57%	10,55%	8,21%	0,64%	-39,9%
ROE check	3,37%	9,16%	8,14%	24,22%	26,13%	32,95%	1,7%
ROIC	4,90%	2,41%	-0,24%	5,74%	6,28%	5,88%	-5,5%
ROIC pre-tax	5,27%	2,86%	0,91%	6,35%	7,90%	8,16%	-3,1%
F-Gear	1,12	1,49	1,98	2,03	1,73	1,86	2,46
NBC	6,27%	-2,13%	-4,47%	-3,37%	-5,17%	-8,70%	-8,4%
Spread	-1,37%	4,54%	4,23%	9,11%	11,45%	14,58%	2,9%
Profit margin, pre-tax	18,39%	13,07%	4,28%	25,71%	28,72%	30,23%	-13,0%
Profit margin, after tax	17,10%	11,00%	-1,13%	23,24%	22,85%	21,79%	-22,9%
Turnover rate Invested Capital	0,29	0,22	0,21	0,25	0,27	0,27	0,24
ROCE	4,26%	2,07%	-0,24%	5,98%	6,31%	5,40%	-5,7%

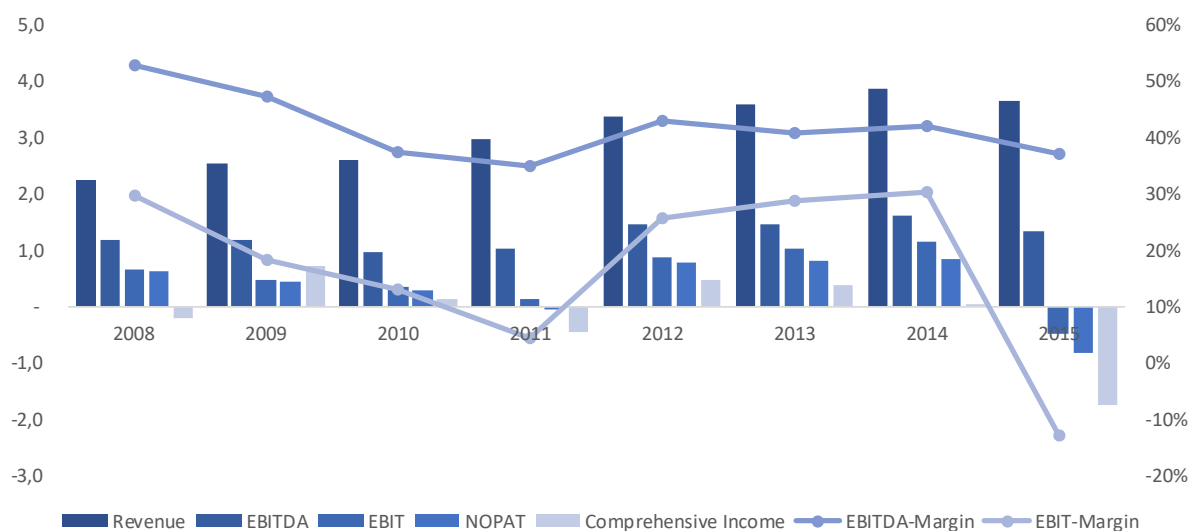
Deep Sea Supply	2009	2010	2011	2012	2013	2014	2015
ROE	9,82%	3,26%	-12,48%	2,03%	4,59%	-4,56%	-27,2%
ROE check	9,82%	3,26%	-12,48%	2,03%	4,59%	-4,56%	-27,2%
ROIC	6,75%	4,52%	1,98%	3,62%	5,45%	2,03%	-13,0%
ROIC pre-tax	8,42%	5,34%	2,58%	4,11%	5,93%	2,62%	-12,6%
F-Gear	4,12	2,94	2,64	2,94	1,48	0,55	0,68
NBC	6,00%	4,95%	7,46%	4,15%	6,03%	14,05%	7,8%
Spread	0,75%	-0,43%	-5,48%	-0,54%	-0,58%	-12,01%	-20,8%
Profit margin, pre-tax	35,65%	24,06%	13,12%	20,78%	50,86%	15,79%	-106,5%
Profit margin, after tax	28,55%	20,37%	10,05%	18,30%	46,79%	12,28%	-109,7%
Turnover rate Invested Capital	0,24	0,22	0,20	0,20	0,12	0,17	0,12
ROCE	6,77%	4,99%	1,94%	3,46%	7,62%	1,54%	-15,5%

DOF	2009	2010	2011	2012	2013	2014	2015
ROE, after tax	22%	-3%	-13%	3%	-1%	5%	-9,6%
ROE check	22%	-3%	-13%	3%	-1%	5%	-9,6%
ROIC	6%	2%	2%	5%	5%	7%	4,2%
ROIC pre-tax	3%	3%	5%	7%	7%	9%	6,8%
F-Gear	1,74	2,01	2,66	2,92	3,03	3,01	3,43
NBC	-4%	4%	8%	6%	7%	7%	8,2%
Spread	10%	-2%	-6%	-1%	-2%	-1%	-4,0%
Profit margin, pre-tax	13%	10%	18%	23%	18%	23%	17,0%
Profit margin, after tax	21%	6%	7%	16%	13%	17%	10,5%
Turnover rate Invested Capital	0,27	0,27	0,27	0,32	0,36	0,40	0,40
ROCE	5%	2%	2%	5%	5%	7%	4,3%

Pre-tax calculations

ROIC pre tax	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	5%	3%	1%	6%	8%	8%	-3%	4,05%
Farstad	14%	8%	7%	6%	6%	5%	-5%	5,78%
Siem	3%	3%	3%	3%	5%	7%	1%	3,58%
DESSC	8%	5%	3%	4%	6%	3%	-13%	2,33%
DOF	3%	3%	5%	7%	7%	9%	7%	5,79%
Mean	6,8%	4,2%	3,7%	5,2%	6,4%	6,4%	-2,6%	4,31%
WACC	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,0%	10,00%
ROE pre tax	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	21%	3%	-9%	10%	9%	1%	-39%	-0,69%
Farstad	27%	8%	8%	5%	4%	0%	-38%	1,85%
Siem	18%	1%	0%	3%	2%	9%	-26%	0,97%
DESSC	16%	5%	-12%	3%	5%	-5%	-27%	-2,32%
DOF	19%	-3%	-10%	4%	-1%	6%	-8%	0,87%
Mean	20,1%	2,8%	-5,0%	4,7%	3,9%	2,3%	-27,8%	0,14%
Median	19,2%	2,8%	-9,4%	4,0%	4,1%	1,2%	-27,2%	-0,77%
F-gear	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	1,12x	1,49x	1,98x	2,03x	1,73x	1,86x	2,46x	1,81x
Farstad	0,77x	0,74x	0,78x	0,88x	1,05x	1,28x	1,85x	1,05x
Siem	0,55x	0,72x	0,98x	0,94x	0,95x	1,09x	1,24x	0,92x
DESSC	4,12x	2,94x	2,64x	2,94x	1,48x	0,55x	0,68x	2,19x
DOF	1,74x	2,01x	2,66x	2,92x	3,03x	3,01x	3,43x	2,69x
Mean	1,66x	1,58x	1,81x	1,94x	1,65x	1,56x	1,93x	1,73x
Median	1,12x	1,49x	1,98x	2,03x	1,48x	1,28x	1,85x	1,60x
Spread pre tax	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	14%	0%	-5%	2%	1%	-4%	-15%	-1,05%
Farstad	17%	0%	1%	-1%	-2%	-4%	-18%	-1,03%
Siem	27%	-2%	-3%	0%	-3%	2%	-22%	-0,23%
DESSC	2%	0%	-6%	-1%	-1%	-13%	-21%	-5,66%
DOF	9%	-3%	-6%	-1%	-3%	-1%	-4%	-1,23%
Mean	13,7%	-0,9%	-3,9%	-0,3%	-1,5%	-4,0%	-16,1%	-1,84%
Median	13,9%	-0,2%	-5,2%	-0,5%	-2,0%	-3,8%	-17,7%	-2,22%
NBC pre tax	2009	2010	2011	2012	2013	2014	2015	Mean
Solstad	-9%	3%	6%	5%	7%	12%	12%	5,09%
Farstad	-3%	8%	7%	7%	8%	9%	13%	6,81%
Siem	-24%	4%	6%	3%	8%	5%	24%	3,81%
DESSC	7%	5%	8%	5%	7%	16%	9%	8,00%
DOF	-6%	5%	10%	8%	9%	10%	11%	7,03%
Mean	-6,9%	5,2%	7,5%	5,5%	7,9%	10,4%	13,5%	6,15%
Median	-5,5%	5,4%	6,6%	4,6%	8,1%	10,2%	11,6%	5,84%

Solstad Offshore, historical development



A.14: Solstad 2-year beta regression analysis output

SUMMARY OUTPUT 2 YEARS

<i>Regression Statistics</i>	
Multiple R	0,3062258
R Square	0,0937742
Adjusted R Squar	0,0919618
Standard Error	0,0336305
Observations	502

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,058517354	0,0585174	51,73889868	2,32972E-12
Residual	500	0,565506377	0,001131		
Total	501	0,624023731			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	-0,00369	0,00150104	-2,4586027	0,014285777	-0,006639583	-0,0007413	-0,00663958	-0,000741338
Beta	0,8912514	0,123905796	7,1929756	2,32972E-12	0,647811197	1,1346915	0,647811197	1,134691548

A.15 Solstad levered beta calculations with peer group

Peer group, Beta Bloomberg Levered beta	R^2	NIBD/MVEK	Unlevered beta
Farstad Shipping	1,16	0,13	4,35
Deep Sea Supply	1,39	0,250	2,96
DOF	1,34	0,140	12,14
Siem	0,91	0,097	2,77
Average			0,23
Capital Structure			1,50
Levered beta			0,57

Demodaran	Unlevered beta	Share	Solstad
Europe	1,19	57 %	Europe income 1 921 493
Emerging markets	1,18	43 %	Emerging 1 429 876
Weightetted average	1,19		Total 3 351 369
D/E	1,50		
Levered beta	2,96		

A.16: Capital structure of Solstad peer group

Solstad	Share price	No. of shares	Market value of EQ	NIBD	NIBD/EQ	Financial leverage			
2008	61,50	37 682 466	2 317 471 659	3 175 366 000	1,37	57,8 %			
2009	116,00	37 617 495	4 363 629 420	3 701 561 508	0,85	45,9 %			
2010	85,50	37 589 593	3 213 910 202	4 037 122 288	1,26	55,7 %			
2011	85,50	38 370 349	3 280 664 840	3 075 767 176	0,94	48,4 %			
2012	100,00	38 682 077	3 868 207 700	8 415 405 000	2,18	68,5 %			
2013	120,00	38 440 155	4 612 818 600	8 106 364 000	1,76	63,7 %			
2014	62,00	38 324 000	2 376 088 000	10 460 297 000	4,40	81,5 %			
2015	15,90	38 687 377	615 129 294	10 999 005 000	17,88	94,7 %			
Mean				3,83	64,5 %				
Average last 4 yrs				5,43	71,4 %				
Farstad Shipping	Share price	No. of shares	Market value of EQ	NIBD	NIBD/EQ	Financial leverage			
2008	67,50	39 000 000	2 632 500 000	3 769 817 000	1,43	58,9 %			
2009	128,50	39 000 000	5 011 500 000	4 563 843 000	0,91	47,7 %			
2010	175,00	39 000 000	6 825 000 000	5 051 990 000	0,74	42,5 %			
2011	159,00	39 000 000	6 201 000 000	5 498 767 000	0,89	47,0 %			
2012	138,00	39 000 000	5 382 000 000	6 419 100 000	1,19	54,4 %			
2013	129,50	39 000 000	5 050 500 000	7 909 012 000	1,57	61,0 %			
2014	36,20	39 000 000	1 411 800 000	9 559 585 000	6,77	87,1 %			
2015	13,10	39 000 000	510 900 000	10 873 778 000	21,28	95,5 %			
Mean				4,35	61,8 %				
Average last 4 yrs				6,34	69,0 %				
Deep Sea Supply	Share price	No. of shares	Market value of EQ	Market value EQ USD	NIBD USD	USD/NOK	NIBD NOK	NIBD/EQ	Financial leverage
2008	7,04	126 863 861	893 121 581	127 605 204	475 111 000	7,00	3 325 349 400	3,72	79 %
2009	7,79	126 863 861	988 269 477	171 660 989	540 401 000	5,76	3 111 142 597	3,15	76 %
2010	12,00	126 863 861	1 522 366 332	260 291 404	417 672 000	5,849	2 442 838 226	1,60	62 %
2011	7,50	126 997 200	953 748 972	158 786 144	438 016 000	6,007	2 630 943 104	2,76	73 %
2012	10,60	127 197 194	1 341 930 397	240 007 583	502 574 000	5,591	2 809 991 749	2,09	68 %
2013	10,40	127 197 194	1 322 850 818	217 520 483	109 929 000	6,082	668 533 214	0,51	34 %
2014	4,10	198 786 235	813 035 701	109 427 543	238 348 000	7,430	1 770 901 805	2,18	69 %
2015	0,90	261 197 194	242 913 390	29 573 094	227 196 000	8,214	1 866 187 944	7,68	88 %
Mean							2,96	68,5 %	
Average last 4 yrs							3,04	66,3 %	
DOF	Share price	No. of shares	Market value of EQ	NIBD	NIBD/EQ	Financial leverage			
2008	29,99	82 767 975	2 482 211 570	10 032 466 000	4,04	80,2 %			
2009	32,91	87 730 811	2 887 220 990	11 435 161 000	3,96	79,8 %			
2010	46,44	91 037 975	4 227 803 559	15 757 000 000	3,73	78,8 %			
2011	28,00	96 464 574	2 701 008 072	19 832 000 000	7,34	88,0 %			
2012	25,70	111 051 348	2 854 019 644	19 284 000 000	6,76	87,1 %			
2013	31,00	111 051 348	3 442 591 788	20 370 000 000	5,92	85,5 %			
2014	10,50	111 051 348	1 166 039 154	20 504 000 000	17,58	94,6 %			
2015	3,95	111 051 348	438 652 825	20 962 000 000	47,79	98,0 %			
Mean				12,14	86,5 %				
Average last 4 yrs				17,08	90,6 %				
Siem	Share price	No. of shares	Market value of EQ	Market value EQ USD	NIBD USD	USD/NOK	NIBD NOK	NIBD/EQ	Financial leverage
2008	8,20	253 892 000	2 081 914 400	297 454 587	256 389 000	7,00	1 794 492 250	0,86	46 %
2009	8,90	292 474 000	2 603 018 600	452 140 592	354 237 000	5,76	2 039 377 833	0,78	44 %
2010	10,85	377 417 000	4 094 974 450	700 151 222	689 721 000	5,85	4 033 971 213	0,99	50 %
2011	8,30	395 902 000	3 285 986 600	547 071 772	806 779 000	6,01	4 845 918 064	1,47	60 %
2012	7,60	395 665 000	3 007 054 000	537 819 073	700 041 000	5,59	3 914 069 239	1,30	57 %
2013	7,60	389 078 000	2 956 992 800	486 227 543	876 312 000	6,08	5 329 291 428	1,80	64 %
2014	2,16	387 591 000	837 196 560	112 679 385	1 096 737 000	7,43	8 148 646 236	9,73	91 %
2015	1,85	842021380,00	1 557 739 553	189 736 852	985 433 000	8,21	8 090 404 930	5,19	84 %
Mean							2,77	61,9 %	
Average last 4 yrs							3,90	71,0 %	
Average financial leverage peer group			68,6 %						

A.17: PSV dayrates – calculations and output

The regression analysis performed was a single regression. The dependent variable being spot rates (GBP) for medium PSV's and the explanatory variable as oil price (USD). The simple regression was done due to a multiple regression with PSV vessels and rig fleet did not give significant results.

For us perform the single regression successfully we had to transform the values into Ln numbers in order to make them comparable. The linear regression is based on historical data from 2005-2015.

The Ln numbers were transformed into Ln growth in order to account for non-stationarity in the data. The disadvantage of differencing is that you lose one observation.

PSV			
Year	Oil price	Spot rates PSV - GBP	
2005	53	6050	
2006	64	10871	
2007	71	13996	
2008	97	13078	
2009	62	8976	
2010	79	9713	
2011	104	11851	
2012	105	12939	
2013	104	12450	
2014	96	10950	
2015	48	6854	
Growth in LN			
Year	Oil price	Spot rates PSV	
2006	0,19	0,59	
2007	0,10	0,25	
2008	0,31	-0,07	
2009	-0,45	-0,38	
2010	0,24	0,08	
2011	0,27	0,20	
2012	0,01	0,09	
2013	-0,01	-0,04	
2014	-0,08	-0,13	
2015	-0,69	-0,47	
2016	-0,16		
2017	0,16		
2018	0,10		
2019	0,04		
2020	0,04		
2021	0,05		
2022	0,00		
2023	0,00		

Year	LN oil price	LN spot rates medium PSVs
2005	3,97029191	8,7078
2006	4,15888308	9,2939
2007	4,26267988	9,5465
2008	4,57471098	9,4787
2009	4,12713439	9,1023
2010	4,36944785	9,1812
2011	4,6443909	9,3802
2012	4,65396035	9,4680
2013	4,6443909	9,4295
2014	4,56434819	9,3011
2015	3,87120101	8,8326

SUMMARY OUTPUT - PSV

Regression Statistics	
Multiple R	0,771170957
R Square	0,594704644
Adjusted R Square	0,544042725
Standard Error	0,206656498
Observations	10

Summary - output		
R-Square	0,59470	
	Beta coefficient	P-value
Constant	0,0196	0,7717
Ln Growth Oil	0,7210	0,0090

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	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>
Regression	1	0,50132322	0,50132322	11,73869151	0,009005478
Residual	8	0,34165526	0,04270691		
Total	9	0,84297848			

	Coefficients	Standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	0,019621791	0,06538378	0,3001018	0,771749618	-0,131153482	0,17039706	-0,13115348	0,170397063
Ln Growth Oil	0,720992068	0,21043629	3,42617739	0,009005478	0,235725107	1,20625903	0,23572511	1,206259028

Forecasted PSV DAYRATES

Year	Oil price	Spot rates PSV - GBP	%-change
2005	53	6050	
2006	64	10871	80 %
2007	71	13996	29 %
2008	97	13078	-7 %
2009	62	8976	-31 %
2010	79	9713	8 %
2011	104	11851	22 %
2012	105	12939	9 %
2013	104	12450	-4 %
2014	96	10950	-12 %
2015	48	6854	-37 %
2016	41	6239	-9 %
2017	48	7128	14 %
2018	53	7808	10 %
2019	55	8178	5 %
2020	57	8558	5 %
2021	60	9056	6 %
2022	60	9236	2 %
2023	60	9419	2 %

A.18: AHTS dayrates – calculations and output

AHTS

Year	Rig fleet	Oil price	Number of high-end AHTS	Spot rates North Sea AHTS > 18000 BHPs (GBP)	
2005	476		53	92	24970
2006	495		64	97	52110
2007	501		71	111	52220
2008	525		97	126	57997
2009	482		62	143	19115
2010	474		79	186	16210
2011	565		104	220	25001
2012	585		105	237	18789
2013	694		104	286	29101
2014	641		96	320	30210
2015	555		48	316	16895

In order to calculate the AHTS day rates, a multiple regression was performed. The data horizon is the same as in the simple regression for PSV day rates, 2005-2015. The dependent variable was North Sea spot rates for high-end AHTS vessels (>18000 bhp). Explanatory variables were rig fleet, oil price, and number of high-end AHTS vessels in the market.

Year	Ln Rig	Ln Oil	Ln AHTS	Ln spot rates	
2005	6,1654		3,9703	4,5218	10,1254
2006	6,2046		4,1589	4,5747	10,8611
2007	6,2166		4,2627	4,7095	10,8632
2008	6,2634		4,5747	4,8363	10,9681
2009	6,1779		4,1271	4,9628	9,8582
2010	6,1612		4,3694	5,2257	9,6934
2011	6,3368		4,6444	5,3936	10,1267
2012	6,3716		4,6540	5,4681	9,8410
2013	6,5425		4,6444	5,6560	10,2785
2014	6,4630		4,5643	5,7683	10,3159
2015	6,3190		3,8712	5,7557	9,7348

SUMMARY OUTPUT - AHTS

Regression Statistics	
Multiple R	0,800678194
R Square	0,64108557
Adjusted R Square	0,487265101
Standard Error	0,335593121
Observations	11

ANOVA					
	df	SS	MS	F	Significance F
Regression	3	1,40815099	0,46938366	4,167752	0,05470195
Residual	7	0,7883592	0,11262274		
Total	10	2,19651019			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-4,471009194	7,67247442	-0,58273367	0,57835276	-22,6135283	13,6715099	-22,6135283	13,6715099
Ln Rig	3,235854453	1,5908878	2,03399287	0,08143157	-0,52599743	6,997706333	-0,52599743	6,99770633
Ln Oil	1,898142973	0,47283416	0,38028223	0,10644354	-0,93826469	1,29788554	-0,93826469	1,29788554
Ln AHTS	-1,243959728	0,36835594	-3,37705897	0,01180598	-2,11498311	-0,372936342	-2,11498311	-0,37293634

Forecasting AHTS dayrates

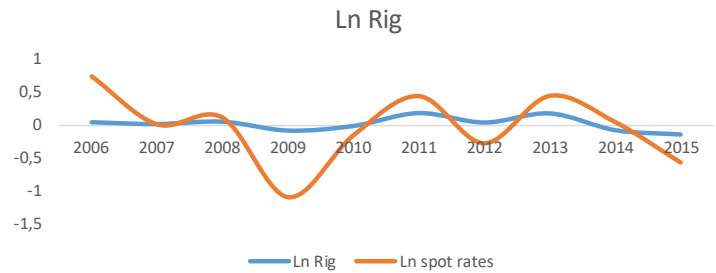
Year	Rig fleet	Oil price	# of high-end AHTS	Spot rates AHTS - GBP	%-change
2005	476	53	92	24970	
2006	495	64	97	52110	109 %
2007	501	71	111	52220	0 %
2008	525	97	126	57997	11 %
2009	482	62	143	19115	-67 %
2010	474	79	186	16210	-15 %
2011	565	104	220	25001	54 %
2012	585	105	237	18789	-25 %
2013	694	104	286	29101	55 %
2014	641	96	320	30210	4 %
2015	555	48	316	16895	-44 %
2016	520	41	320	10484	-38 %
2017	546	48	325	12389	18 %
2018	573	53	342	13861	12 %
2019	602	55	352	15765	14 %
2020	632	57	360	18068	15 %
2021	664	60	377	20163	12 %
2022	697	60	380	23379	16 %
2023	732	60	380	27378	17 %

Summary - output		
R-Square	0,64109	
	Beta coefficient	P-value
Intercept	-4,4710	0,5784
Ln Rig	3,2359	0,0814
Ln Oil	1,8981	0,1064
Ln AHTS	-1,2440	0,0118

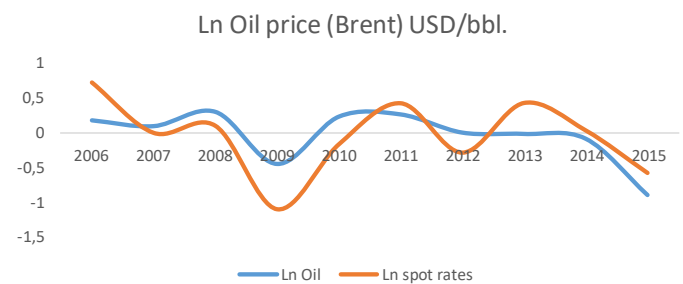
The results indicate that an increase in number of rigs and an increase in oil price affect day rates positively. Conversely, additional AHTS vessels in the market will affect day rates negatively. This is in line with our findings in the strategic analysis, and we therefor believe the data to be meaningful.

AHTS stationarity issue

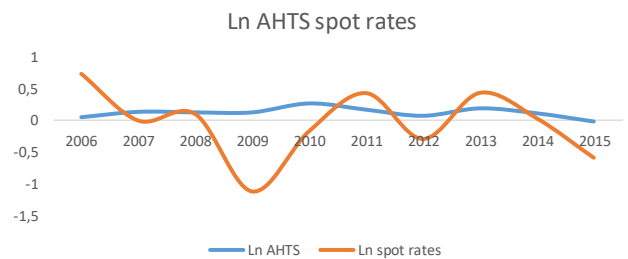
Year	Ln Rig	Ln spot rates
2006	0,039139908	0,735681765
2007	0,012048339	0,002108694
2008	0,046792162	0,104925722
2009	-0,085454149	-1,109917918
2010	-0,016736792	-0,164845031
2011	0,175618409	0,433287488
2012	0,034786116	-0,285644232
2013	0,170860113	0,437500946
2014	-0,079442504	0,037400458
2015	-0,144061343	-0,581155275



Year	Ln Oil	Ln spot rates
2006	0,18859117	0,735681765
2007	0,103796794	0,002108694
2008	0,312031101	0,104925722
2009	-0,447576593	-1,109917918
2010	0,242313467	-0,164845031
2011	0,274943047	0,433287488
2012	0,009569451	-0,285644232
2013	-0,009569451	0,437500946
2014	-0,080042708	0,037400458
2015	-0,900786545	-0,581155275



Year	Ln AHTS	Ln spot rates
2006	0,052922401	0,735681765
2007	0,134819223	0,002108694
2008	0,126751706	0,104925722
2009	0,126562723	-1,109917918
2010	0,262902043	-0,164845031
2011	0,167880873	0,433287488
2012	0,074432595	-0,285644232
2013	0,18793167	0,437500946
2014	0,112329185	0,037400458
2015	-0,012578782	-0,581155275



We did not adjust the data series for stationarity as the results proved not significant and was therefore rejected. We realized that the data was too small for adjustments in stationarity proved meaningful. Consulting with a statistician confirmed our beliefs. This is one of the disadvantages of working with a small sample size. However, we believe the results proved meaningful and relevant when comparing our findings in the strategic analysis.

While we did not adjust the data in the AHTS regression analysis, we plotted the standard residuals against the predicted variables in order for the reader to see data set graphically.

A. 19: Subsea day rates

Based on the findings in the strategic analysis

Scenario	-5%	5%	20%	20%	5%	2%	2%	2%
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Subsea Solstad

	2015	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
Income per vessel	29.082	27.628	29.009	34.811	41.774	43.862	44.739	45.634	46.547

Earnings are divided on total operational days, and further allocated to total number of Subsea vessels Solstad has in the segment. Since Solstad's Subsea fleet primarily operates on long-term contracts, this method will catch the average level of all the contracts for Solstad, and give a general indication to where the day rates lies for the Subsea segment.

Overview of day rates

Year	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
North sea spot rate AHTS (GBP)	16.895	10.484	12.389	13.861	15.765	18.068	20.163	23.379	27.378
YoY Growth		-38%	18%	12%	14%	15%	12%	16%	17%
Year	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
North sea spot rate PSV (GBP)	6.854	6.239	7.128	7.808	8.178	8.558	9.056	9.236	9.419
YoY Growth		-9%	14%	10%	5%	5%	6%	2%	2%
Year	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
North sea spot rate Subsea (GBP=)	29.082	27.628	27.075	32.491	38.989	40.938	41.757	42.592	43.444
YoY Growth		-5%	-2%	20%	20%	5%	2%	2%	2%

Spot rates for each vessel-segment

Share price	2015	Utilization	TYPE	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	Adjustment factor vessel class
8,2												
35 325	90%		AHTS>20000 BHP	10 484 80%	12 389 80%	13 861 80%	15 765 80%	18 068 80%	20 163 80%	23 379 80%	27 378 80%	
27 157	90%		AHTS 15000-20000	8 912 75%	10 531 75%	11 782 75%	13 400 75%	15 358 75%	17 138 75%	19 872 75%	23 271 75%	-15%
16 361			AHTS 10000-15000	6 291 65%	7 434 65%	8 317 65%	9 459 65%	10 841 65%	12 098 65%	14 028 65%	16 427 65%	-40%
20 076	85%		PSV<4000 DWT	6 239 85%	7 128 80%	7 808 85%	8 178 85%	8 558 85%	9 056 85%	9 236 85%	9 419 85%	
14 896	73%		PSV<4000 DWT	5 802 75%	6 629 75%	7 261 75%	7 606 75%	7 959 75%	8 422 75%	8 589 75%	8 759 75%	-7%
	85%		Subsea >120 LOA	27 628 100%	29 009 100%	34 811 100%	41 774 100%	43 862 100%	44 739 100%	45 634 100%	46 547 100%	
	85%		Subsea <120 LOA	22 102 100%	23 208 100%	27 849 100%	33 419 100%	35 090 100%	35 792 100%	36 507 100%	37 238 100%	-20%

Adjustment factors in spot rates have been added to vessel segments in order to try and capture the difference in vessel size.

A.20: Revenue stream for each vessel – Solstad

Solstad Fleet															
Name	Type	Age	DWT	Class	Location	Ownership	Status	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
PSV															
Normand Arctic	PSV	5	4900	High	Norway	100 %	Spot	6 239	7 128	7 808	8 178	8 558	9 056	9 236	9 419
Normand Corona	PSV	10	4100	High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Aurora	PSV	11	4900	High	UK	100 %	Contract	19 164	19 164	7 808	8 178	8 558	9 056	9 236	9 419
Normand Skipper	PSV	11	6400	High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Flipper	PSV	13	4500	High	UK	100 %	Contract	15 727	7 128	7 808	8 178	8 558	9 056	9 236	9 419
Normand Vester	PSV	18	4590	High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Carrier	PSV	20	4560	High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Vibran	PSV	8	3240	Mid	Brazil	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Trym	PSV	10	3240	Mid	Brazil	100 %	Lay up	-	-	-	-	-	-	-	-
AHTS															
BHP															
Normand Ranger	AHTS	6	28000	Ultra High	Norway	100 %	Spot	10 484	12 389	13 861	15 765	18 068	20 163	23 379	27 378
Normand Prosper	AHTS	6	32000	Ultra High	Norway	100 %	Spot	10 484	12 389	13 861	15 765	18 068	20 163	23 379	27 378
Normand Ferking	AHTS	9	20000	High	Norway	100 %	Contract	27 728	27 728	11 782	13 400	15 358	17 138	19 872	23 271
Normand Master	AHTS	13	23500	Ultra High	Brazil	100 %	Contract	23 233	12 389	13 861	15 765	18 068	20 163	23 379	27 378
Normand Mariner	AHTS	14	23500	Ultra High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Ivan	AHTS	14	20000	High	Malaysia	100 %	Contract	8 912	10 531	11 782	13 400	15 358	17 138	19 872	23 271
Normand Borg	AHTS	16	16800	High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Atlantic	AHTS	19	19400	High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Neptun	AHTS	20	19400	High	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Titan	AHTS	9	16920	High	Brazil	100 %	Contract	25 571	25 571	25 571	13 400	15 358	17 138	19 872	23 271
Nor Chief	AHTS	8	10800	Low	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Nor Spring	AHTS	8	8000	Low	UAE	100 %	Contract/spot	6 291	7 434	8 317	9 459	10 841	12 098	14 028	16 427
Nor Captain	AHTS	9	10880	Low	Singapore	100 %	Contract/spot	6 291	7 434	8 317	9 459	10 841	12 098	14 028	16 427
Nor Tigerfish	AHTS	9	5500	Low	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Nor Star	AHTS	11	5500	Low	Mediterranean	100 %	Contract	11 375	7 434	8 317	9 459	10 841	12 098	14 028	16 427
Normand Skarven	AHTS	30	13000	Low	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Subsea															
Size															
Normand TBN	CSV	0	180	High	Norway	100 %	Contract	64 063	64 063	64 063	64 063	64 063	64 063	64 063	64 063
Normand Reach	CSV	2	121	High	Norway	100 %	Contract	22 750	22 750	22 750	22 750	31 164	44 739	45 634	46 547
Normand Vision	CSV	2	156,7	High	Norway	100 %	Contract	25 601	25 601	25 601	25 601	25 601	44 739	45 634	46 547
Normand Oceanic	CSV	5	156,9	High	Norway	50 %	Contract	11 375	11 375	17 406	20 887	21 931	22 370	22 817	23 273
Normand Pacific	CSV	6	122	High	Mexico	100 %	Contract	25 601	29 009	34 811	41 774	43 862	44 739	45 634	46 547
Normand Baltic	CSV	7	95	Low	Singapore	100 %	Contract	22 102	23 208	27 849	33 419	35 090	35 792	36 507	37 238
Norce Endeavor	DLB	5	146,3	High	Thailand	100 %	Contract	25 601	29 009	34 811	41 774	43 862	44 739	45 634	46 547
Normand Subsea	CSV	7	113	Low	Norway	100 %	Contract	25 601	23 208	27 849	33 419	35 090	35 792	36 507	37 238
Nor Australis	CSV	7	82	Low	Australia	100 %	Contract	25 601	25 601	27 849	33 419	35 090	35 792	36 507	37 238
Nor Valiant	CSV	8	78	Low	Mexico	100 %	Contract	13 404	19 148	19 148	19 148	35 090	35 792	36 507	37 238
Normand Seven	CSV	9	130	High	Brazil	100 %	Contract	25 601	25 601	34 811	41 774	43 862	44 739	45 634	46 547
Normand Installer	CSV	10	124	High	Angola	50 %	Contract	11 375	14 505	17 406	20 887	21 931	22 370	22 817	23 273
Normand Commander	CSV	10	93	Low	Mexico	100 %	Contract	25 601	23 208	27 849	33 419	35 090	35 792	36 507	37 238
Normand Fortress	CSV	10	93,5	Low	Mexico	100 %	Contract	25 601	23 208	27 849	33 419	35 090	35 792	36 507	37 238
Normand Flower	CSV	14	93	Low	Norway	100 %	Contract	25 601	25 601	27 849	33 419	35 090	35 792	36 507	37 238
Normand Mermaid	CSV	14	90	Low	Norway	100 %	Contract	25 601	36 572	36 572	33 419	35 090	35 792	36 507	37 238
Normand Cutter	CSV	15	127,5	High	US GoM	100 %	Contract	25 601	29 009	34 811	41 774	43 862	44 739	45 634	46 547
Normand Clipper	CSV	15	127,5	High	US GoM	100 %	Contract	25 601	25 601	34 811	41 774	43 862	44 739	45 634	46 547
Normand Pioneer	CSV	17	95	Low	Norway	100 %	Lay up	-	-	-	-	-	-	-	-
Normand Progress	CSV	17	95	Low	Norway	100 %	Spot	22 102	23 208	27 849	33 419	35 090	35 792	36 507	37 238

GBP/NOK	11,0							
Segment income	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
AHTS>20000 BHP								
Utilization	80 %		80 %	80 %	80 %	80 %	80 %	80 %
Freight income	44 202		37 168	41 584	47 295	54 204	60 488	82 133
Total GBP	35 361		29 734	33 267	37 836	43 363	48 391	65 707
Total NOK	388 976		327 076	365 939	416 194	476 991	532 296	722 774
Growth			-15,9%	11,9%	13,7%	14,6%	12 %	17 %
AHTS 15000-20000 BHP								
Utilization	80 %		75 %	75 %	75 %	75 %	75 %	75 %
Freight income	62 211		63 830	49 135	40 201	46 073	51 415	69 813
Total USD	49 769		47 872	36 851	30 150	34 555	38 561	52 360
Total NOK	547 456		526 597	405 364	331 655	380 102	424 174	575 960
Growth			-3,8%	-23,0%	-18,2%	14,6%	12 %	17 %
AHTS 10000-15000 BHP								
Utilization	65 %		65 %	65 %	65 %	65 %	65 %	65 %
Freight income	23 956		22 301	24 950	28 377	32 522	36 293	49 280
Total GBP	15 572		14 495	16 218	18 445	21 139	23 590	32 032
Total NOK	171 288		159 450	178 395	202 895	232 533	259 494	352 352
Growth			-6,9%	11,9%	13,7%	14,6%	12 %	17 %
Total AHTS	1 107 720		1 013 123	949 697	950 744	1 089 626	1 215 965	1 651 087
Growth			-8,5%	-6,3%	0,1%	14,6%	12 %	17 %
PSV>3500								
Utilization	85 %		80 %	85 %	85 %	85 %	85 %	85 %
Freight income	41 129		33 420	23 424	24 535	25 673	27 169	28 256
Total GBP	34 960		26 736	19 910	20 854	21 822	23 093	24 018
Total NOK	384 560		294 099	219 013	229 398	240 047	254 026	264 193
Growth			-23,5%	-25,5%	4,7%	4,6%	6 %	2 %
PSV< 3500								
Utilization	75 %		75 %	75 %	75 %	75 %	75 %	75 %
Freight income	0		0	0	0	0	0	0
Total GBP	0		0	0	0	0	0	0
Total NOK	0		0	0	0	0	0	0
Growth			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total PSV	384 560		294 099	219 013	229 398	240 047	254 026	264 193
Growth			-23,5%	-25,5%	4,7%	4,6%	6 %	2 %
Subsea >120 LOA								
Utilization	100 %		100 %	100 %	100 %	100 %	100 %	100 %
Freight income	263 166		276522,4378	321281,1137	363054,6309	384001,0696	421978,4951	429136,805
Total GBP	263 166		276 522	321 281	363 055	384 001	421 978	429 137
Total NOK	2 894 828		3 041 747	3 534 092	3 993 601	4 224 012	4 641 763	4 800 821
Growth			5,1%	16,2%	13,0%	5,8%	10 %	2 %
Subsea <120 LOA								
Utilization	100 %		100 %	100 %	100 %	100 %	100 %	100 %
Freight income	211 212		222 959	250 663	286 498	315 808	322 123,95	328 566
Total GBP	211 212		222 959	250 663	286 498	315 808	322 124	328 566
Total NOK	2 323 327		2 452 546	2 757 295	3 151 483	3 473 886	3 543 363	3 614 231
Growth			5,6%	12,4%	14,3%	10,2%	2 %	2 %
Total CSV	5 218 154		5 494 293	6 291 388	7 145 084	7 697 897	8 185 127	8 334 736
Growth			5,3%	14,5%	13,6%	7,7%	6 %	2 %
Estimated avg. Income per day	6 710 434		6 801 515	7 460 098	8 325 226	9 027 570	9 655 117	10 003 747
Annual avg. Income	2 449 308 485		2 482 553 021	2 722 935 649	3 038 707 407	3 295 062 994	3 524 117 834	3 651 367 776
Total growth	-30,9%		1,4%	9,7%	11,6%	8,4%	7,0%	3,6%
End 2015								
3 546 418 000								

A.21: Solstad historical and budgeting period

Pro forma income statement, balance sheet and FCF-statement. Budgeting period and terminal period is included as part of the calculations used in the DCF and EVA-forecasting technologies.

Pro forma income statment, balance sheet and Free cash flow statement																	
	Historical Period									Budgeting Period						Terminal Period	
Forecasting	2008	2009	2010	2011	2012	2013	2014	2015	Average	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
Financial value drivers																	
Growth Driver																	
Freight income growth		18 %	4 %	14 %	11 %	6 %	7 %	-5 %	8 %	-30,9 %	1,4 %	9,7 %	11,6 %	8,4 %	7,0 %	2,5 %	2,5 %
Other income/Freight income	0 %	0 %	0 %	0 %	1 %	0 %	0 %	1 %	0,5%	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %
Gains/(losses) from sale of assets				0 %	2 %	1 %	1 %	0 %	0,7%	0,0 %	2,0 %	0,0 %	0,0 %	2,0 %	0,0 %	1,5 %	1,5 %
Cost driver																	
Crew expenses/freight income	26 %	29 %	34 %	37 %	34 %	35 %	33 %	34 %	33 %	25 %	27 %	29 %	30 %	31 %	31 %	31 %	31 %
Technical costs/freight income	15 %	14 %	14 %	14 %	13 %	13 %	10 %	8 %	13 %	8 %	8 %	8 %	8 %	8 %	8 %	8 %	8 %
Bunkers and lube oil/freight income	1 %	1 %	2 %	1 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %
Insurance, IT and other costs/fright income	5 %	6 %	10 %	11 %	6 %	6 %	10 %	15 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %
Total operating expenses vessels/freight income	47 %	50 %	60 %	62 %	55 %	56 %	55 %	59 %	56 %	43 %	45 %	47 %	48 %	49 %	49 %	49 %	49 %
Result from joint venture companies/freight income	2 %	0 %	0 %	0 %	1 %	2 %	2 %	2 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %
Gross profit margin	59 %	50 %	41 %	38 %	48 %	46 %	48 %	44 %	47 %	59 %	59 %	55 %	54 %	55 %	53 %	54 %	54 %
Employees, administration/freight income	3 %	3 %	3 %	3 %	3 %	5 %	5 %	5 %	4 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %
EBITDA margin	56 %	47 %	38 %	35 %	44 %	42 %	44 %	38 %	43 %	56 %	56 %	52 %	51 %	52 %	50 %	51 %	50 %
Depreciations/Non-current operating assets	7 %	7 %	5 %	7 %	4 %	3 %	3 %	13 %	6 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %
EBIT margin	31 %	18 %	13 %	4 %	26 %	30 %	31 %	-13 %	18 %	38 %	36 %	34 %	35 %	38 %	37 %	39 %	39 %
Efficient tax rate	-5 %	-7 %	-16 %	-126 %	-10 %	-20 %	-28 %	76 %	-17 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %
Tax on net financial items	27 %	27 %	27 %	27 %	27 %	27 %	27 %	27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %
NOPAT margin	30 %	17 %	11 %	-1 %	24 %	24 %	22 %	-24 %	13 %	37 %	34 %	33 %	34 %	36 %	36 %	38 %	35 %
Key ratios																	
ROIC before tax (beginning)		5,27 %	2,86 %	0,91 %	6,35 %	7,90 %	8,16 %	-3,14 %		5,65 %	5,47 %	5,85 %	6,90 %	8,24 %	8,81 %	9,82 %	9,96 %
ROIC after tax (beginning)		4,90 %	2,41 %	-0,24 %	5,74 %	6,28 %	5,88 %	-5,52 %		5,42 %	5,25 %	5,61 %	6,62 %	7,91 %	8,45 %	9,41 %	9,56 %
Invested capital turnover (beginning)		0,29x	0,22x	0,21x	0,25x	0,27x	0,27x	0,24x		0,17x	0,15x	0,17x	0,19x	0,21x	0,23x	0,24x	0,26x
Profit margin before tax		0,53x	0,47x	0,37x	0,35x	0,43x	0,41x	0,42x		0,38x	0,35x	0,34x	0,35x	0,37x	0,37x	0,38x	0,39x
Investement drivers																	
Total non-current operating assets	7 554 559	9 903 919	13 812 980	14 041 953	13 024 287	12 577 596	15 225 978	14 204 687		14 204 687	16 422 386	16 093 939	15 611 121	15 298 898	14 839 931	14 543 133	
Depreciations										-426 141	-492 672	-482 818	-468 334	-458 967	-445 198	-436 294	-423 205
CAPEX										2 643 840	-	-	-	-	-	-	
CAPEX maintenance									1 %	-	164 224	-	156 111	-	148 399	-	
Vessels primo										16 422 386	16 093 939	15 611 121	15 298 898	14 839 931	14 543 133	14 106 839	-423 205
NWC/freight income	9 %	10 %	3 %	9 %	3 %	14 %	10 %	13 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %
Financing drivers																	
NIBD/Invested capital	51 %	54 %	64 %	69 %	65 %	62 %	67 %	75 %	63 %	63 %	63 %	63 %	63 %	63 %	63 %	63 %	63 %
Interest rate	-22,1 %	5,3 %	-1,7 %	-4,2 %	-3,6 %	-5,3 %	-7,7 %	-8,3 %	-6 %	-6,0 %	-6,0 %	-6,0 %	-6,0 %	-6,0 %	-6,0 %	-6,0 %	0,0 %

Pro Forma Income statement - Reference case	2008	2009	2010	2011	2012	2013	2014	2015
Freight income	2 134 860	2 518 532	2 613 557	2 975 101	3 287 920	3 495 073	3 737 349	3 546 418
Other income	10 470	10 851	3 308	4 988	20 581	14 248	10 443	39 372
Gains/(losses) from sale of assets	63 550	-	-	-	53 702	26 274	46 591	-
Revenue	2 208 880	2 529 383	2 616 865	2 980 089	3 362 203	3 535 595	3 794 383	3 585 790
Income from investments in associated companies	40 799	2 413	2 511	9 433	19 929	63 327	64 655	64 854
Revenue incl. Income From Associated Companies	2 249 679	2 531 796	2 619 376	2 989 522	3 382 132	3 598 922	3 859 038	3 650 644
Crewing expenses	545 770	733 869	882 369	1 087 445	1 119 492	1 231 480	1 219 758	1 207 450
Operating expenses								
Technical cost	318 554	343 369	378 683	412 082	431 340	456 850	391 785	287 083
Bunkers and lube oil	24 392	36 284	40 412	37 101	66 018	67 938	69 789	78 539
Insurance, IT and other costs	106 569	153 335	258 638	314 207	201 509	217 845	374 887	534 052
Total operating costs vessels	995 285	1 266 837	1 560 102	1 850 835	1 818 359	1 974 113	2 056 219	2 107 124
Gross profit	1 254 394	1 264 939	1 059 274	1 138 687	1 563 773	1 624 809	1 802 819	1 543 520
%	59 %	50 %	41 %	38 %	48 %	46 %	48 %	44 %
Emoloyees, administration	62 521	70 383	78 426	92 332	109 507	159 775	174 356	188 114
EBITDA	1 191 873	1 194 556	980 848	1 046 355	1 454 266	1 465 034	1 628 463	1 355 406
%	56 %	47 %	38 %	35 %	44 %	42 %	44 %	38 %
Depreciations	520 851	728 948	638 593	918 526	584 817	431 366	461 827	1 829 546
EBIT	671 022	465 608	342 255	127 829	869 449	1 033 668	1 166 636	-474 140
%	31 %	18 %	13 %	4 %	26 %	30 %	31 %	-13 %
Tax from accounts	-34 836	-32 774	-54 209	-161 600	-83 514	-211 486	-325 780	-360 722
NOPAT	636 186	432 834	288 046	-33 771	785 935	822 182	840 856	-834 862
%	30 %	17 %	11 %	-1 %	24 %	24 %	22 %	-24 %
Interest expenses	-315 493	-254 153	-370 654	-549 593	-524 362	-449 970	-454 241	-480 426
Net financial items before tax	-941 313	400 742	-209 083	-570 439	-423 376	-587 862	-1 107 719	-1 243 431
Tax shield	94 131	-108 200	56 452	154 019	114 312	158 723	299 084	335 726
Net financial items after tax	-847 182	292 542	-152 631	-416 420	-309 064	-429 139	-808 635	-907 705
Net profit	-210 996	725 376	135 415	-450 191	476 870	393 042	32 221	-1 742 567
%	-10 %	29 %	5 %	-15 %	15 %	11 %	1 %	-49 %

2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
2 449 308	2 482 553	2 722 936	3 038 707	3 295 063	3 524 118	3 612 221	3 702 526
27 192	27 561	30 230	33 735	36 581	39 124	40 103	41 105
-	49 651	-	-	65 901	-	54 183	55 538
2 476 500	2 559 765	2 753 165	3 072 443	3 397 546	3 563 242	3 706 507	3 799 169
25 993	26 867	28 897	32 248	35 660	37 400	38 903	37 992
2 502 494	2 586 632	2 782 062	3 104 691	3 433 206	3 600 642	3 745 410	3 837 161
612 327	670 289	789 651	911 612	1 021 470	1 092 477	1 119 788	1 147 783
198 272	200 963	220 422	245 984	266 736	285 278	292 410	299 720
41 057	41 614	45 644	50 937	55 234	59 074	60 551	62 064
211 219	214 085	234 815	262 046	284 153	303 906	311 503	319 291
1 062 875	1 126 952	1 290 532	1 470 579	1 627 593	1 740 734	1 784 252	1 828 859
1 439 619	1 459 680	1 491 530	1 634 112	1 805 614	1 859 908	1 961 158	2 008 302
59 %	59 %	55 %	54 %	55 %	53 %	54 %	54 %
73 479	74 477	81 688	91 161	98 852	105 724	108 367	111 076
1 366 140	1 385 204	1 409 842	1 542 951	1 706 762	1 754 184	1 852 791	1 897 227
56 %	56 %	52 %	51 %	52 %	49 %	50 %	50 %
426 141	492 672	482 818	468 334	458 967	445 198	436 294	423 205
939 999	892 532	927 024	1 074 617	1 247 795	1 308 986	1 416 497	1 474 021
38 %	36 %	34 %	35 %	38 %	37 %	38 %	39 %
-38 540	-36 594	-38 008	-44 059	-51 160	-53 668	-58 076	-60 435
901 459	855 938	889 016	1 030 558	1 196 635	1 255 318	1 358 421	1 413 587
36 %	33 %	32 %	34 %	35 %	35 %	37 %	37 %
-628 547	-616 256	-598 839	-588 120	-571 658	-561 227	-545 049	-555 017
169 708	166 389	161 686	158 792	154 348	151 531	147 163	149 855
-458 840	-449 867	-437 152	-429 328	-417 310	-409 696	-397 886	-405 163
442 620	406 071	451 864	601 230	779 325	845 622	960 535	1 008 424
18 %	16 %	16 %	20 %	23 %	24 %	26 %	27 %

INVESTED CAPITAL - Balance Reference case	2008	2009	2010	2011	2012	2013	2014	2015	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
Assets																
Total non-current operating assets	7 554 559	9 903 919	13 812 980	14 041 953	13 024 287	12 577 596	15 225 978	14 204 687	16 422 386	16 093 939	15 611 121	15 298 898	14 839 931	14 543 133	14 106 839	14 459 510
Non-current liabilities	214 816	35 566	77 544	39 933	3 000	0	9 339	9 136								
Net working capital	192 141	260 393	79 124	255 180	98 004	505 381	358 164	471 029	220 438	223 430	245 064	273 484	296 556	317 171	325 100	333 227
Invested Capital	7 530 828	10 128 560	13 811 092	14 235 865	13 139 076	13 034 975	15 560 096	14 666 580	16 642 824	16 317 368	15 856 185	15 572 382	15 136 487	14 860 303	14 431 938	14 792 737
Equity, beginning									3 667 575	6 088 741	5 969 674	5 800 950	5 697 122	5 537 651	5 436 609	5 279 893
Net profit									442 620	406 071	451 864	601 230	779 325	845 622	960 535	1 008 424
Dividends									1 978 546	-525 139	-620 587	-705 059	-938 796	-946 663	-1 117 251	-815 004
Equity, end	3 697 624	4 630 320	4 989 443	4 415 914	4 624 933	4 954 275	5 057 532	3 667 575	6 088 741	5 969 674	5 800 950	5 697 122	5 537 651	5 436 609	5 279 893	5 473 313
Net-interest bearing debt (NIBD)	3 833 204	5 498 240	8 821 649	9 819 951	8 514 143	8 080 700	10 502 564	10 999 005	10 554 083	10 347 695	10 055 234	9 875 260	9 598 836	9 423 694	9 152 045	9 319 424
								287 %								
Invested Capital	7 530 828	10 128 560	13 811 092	14 235 865	13 139 076	13 034 975	15 560 096	14 666 580	16 642 824	16 317 368	15 856 185	15 572 382	15 136 487	14 860 303	14 431 938	14 792 737
	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN
Cash flow statement									2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
NOPAT									901 459	855 938	889 016	1 030 558	1 196 635	1 255 318	1 358 421	1 413 587
Depreciations									426 141	492 672	482 818	468 334	458 967	445 198	436 294	423 205
Changes in net working capital									250 591	-2 992	-21 634	-28 419	-23 072	-20 615	-7 929	-8 127
Deferred income									-9 136	-	-	-	-	-	-	-
Cash flow from operations									1 569 055	1 345 618	1 350 200	1 470 472	1 632 530	1 679 901	1 786 785	1 828 664
Investments, Vessels, Equipment and vehicles (CAPEX)									-2 643 840	-164 224	-	-156 111	-	-148 399	-	-775 876
Free cash flow to the firm									-1 074 785	1 181 394	1 350 200	1 314 361	1 632 530	1 531 502	1 786 785	1 052 788
Changes in NIBD									-444 922	-206 388	-292 461	-179 974	-276 424	-175 142	-271 648	167 379
Net financial expenses after tax									-458 840	-449 867	-437 152	-429 328	-417 310	-409 696	-397 886	-405 163
FCFE									-1 978 546	525 139	620 587	705 059	938 796	946 663	1 117 251	815 004
Dividends									1 978 546	-525 139	-620 587	-705 059	-938 796	-946 663	-1 117 251	-815 004

CAPEX is calculated on the information presented in the annual report. One vessel is due in mid-2016 and is therefore calculated as part of CAPEX in 2016. Rest of CAPEX expenses are maintenance cost of vessels as we expect Solstad not to enter into any significant investment projects before they are able to pay down their debt obligations.

A.22: Multiple analysis calculations Solstad peer group

EV/GAV end of 2015	Solstad	Farstad	DOF	DESSC (USD)	Siem
Market value fleet, GAV	18 033 000 000	18 700 000 000	34 000 000 000	830 000 000	1 900 000 000
EV/GAV company	0,60x	0,59x	0,67x	0,54x	0,68x
Average EV/GAV peers	0,62x	0,62x	0,62x	0,62x	0,62x
EV, based on company	10 857 224 405	11 060 000 000	22 630 000 000	448 000 000	1 285 000 000
EV, based on average of peers	11 149 384 232	11 561 774 810	21 021 408 745	513 169 684	1 174 725 783
NIBD	10 554 083 382	10 793 000 000	22 523 000 000	402 000 000	1 096 737 000
Market value, company	303 141 022	267 000 000	107 000 000	46 000 000	188 263 000
Market value , peers	595 300 850	768 774 810	-1 501 591 255	111 169 684	77 988 783
# shares	38 324 000	39 000 000	111 051 348	198 786 235	387 591 000
Market value per share	7,9	6,8	1,0	1,7	3,6
Market value per share	15,5	19,7	-13,5	4,2	1,5
Share price 18/04/2016	15,71	13,10	3,51	0,96	1,85

EV/EBITDA 2016e	Solstad	Farstad	DOF	DESSC (USD)	Siem
EBITDA 2016e	1 366 139 816	834 000 000	2 795 000 000	5 000 000	98 000 000
EV/EBITDA company	7,95x	10,20x	9,10x	21,20x	10,50x
Average EV/EBITDA peers	11,42x	11,42x	11,42x	11,42x	11,42x
EV, based on company	10 857 224 405	8 506 800 000	25 434 500 000	106 000 000	1 029 000 000
EV, based on average of peers	15 597 997 485	9 522 253 686	31 912 109 175	57 087 852	1 118 921 896
NIBD	10 554 083 382	10 793 000 000	22 523 000 000	402 000 000	1 096 737 000
Market value, company	303 141 022	-2 286 200 000	2 911 500 000	-296 000 000	-67 737 000
Market value , peers	5 043 914 102	-1 270 746 314	9 389 109 175	-344 912 148	22 184 896
# shares	38 324 000	39 000 000	111 051 348	198 786 235	387 591 000
Market value per share	7,9	-58,6	26,2	-11,1	-1,3
Market value per share	131,6	-32,6	84,5	-12,9	0,4

Comapny	EV/GAV	EV/EBITDA 2016e	EV/EBITDA 2017e	EV/EBITDA 2018e	P/B 2016e	P/B 2017e
DOF	0,67x	9,1x	9,6x	11,5x	0,1x	0,1x
Deep Sea Supply Plc	0,54x	21,2x	23,5x	24,5x	0,1x	0,1x
Siem	0,68x	10,5x	12,4x	16,9x	0,1x	0,1x
Farstad Shipping ASA	0,59x	10,2x	9,4x	10,5x	0,1x	0,1x
Harmonic mean	0,61x	11,42x	11,99x	14,18x	0,1x	0,1x
Solstad Offshore	0,60x	7,95x	7,84x	7,70x	0,1x	0,1x

avg. Peers 0,62x

Company	EV	GAV
DOF	22 630 000 000	34 000 000 000
Deep Sea Supply Plc	448 000 000	830 000 000
Siem	1 285 000 000	1 900 000 000
Farstad Shipping ASA	11 060 000 000	18 700 000 000
Solstad	10 857 224 405	18 033 000 000

- GAV is found in each company's respective annual report.

A.23: Sensitivity analysis calculations

Beta		Liquidity premium		Risk free rent		Credit spread		WACC +1,5		WACC -1,5	
Share price		Share price		Share price		Share price		Share price		Share price	
Adjusted	8,2	Adjusted	8,2	Adjusted	8,2	Adjusted	8,2	10,7	8,2	10,7	8,2
0,02	-6,7	+1%	-5,4	+0,5%	1,6	-1 %	10,3	11,2	-8,9	10,2	28,5
-0,02	26,2	-1 %	24,6	-0,5%	16,5	-2 %	27,7	11,7	-24,7	9,7	50,9
-0,04	45,5	No premium	51,1	+1,0%	-5,4	-3 %	47,1	12,2	-39,0	9,2	76,5
-0,06	67,1										

WACC vs. Growth

WACC								
Growth	Optimistic		Realistic			Pessemistic		
	8,7	9,20 %	9,70 %	10,20 %	10,70 %	11,20 %	11,70 %	12,20 %
	1,00 %	34,6	15,3	-2,0	-17,7	-31,9	-44,8	-56,7
	1,50 %	46,8	25,7	7,0	-9,8	-25,0	-38,8	-51,4
	2,00 %	60,6	37,5	17,1	-1,1	-17,4	-32,1	-45,5
	2,50 %	76,5	50,9	28,5	8,7	-8,9	-24,7	-39,0
	3,00 %	94,9	66,3	41,5	19,8	0,6	-16,5	-31,9
	3,50 %	116,6	84,2	56,5	32,4	11,4	-7,3	-23,9
	4,00 %	142,5	105,3	73,8	46,9	23,6	3,2	-14,9

		WACC						
		-1,50 %	-1,00 %	-0,50 %	10,70 %	11,20 %	11,70 %	12,20 %
Growth	2,00 %	60,6	37,5	17,1	-1,1	-17,4	-32,1	-45,5
	2,50 %	76,5	50,9	28,5	8,7	-8,9	-24,7	-39,0
	3,00 %	94,9	66,3	41,5	19,8	0,6	-16,5	-31,9

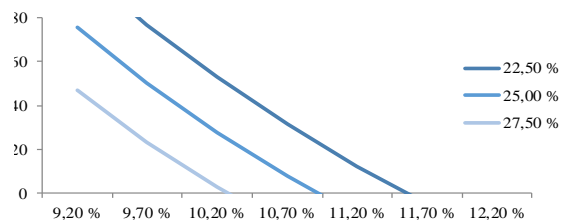
		WACC						
Crew expenses		Optimistic			Realistic		Pessemistic	
	8,2	9,20%	9,70%	10,20%	10,70%	11,20%	11,70%	12,20%
	22,50%	104,5	76,9	52,8	31,5	12,6	-4,4	-19,8
	25,00%	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	27,50%	47,1	23,6	3,0	-15,2	-31,4	-46,0	-59,2
	30,00%	18,4	-3,1	-21,9	-38,5	-53,4	-66,8	-78,8
	32,50%	-10,3	-29,8	-46,8	-61,9	-75,4	-87,5	-98,5
	35,00%	-39,0	-56,4	-71,7	-85,3	-97,4	-108,3	-118,2
	37,50%	-67,7	-83,1	-96,6	-108,6	-119,4	-129,1	-137,9

		WACC						
Technical		Optimistic			Realistic		Pessemistic	
	8,2	9,20%	9,70%	10,20%	10,70%	11,20%	11,70%	12,20%
	5,10%	110,2	82,3	57,8	36,2	17,0	-0,3	-15,8
	6,10%	98,7	71,6	47,9	26,9	8,2	-8,6	-23,7
	7,10%	87,2	60,9	37,9	17,5	-0,6	-16,9	-31,6
	8,10%	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	9,10%	64,3	39,6	18,0	-1,2	-18,2	-33,5	-47,3
	10,10%	52,8	28,9	8,0	-10,5	-27,0	-41,8	-55,2
	11,10%	41,3	18,2	-2,0	-19,9	-35,8	-50,1	-63,1

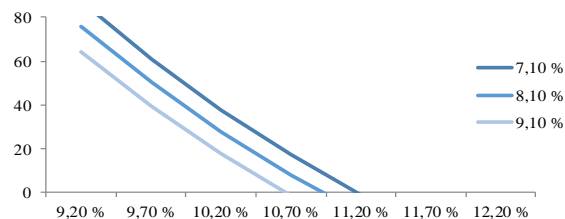
		WACC						
Bunkers lub		Optimistic			Realistic		Pessemistic	
	8,2	9,20%	9,70%	10,20%	10,70%	11,20%	11,70%	12,20%
	1,00%	83,5	57,5	34,7	14,5	-3,5	-19,6	-34,1
	1,50%	77,8	52,1	29,7	9,8	-7,9	-23,7	-38,1
	1,68%	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	2,18%	70,0	44,9	22,9	3,5	-13,8	-29,4	-43,4
	2,68%	64,3	39,6	18,0	-1,2	-18,2	-33,5	-47,3
	3,18%	58,5	34,3	13,0	-5,8	-22,6	-37,7	-51,3
	3,68%	52,8	28,9	8,0	-10,5	-27,0	-41,8	-55,2

		WACC						
Insurance ++		Optimistic			Realistic		Pessemistic	
	8,2	9,20%	9,70%	10,20%	10,70%	11,20%	11,70%	12,20%
	7,12%	93,0	66,3	42,9	22,2	3,8	-12,7	-27,7
	7,62%	87,2	60,9	37,9	17,5	-0,6	-16,9	-31,6
	8,12%	81,5	55,6	32,9	12,9	-5,0	-21,0	-35,5
	8,62%	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	9,12%	70,0	44,9	22,9	3,5	-13,8	-29,4	-43,4
	9,62%	64,3	39,6	18,0	-1,2	-18,2	-33,5	-47,3
	10,12%	58,5	34,3	13,0	-5,8	-22,6	-37,7	-51,3

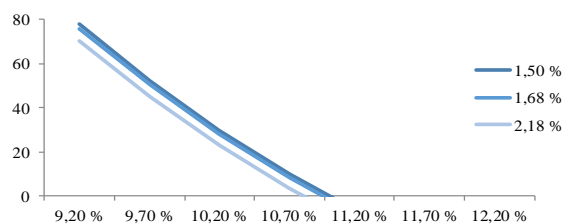
Crew expenses	WACC							
	9,20 %	9,70 %	10,20 %	10,70 %	11,20 %	11,70 %	12,20 %	
	22,50 %	104,5	76,9	52,8	31,5	12,6	-4,4	-19,8
	25,00 %	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	27,50 %	47,1	23,6	3,0	-15,2	-31,4	-46,0	-59,2



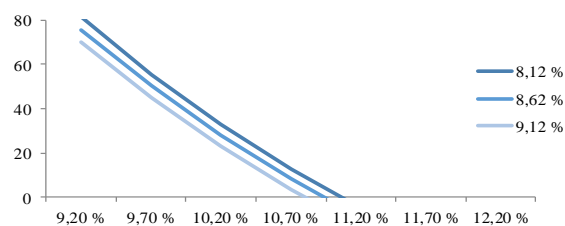
Technical	WACC							
	9,20 %	9,70 %	10,20 %	10,70 %	11,20 %	11,70 %	12,20 %	
	7,10 %	87,2	60,9	37,9	17,5	-0,6	-16,9	-31,6
	8,10 %	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	9,10 %	64,3	39,6	18,0	-1,2	-18,2	-33,5	-47,3



Bunkers lub	WACC							
	9,20 %	9,70 %	10,20 %	10,70 %	11,20 %	11,70 %	12,20 %	
	1,50 %	77,8	52,1	29,7	9,8	-7,9	-23,7	-38,1
	1,68 %	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	2,18 %	70,0	44,9	22,9	3,5	-13,8	-29,4	-43,4



Insurance +	WACC							
		9,20 %	9,70 %	10,20 %	10,70 %	11,20 %	11,70 %	12,20 %
	8,12 %	81,5	55,6	32,9	12,9	-5,0	-21,0	-35,5
	8,62 %	75,8	50,3	27,9	8,2	-9,4	-25,2	-39,5
	9,12 %	70,0	44,9	22,9	3,5	-13,8	-29,4	-43,4



A.24: EBIT and revenue Solstad peers 2011-2016Q1

Farstad						
	2011	2012	2013	2014	2015	2016Q1
Revenue (mNOK)	3 601	3 073	4 014	4 384	4 011	827
EBIT (mNOK)	944,00	730,00	869,00	785,00	- 813,00	48,00
EBIT-margin	26 %	24 %	22 %	18 %	-20 %	6 %
DOF						
	2011	2012	2013	2014	2015	2016Q1
Revenue (mNOK)	6 503	8 136	9 754	10 196	10 291	2 075
EBIT (mNOK)	1 151,00	1 890,00	1 917,00	2 450,00	1 822,00	190,00
EBIT-margin	18 %	23 %	20 %	24 %	18 %	9 %
Deep Sea Supply						
	2011	2012	2013	2014	2015	2016Q1
Revenue (mUSD)	115	124	138	163	132	9
EBIT (mUSD)	31,00	18,00	125,00	34,00	- 127,00	- 22,00
EBIT-margin	27 %	15 %	91 %	21 %	-96 %	-244 %
Siem Offshore						
	2011	2012	2013	2014	2015	2016Q1
Revenue (mUSD)	340	368	363	491	422	70
EBIT (mUSD)	43,00	54,00	69,00	84,00	- 168,00	9,00
EBIT-margin	13 %	15 %	19 %	17 %	-40 %	13 %
REM Offshore						
	2011	2012	2013	2014	2015	2016Q1
Revenue (mNOK)	653 035	847 306	970 071	1 412 770	1 210 680	235 726
EBIT (mNOK)	255 690	364 478	396 503	719 541	275 727	22 187,00
EBIT-margin	39 %	43 %	41 %	51 %	23 %	9 %

A.25: REM Offshore contract coverage 2016-2017E

[illegible]

A. 26: REM and Solstad CAPM, cost of capital and WACC – Merged

REM credit analysis – Cost of debt

Rem Offshore

Adjusted US key industrial financial ratios	AAA 0	AA 1	A 2	BBB 3	BB 4	B 5	CCC 6
EBIT interest cover	21,40	10,10	6,10	3,70	2,10	0,80	0,10
EBITDA interest cover	26,50	12,90	9,10	5,80	3,40	1,80	1,30
Operating cash flow/total liabilities	84%	25%	15%	9%	3%	-3%	-13%
Return on invested capital	35%	22%	19%	14%	12%	7%	1%
Total liabilities/total capital	23%	38%	43%	48%	63%	75%	88%

Implied credit rating	2009	2010	2011	2012	2013	2014	2015
EBIT interest cover	2,49	1,31	1,08	1,03	2,40	1,59	0,43
EBITDA interest cover	5,64	3,76	3,09	3,08	4,71	3,84	2,39
Operating cash flow/total liabilities	147,77%	7,96%	4,38%	21,79%	4,99%	13,28%	8,76%
Return on invested capital	16,31%	8,02%	6,65%	8,28%	7,79%	11,73%	4,32%
Total liabilities/total capital	59,00%	70,96%	70,99%	71,37%	72,93%	76,06%	77,35%
EBIT interest cover (x)	BB	B	B	B	BB	B	CCC
EBITDA interest cover (x)	BB	BB	B	B	BB	BB	B
Operating cash flow/total liabilities (%)	AAA	BB	B	A	BB	BBB	BB
Return on invested capital (%)	BBB	B	CCC	BB	B	B	CCC
Total liabilities/total capital (%)	BB	B	B	B	B	CCC	CCC
Yearly rating	3	4,6	5,2	4,2	4,4	4,6	5,4
Yearly rating	BBB	B	CCC	B	B	B	CCC

Key Data - Solstad		Key Data - Rem		Key Data - Merged	
Target Price (NOK)	8,18	Target Price (NOK)	8,27	Target Price (NOK)	10,28
Market Price (NOK)	15,20	Market Price (NOK)	30,00	Market Price (NOK)	-
MVE (NOKm)	303.141.022	MVE (NOKm)	161.789.565	MVE (NOKm)	20.317.809
Downside	-46%	Downside	-72%	Downside	-
Outstanding Shares ('000)	38.324.000	Outstanding Shares ('000)	20.317.809	Outstanding Shares ('000)	58.641.809
NIBD ('000)	10.554.083	NIBD ('000)	3.514.990	NIBD ('000)	14.141.874

Cost of Capital - Solstad CAPM		Cost of Capital - Rem CAPM		Cost of Capital - Merged CAPM	
Rf	1,57%	Rf	1,57%	Rf	1,57%
Beta	2,50	Beta	2,50	Beta	2,50
Market risk premium	5,5 %	Market risk premium	5,5 %	Market risk premium	5,5 %
Liquidity premium	2,5 %	Liquidity premium	5,0 %	Liquidity premium	3,0 %
Return on equity	17,8 %	Return on equity	20,3 %	Return on equity	18,3 %

Cost of debt - Solstad		Cost of debt - Rem		Cost of debt - Merged	
Risk free rate	1,57%	Risk free rate	1,57%	Risk free rate	1,57%
Credit spread	6,58%	Credit spread	7,00%	Credit spread	6,69%
Cost of debt before tax	8,15%	Cost of debt before tax	8,57%	Cost of debt before tax	8,26%
Tax shield	27%	Tax shield	27%	Tax shield	27%
Cost of debt after tax	5,95%	Cost of debt after tax	6,26%	Cost of debt after tax	6,03%
			6,75%		6,75%
			6,25%		6,25%

WACC - Solstad		WACC - Rem		WACC - Merged	
Target leverage	60,0 %	Target leverage	60,0 %	Target leverage	60,0 %
Unlevered equity	40,0 %	Unlevered equity	40,0 %	Unlevered equity	40,0 %
Rd after tax	5,95%	Rd after tax	6,26%	Rd after tax	6,03%
Re	17,82%	Re	20,32%	Re	18,32%
WACC	10,7%	WACC	11,9%	WACC	10,9%

Estimating WACC -merged

	EV	% of total EV	Levered beta	LP	Credit spread	
Solstad	10.857.224	75%	2,5	2,50%	6,58%	
REM	3.676.780	25%	2,5	5%	7,00%	
Total	14.534.004					
Weighted average			2,5	3%	6,69%	

The same assumption and model (CAPM) is used in order to calculate Solstad, REM and the merged WACC. The merged WACC is calculated by weighting their respective EV up against their respective inputs. We further believe that both Solstad and REM operate under the same risk (beta 2,50), though REM two more outstanding loans that on 6,75% and 6,25 + NIBOR (1%) giving REM a credit spread of 7%. This results in a merged credit spread of 6,69%. Liquidity premium is assumed at 5% for REM due to lack of trading in the share. The merged liquidity premium (LP) is thus 3%.

The capital structure is assumed to be Solstad's target capital structure which is 60/40 D/E. The merged company's WACC is thus 10,9%.

A. 27: REM forecast

REM fleet														
Name	Type	Age	DWT	Class	Ownership	Status	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
PSV														
REM COMMANDER	PSV	4	5506	High	100%	SPOT	6.239	7.128	7.808	8.178	8.558	9.056	9.236	9.419
REM FORTRESS	PSV	4	5492	High	61%	SPOT	3.806	4.348	4.763	4.989	5.220	5.524	5.634	5.745
REM SERVER	PSV	4	5300	High	73%	SPOT	4.554	5.204	5.700	5.970	6.247	6.611	6.742	6.876
REM SUPPORTER	PSV	3	5300	High	73%	Contract	19.985	5.204	5.700	5.970	6.247	6.611	6.742	6.876
REM LEADER	PSV	2	5335	High	100%	SPOT	6.239	7.128	7.808	8.178	8.558	9.056	9.236	9.419
REM FORTUNE	PSV	2	4900	High	100%	Contract	6.239	7.128	7.808	8.178	8.558	9.056	9.236	9.419
REM PROVIDER	PSV	8	3336	Mid	100%	Lay up	-	-	-	-	-	-	-	-
REM MERMAID	PSV	7	3336	Mid	100%	Q2 2016	20.834	6.629	7.261	7.606	7.959	8.422	8.589	8.759
REM STAR	PSV	6	3150	Mid	35%	Lay up	-	-	-	-	-	-	-	-
REM SUPPLIER	PSV	5	3268	Mid	100%	Q4 2015	20.834	6.629	7.261	7.606	7.959	8.422	8.589	8.759
REM ARCTIC	PSV	0	4900	High	68%	SPOT	4.242	4.847	5.309	5.561	5.819	6.158	6.280	6.405
Subsea														
Size														
REM ETIVE	CSV	8	93,5	Low	100%	Contract	40.548	40.548	27.849	33.419	35.090	35.792	36.507	37.238
REM FORZA	CSV	7	107,6	Low	100%	Contract	40.548	40.548	27.849	33.419	35.090	35.792	36.507	37.238
REM POSEIDON	CSV	6	93,6	Low	100%	Contract	40.548	40.548	27.849	33.419	35.090	35.792	36.507	37.238
REM VISION	CSV	5	95,3	Low	56%	Lay up	-	-	-	-	-	-	-	-
REM INSTALLER	CSV	2	107,6	Low	100%	Contract	40.548	23.208	27.849	33.419	35.090	35.792	36.507	37.238
REM OCEAN	CSV	1	107,6	Low	100%	Contract	40.548	40.548	27.849	33.419	35.090	35.792	36.507	37.238
REM PIONEER	CSV	1	117,35	Low	100%	Contract	40.548	23.208	27.849	33.419	35.090	35.792	36.507	37.238
REM OCV TBN	CSV	-1	100	Low	73%			16.941	20.330	24.396	25.616	26.128	26.650	27.183
PSV>3500														
Utilization			85%	80%	85%	85%	85%	85%	85%	85%				
Freight income			47.062	36.141	39.586	41.463	43.388	45.915	46.825	47.753				
Total GBP			40.003	28.912	33.648	35.244	36.880	39.028	39.801	40.590				
Total NOK			440.028	318.037	370.132	387.683	405.679	429.304	437.811	446.486				
Growth				-27,7%	16,4%	4,7%	4,6%	6%	2%	2%				
PSV< 3500														
Utilization			75%	75%	75%	75%	75%	75%	75%	75%				
Freight income			20.834	6.629	7.261	7.606	7.959	8.422	8.589	8.759				
Total GBP			15.625	4.972	5.446	5.704	5.969	6.317	6.442	6.570				
Total NOK			171.877	54.692	59.906	62.747	65.660	69.484	70.860	72.265				
Growth				-68,2%	9,5%	4,7%	4,6%	6%	2%	2%				
Total PSV			611.905	372.729	430.038	450.430	471.338	498.787	508.671	518.751				
Growth				-39,1%	15,4%	4,7%	4,6%	6%	2%	2%				
Subsea <120 LOA														
Utilization			100%	100%	100%	100%	100%	100%	100%	100%				
Freight income			243.288	225.549	187.424	224.909	236.154	240.877	245.695	250.609				
Total GBP			243.288	225.549	187.424	224.909	236.154	240.877	245.695	250.609				
Total NOK			2.676.168	2.481.034	2.061.662	2.473.995	2.597.695	2.649.648	2.702.641	2.756.694				
Growth				-7,3%	-16,9%	20,0%	5,0%	2%	2%	2%				
Total CSV			2.676.168	2.481.034	2.061.662	2.473.995	2.597.695	2.649.648	2.702.641	2.756.694				
Growth				-7,3%	-16,9%	20,0%	5,0%	2%	2%	2%				
Estimated avg. Income per day			3.288.073	2.853.763	2.491.700	2.924.424	3.069.033	3.148.436	3.211.313	3.275.445				
Annual avg. Income			1.200.146.737	1.041.623.433	909.470.644	1.067.414.935	1.120.197.007	1.149.179.098	1.172.129.102	1.195.537.441				
Total growth			4,0%	-13,2%	-12,7%	17,4%	4,9%	2,6%	2,0%	2,0%				
Base end 2015														
1.153.602.000														

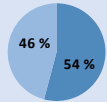
Pro forma income statment, balance sheet and Free cash flow statement																		
Historical Period									Budgeting Period									Terminal Period
Forecasting	2008	2009	2010	2011	2012	2013	2014	2015	Average	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	
Financial value drivers																		
Growth Driver																		
Freight income growth		-47 %	18 %	39 %	14 %	31 %	45 %	-16 %	12 %	4.0 %	-13.2 %	-12.7 %	17.4 %	4.9 %	2.6 %	2.5 %	2.5 %	
Other income/Freight income	1 %	7 %	3 %	3 %	3 %	3 %	3 %	3 %	3.3%	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	
Gains/(losses) from sale of assets				0 %	15 %	0 %	0 %	2 %	3.4%	3.4 %	2.0 %	0.0 %	0.0 %	2.0 %	0.0 %	1.5 %	1.5 %	
Cost driver																		
Crew expenses/freight income	28 %	29 %	29 %	32 %	34 %	32 %	27 %	34 %	32 %	32 %	33 %	33 %	33 %	33 %	33 %	33 %	33 %	
Technical costs/freight income	3 %	6 %	11 %	10 %	7 %	7 %	5 %	5 %	7 %	7 %	7 %	7 %	7 %	7 %	7 %	7 %	7 %	
Bunkers and lube oil/freight income	0 %	1 %	1 %	2 %	2 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	
Insurance, IT and other costs/fright income	5 %	4 %	1 %	2 %	6 %	6 %	4 %	7 %	4 %	4 %	4 %	4 %	4 %	4 %	4 %	4 %	4 %	
Total operating expenses vessels/freight income	36 %	41 %	42 %	45 %	49 %	45 %	37 %	47 %	43 %	44 %	46 %	47 %	46 %	45 %	45 %	45 %	45 %	
Result from joint venture companies/freight income	0 %	-1 %	1 %	0 %	0 %	0 %	0 %	-2 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	1 %	
Gross profit margin	72 %	135 %	62 %	58 %	69 %	58 %	66 %	56 %	72 %	59 %	59 %	56 %	57 %	59 %	57 %	59 %	60 %	
Employees, administration/freight income	2 %	4 %	2 %	2 %	3 %	2 %	2 %	2 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	
Other operating expenses/freight income	2 %	3 %	3 %	3 %	2 %	2 %	1 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	
EBITDA margin	68 %	128 %	56 %	53 %	64 %	54 %	63 %	52 %	67 %	56 %	56 %	54 %	54 %	57 %	55 %	56 %	55 %	
Depreciations/Non-current operating assets	1 %	2 %	2 %	2 %	2 %	2 %	2 %	5 %	2 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	
EBIT margin	63 %	119 %	45 %	40 %	51 %	42 %	53 %	24 %	55 %	41 %	39 %	34 %	38 %	41 %	39 %	41 %	41 %	
Efficient tax rate	-7 %	7 %	-17 %	-14 %	-6 %	-14 %	-13 %	-39 %	-13 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	
Tax on net financial items	27 %	27 %	27 %	27 %	27 %	27 %	27 %	27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	
NOPAT margin	59 %	128 %	37 %	35 %	48 %	36 %	46 %	14 %	50 %	39 %	37 %	32 %	36 %	40 %	37 %	39 %	36 %	
Key ratios									8,580%									
ROIC before tax (beginning)		5,27 %	2,86 %	0,91 %	6,35 %	7,90 %	8,16 %	-3,14 %		7,91 %	6,62 %	5,15 %	6,93 %	7,30 %	7,13 %	7,98 %	8,40 %	
ROIC after tax (beginning)		4,90 %	2,41 %	-0,24 %	5,74 %	6,28 %	5,88 %	-5,52 %		7,59 %	6,35 %	4,93 %	6,65 %	7,00 %	6,83 %	7,65 %	8,06 %	
Invested capital turnover (beginning)		0,29x	0,22x	0,21x	0,25x	0,27x	0,27x	0,24x		0,19x	0,17x	0,15x	0,18x	0,19x	0,18x	0,19x	0,20x	
Profit margin before tax		0,53x	0,47x	0,37x	0,35x	0,43x	0,41x	0,42x		0,40x	0,37x	0,33x	0,37x	0,39x	0,37x	0,39x	0,41x	
Investement drivers																		
Total non-current operating assets	3 785 449	1 716 622	3 372 627	4 300 076	4 405 124	5 571 807	6 485 809	6 184 122		6 184 122	6 058 636	6 017 464	5 876 940	5 740 632	6 231 913	6 107 274		
Depriciations										-185 524	-181 759	-180 524	-176 308	-172 219	-186 957	-183 218	-177 722	
CAPEX										60 038	80 000	40 000	40 000	663 500	-	-		
CAPEX maintenance									1 %	-	60 586	-	-	-	62 319	-		
Vessels primo										6 058 636	6 017 464	5 876 940	5 740 632	6 231 913	6 107 274	5 924 056	-177 722	
NWC/freight income	18 %	8 %	1 %	7 %	10 %	14 %	6 %	2 %	8 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	
									DCF	8,27								
									EVA	8,27								
Financing drivers																		
NIBD/Invested capital	61 %	30 %	57 %	62 %	57 %	65 %	64 %	64 %	57 %	57 %	57 %	57 %	57 %	57 %	57 %	57 %	57 %	
Interest rate	-4.8 %	-1.4 %	-2.4 %	-3.2 %	-3.9 %	-4.1 %	-6.0 %	-7.3 %	-4 %	-4.1 %	-4.1 %	-4.1 %	-4.1 %	-4.1 %	-4.1 %	-4.1 %	-4.1 %	

Pro Forma Income statement - Reference case	2008	2009	2010	2011	2012	2013	2014	2015
Freight income	719 969	385 137	454 047	632 968	719 301	941 769	1 366 820	1 153 602
Other income	8 887	26 349	14 635	20 067	20 700	28 302	45 950	32 924
Gains/(losses) from sale of assets	50 553	268 832	-	-	107 305	-	-	24 154
Revenue	779 409	680 318	468 682	653 035	847 306	970 071	1 412 770	1 210 680
Income from investments in associated companies	-	-4 159	2 811	181	1 864	4 265	-1 979	-17 590
Revenue incl. Income From Associated Companies	779 409	676 159	471 493	653 216	849 170	974 336	1 410 791	1 193 090
Crewing expenses	199 931	112 749	129 433	204 804	245 682	299 629	365 106	395 252
Operating expenses								
Technical cost	20 850	23 293	48 502	60 139	49 214	66 638	71 711	56 175
Bunkers and lube oil	-	3 145	6 705	11 763	13 415	8 103	6 977	10 828
Insurance, IT and other costs	37 037	17 073	6 590	10 811	41 607	52 750	58 765	79 780
Total operating costs vessels	257 818	156 260	191 230	287 517	349 918	427 120	502 559	542 035
Gross profit	521 591	519 899	280 263	365 699	499 252	547 216	908 232	651 055
%	72 %	135 %	62 %	58 %	69 %	58 %	66 %	56 %
Employees, administration	16 000	14 878	11 190	15 789	20 911	22 171	27 607	28 301
Other operating costs	12 657	12 016	13 351	16 339	15 944	15 204	20 109	19 732
EBITDA	492 934	493 005	255 722	333 571	462 397	509 841	860 516	603 022
%	68 %	128 %	56 %	53 %	64 %	54 %	63 %	52 %
Depreciations	41 115	33 733	50 714	77 881	97 919	113 338	140 975	327 295
EBIT	451 819	459 272	205 008	255 690	364 478	396 503	719 541	275 727
%	63 %	119 %	45 %	40 %	51 %	42 %	53 %	24 %
Tax from accounts	-30 113	33 865	-35 023	-36 332	-21 547	-55 262	-96 418	-108 897
NOPAT	421 706	493 137	169 985	219 358	342 931	341 241	623 123	166 830
%	59 %	128 %	37 %	35 %	48 %	36 %	46 %	14 %
Interest expenses	-149 303	-57 923	-97 028	-143 484	-168 429	-214 790	-240 251	-243 167
Net financial items before tax	-155 245	-10 442	-63 455	-115 406	-134 374	-207 580	-345 756	-396 715
Tax shield	41 916	2 819	17 133	31 160	36 281	56 047	93 354	107 113
Net financial items after tax	-113 329	-7 623	-46 322	-84 246	-98 093	-151 533	-252 402	-289 602
Net profit	308 377	485 514	123 663	135 112	244 838	189 708	370 721	-122 772
%	43 %	126 %	27 %	21 %	34 %	20 %	27 %	-11 %

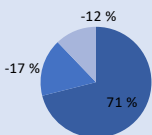
2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
1 200 147	1 041 623	909 471	1 067 415	1 120 197	1 149 179	1 177 909	1 207 356
34 252	29 728	25 956	30 464	31 971	32 798	33 618	34 458
-	20 832	-	-	22 404	-	17 669	18 110
1 234 399	1 092 184	935 427	1 097 879	1 174 572	1 181 977	1 229 195	1 259 925
-2 144	-1 897	-1 625	-1 907	-2 040	-2 053	-2 135	12 599
1 232 255	1 090 287	933 802	1 095 972	1 172 531	1 179 924	1 227 060	1 272 524
382 371	343 736	300 125	352 247	369 665	379 229	388 710	398 428
79 751	69 217	60 436	70 931	74 439	76 364	78 274	80 230
12 491	10 841	9 466	11 109	11 659	11 960	12 259	12 566
53 012	53 012	53 012	53 012	53 012	53 012	53 012	53 012
527 626	476 806	423 039	487 300	508 775	520 566	532 255	544 236
704 629	613 480	510 763	608 672	663 756	659 357	694 804	728 288
59 %	59 %	56 %	57 %	59 %	57 %	59 %	60 %
31 172	27 054	23 622	27 724	29 095	29 848	30 594	31 359
26 122	22 671	19 795	23 233	24 382	25 012	25 638	26 279
673 457	586 426	487 141	580 948	634 661	629 509	664 210	696 929
56 %	56 %	54 %	54 %	57 %	53 %	54 %	55 %
185 524	181 759	180 524	176 308	172 219	186 957	183 218	177 722
487 934	404 667	306 617	404 640	462 442	442 552	480 992	519 207
41 %	39 %	34 %	38 %	41 %	37 %	39 %	41 %
-20 005	-16 591	-12 571	-16 590	-18 960	-18 145	-19 721	-21 287
467 928	388 076	294 046	388 049	443 482	424 407	461 271	497 920
38 %	36 %	31 %	35 %	38 %	36 %	38 %	40 %
-145 004	-143 700	-140 116	-137 245	-148 909	-146 039	-141 792	-145 337
39 151	38 799	37 831	37 056	40 205	39 431	38 284	39 241
-105 853	-104 901	-102 285	-100 189	-108 703	-106 609	-103 508	-106 096
362 076	283 175	191 762	287 861	334 779	317 799	357 763	391 824
29 %	26 %	20 %	26 %	29 %	27 %	29 %	31 %

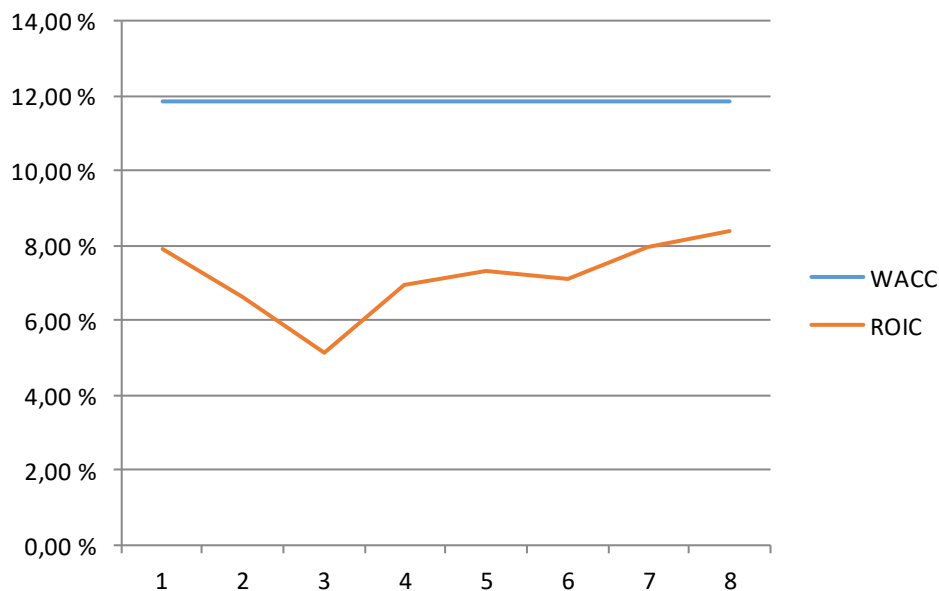
INVESTED CAPITAL - Balance Reference case	2008	2009	2010	2011	2012	2013	2014	2015	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
Assets																
Total non-current operating assets	3 785 449	1 716 622	3 372 627	4 300 076	4 405 124	5 571 807	6 485 809	6 184 122	6 058 636	6 017 464	5 876 940	5 740 632	6 231 913	6 107 274	5 924 056	6 072 157
Non-current liabilities	26 814	1 485	9 697	17 145	0	0	0	767								
Net working capital	126 917	32 709	2 377	46 211	71 093	131 329	76 876	19 497	108 013	93 746	81 852	96 067	100 818	103 426	106 012	108 662
Invested Capital	3 885 552	1 747 846	3 365 307	4 329 142	4 476 217	5 703 136	6 562 685	6 202 852	6 166 650	6 111 210	5 958 792	5 836 699	6 332 730	6 210 700	6 030 068	6 180 820
Equity, beginning									2 218 080	2 651 659	2 627 820	2 562 281	2 509 781	2 723 074	2 670 601	2 592 929
Net profit									362 076	283 175	191 762	287 861	334 779	317 799	357 763	391 824
Dividends									71 504	-307 014	-257 301	-340 361	-121 485	-370 271	-435 435	-327 001
Equity, end	1 522 988	1 216 295	1 463 650	1 657 560	1 933 565	1 994 764	2 335 016	2 218 080	2 651 659	2 627 820	2 562 281	2 509 781	2 723 074	2 670 601	2 592 929	2 657 752
Net-interest bearing debt (NIBD)	2 362 564	531 551	1 901 657	2 671 582	2 542 652	3 708 372	4 227 669	3 984 772	3 514 990	3 483 390	3 396 511	3 326 918	3 609 656	3 540 099	3 437 139	3 523 067
								169 %								
Invested Capital	3 885 552	1 747 846	3 365 307	4 329 142	4 476 217	5 703 136	6 562 685	6 202 852	6 166 650	6 111 210	5 958 792	5 836 699	6 332 730	6 210 700	6 030 068	6 180 820
	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN
Cash flow statement									2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
NOPAT									467 928	388 076	294 046	388 049	443 482	424 407	461 271	497 920
Depreciations									185 524	181 759	180 524	176 308	172 219	186 957	183 218	177 722
Changes in net working capital									-88 516	14 267	11 894	-14 215	-4 750	-2 608	-2 586	-2 650
Deferred income									-767	-	-	-	-	-	-	-
Cash flow from operations									564 169	584 102	486 464	550 143	610 951	608 756	641 904	672 991
Investments, Vessels, Equipment and vehicles (CAPEX)									-60 038	-140 586	-40 000	-40 000	-663 500	-62 319	-	-325 823
Free cash flow to the firm									504 131	443 515	446 464	510 143	-52 549	546 437	641 904	347 168
Changes in NIBD									-469 782	-31 601	-86 878	-69 593	282 738	-69 557	-102 961	85 928
Net financial expenses after tax									-105 853	-104 901	-102 285	-100 189	-108 703	-106 609	-103 508	-106 096
FCFE									-71 504	307 014	257 301	340 361	121 485	370 271	435 435	327 001
Dividends									71 504	-307 014	-257 301	-340 361	-121 485	-370 271	-435 435	-327 001

A. 28: REM discounted cash flow and economic value added models

DCF-model	Budgeting period							Terminal period	Growth
	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2,5 %
Free cash flow to the firm	504 131	443 515	446 464	510 143	-52 549	546 437	641 904	347 168	
WACC	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	
Discount factor	0,89	0,80	0,71	0,64	0,57	0,51	0,46		
Discounted FCFF	450 593	354 316	318 794	325 579	-29 976	278 604	292 521		
Discounted, budgeting period	1 990 430								
Discounted, terminal period	1 686 349								
EV	3 676 780								
NIMB	3 514 990								
Market value NOK	161 789 565	# of shares 20 317 809							
Market value per share	8,3								

WACC	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %
ROIC	5,65 %	5,47 %	5,85 %	6,90 %	8,24 %	8,81 %	9,82 %	9,96 %

EVA-model	Budgeting period							Terminal period	Growth
	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2,5 %
NOPAT	467 928	388 076	294 046	388 049	443 482	424 407	461 271	497 920	
Invested capital, beginning	6 202 852	6 166 650	6 111 210	5 958 792	5 836 699	6 332 730	6 210 700	6 030 068	
WACC	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	11,88 %	
Cost of capital	737 002	732 700	726 113	708 003	693 497	752 433	737 934	716 472	
EVA	-269 073	-344 625	-432 067	-319 954	-250 015	-328 026	-276 663	-218 553	
Discount factor	0,89	0,80	0,71	0,64	0,57	0,51	0,46		
Discounted FCFF	-240 498,3	-275 314,3	-308 513,7	-204 198,2	-142 616,8	-167 245,8	-126 077,8		
Invested capital, beginning	6 202 852,0								
Discounted, budgeting period	-1 464 464,9								
Discounted, terminal period	-1 061 607,3								
EV	3 676 780								
NIMB	3 514 990								
Market value NOK	161 789 565	# of shares 20 317 809							
Market value per share	8,3								



A. 29: Solstad and REM merged forecast

Pro forma income statment, balance sheet and Free cash flow statement																		
Historical Period										Budgeting Period							Terminal Period	
Forecasting	2008	2009	2010	2011	2012	2013	2014	2015	Average	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	
Financial value drivers																		
Growth Driver																		
Freight income growth		2 %	6 %	18 %	11 %	11 %	15 %	-8 %	8 %	-22,4 %	-3,4 %	3,1 %	13,0 %	7,5 %	5,8 %	2,5 %	2,5 %	
Other income/Freight income	1 %	1 %	1 %	1 %	1 %	1 %	1 %	2 %	1,0%	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	
Gains/(losses) from sale of assets				0 %	4 %	1 %	1 %	1 %	1,2%	0,0 %	2,0 %	0,0 %	0,0 %	2,0 %	0,0 %	1,5 %	1,5 %	
Cost driver																		
Crew expenses/freight income	26 %	29 %	33 %	36 %	34 %	35 %	31 %	34 %	32 %	27 %	29 %	30 %	31 %	32 %	31 %	31 %	31 %	
Technical costs/freight income	12 %	13 %	14 %	13 %	12 %	12 %	9 %	7 %	11 %	8 %	8 %	8 %	8 %	8 %	8 %	8 %	8 %	
Bunkers and lube oil/freight income	1 %	1 %	2 %	1 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	2 %	
Insurance, IT and other costs/fright income	5 %	6 %	9 %	9 %	6 %	6 %	8 %	13 %	8 %	8 %	8 %	8 %	8 %	8 %	8 %	8 %	8 %	
Total operating expenses vessels/freight income	44 %	49 %	57 %	59 %	54 %	54 %	50 %	56 %	53 %	44 %	46 %	47 %	48 %	48 %	48 %	48 %	48 %	
Result from joint venture companies/freight income	1 %	0 %	0 %	0 %	1 %	2 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	1 %	
Gross profit margin	62 %	61 %	44 %	42 %	51 %	49 %	53 %	47 %	51 %	58 %	59 %	55 %	55 %	56 %	54 %	55 %	56 %	
Employees, administration/freight income	3 %	3 %	3 %	3 %	3 %	4 %	4 %	5 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	
EBITDA margin	59 %	59 %	41 %	39 %	48 %	45 %	49 %	42 %	48 %	55 %	56 %	53 %	52 %	53 %	51 %	53 %	51 %	
Depreciations/Non-current operating assets	5 %	7 %	4 %	5 %	4 %	3 %	3 %	11 %	5 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	3 %	
EBIT margin	39 %	32 %	18 %	11 %	31 %	33 %	37 %	-4 %	25 %	39 %	37 %	34 %	36 %	39 %	38 %	40 %	40 %	
Efficient tax rate	-6 %	0 %	-16 %	-50 %	-8 %	-18 %	-22 %	263 %	18 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	-4 %	
Tax on net financial items	27 %	27 %	27 %	27 %	27 %	27 %	27 %	27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	-27 %	
NOPAT margin	37 %	32 %	15 %	6 %	29 %	27 %	29 %	-14 %	20 %	37 %	35 %	33 %	35 %	37 %	36 %	38 %	36 %	
Key ratios										8,580%								
ROIC before tax (beginning)		5,27 %	2,86 %	0,91 %	6,35 %	7,90 %	8,16 %	-3,14 %		6,18 %	5,77 %	5,72 %	6,98 %	8,06 %	8,42 %	9,38 %	9,60 %	
ROIC after tax (beginning)		4,90 %	2,41 %	-0,24 %	5,74 %	6,28 %	5,88 %	-5,52 %		5,93 %	5,54 %	5,48 %	6,69 %	7,73 %	8,07 %	8,99 %	9,20 %	
Invested capital turnover (beginning)		0,29x	0,22x	0,21x	0,25x	0,27x	0,27x	0,24x		0,17x	0,15x	0,16x	0,19x	0,21x	0,22x	0,23x	0,24x	
Profit margin before tax		0,53x	0,47x	0,37x	0,35x	0,43x	0,41x	0,42x		0,38x	0,35x	0,34x	0,36x	0,38x	0,37x	0,39x	0,40x	
Investement drivers																		
Total non-current operating assets	11 340 008	11 620 541	17 185 607	18 342 029	17 429 411	18 149 403	21 711 787	20 388 809		20 388 809	22 481 023	22 111 402	21 488 060	20 883 418	20 920 416	20 502 008		
Depreciations										-611 664	-674 431	-663 342	-644 642	-626 503	-627 612	-615 060	-596 608	
CAPEX										2 703 878	80 000	40 000	40 000	663 500	-	-		
CAPEX maintenance										-	224 810	-	-	-	209 204	-		
Vessels primo										22 481 023	22 111 402	21 488 060	20 883 418	20 920 416	20 502 008	19 886 947	-596 608	
NWC/freight income	11 %	10 %	3 %	8 %	4 %	14 %	9 %	10 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	9 %	
										DCF	10,28							
										EVA	10,28							
Financing drivers																		
NIBD/Invested capital	54 %	51 %	62 %	67 %	63 %	63 %	67 %	72 %	62 %	62 %	62 %	62 %	62 %	62 %	62 %	62 %	62 %	
Interest rate	-15,5 %	4,7 %	-1,9 %	-4,0 %	-3,7 %	-4,9 %	-7,2 %	-8,0 %	-5 %	-5,1 %	-5,1 %	-5,1 %	-5,1 %	-5,1 %	-5,1 %	-5,1 %	-5,1 %	

Pro Forma Income statement - Reference case	2008	2009	2010	2011	2012	2013	2014	2015	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
Freight income	2 854 829	2 903 669	3 067 604	3 608 069	4 007 221	4 436 842	5 104 169	4 700 020	3 649 455	3 524 176	3 632 406	4 106 122	4 415 260	4 673 297	4 790 129	4 909 883
Other income	19 357	37 200	17 943	25 055	41 281	42 550	56 393	72 296	56 136	54 209	55 874	63 161	67 916	71 885	73 682	75 524
Gains/(losses) from sale of assets	114 103	268 832	-	-	161 007	26 274	46 591	24 154	-	70 484	-	-	88 305	-	71 852	73 648
Revenue	2 988 289	3 209 701	3 085 547	3 633 124	4 209 509	4 505 666	5 207 153	4 796 470	3 705 591	3 648 869	3 688 280	4 169 283	4 571 481	4 745 182	4 935 663	5 059 055
Income from investments in associated companies	40 799	-1 746	5 322	9 614	21 793	67 592	62 676	47 264	28 300	27 867	28 168	31 842	34 913	36 240	37 695	50 591
Revenue incl. Income From Associated Companies	3 029 088	3 207 955	3 090 869	3 642 738	4 231 302	4 573 258	5 269 829	4 843 734	3 733 892	3 676 736	3 716 448	4 201 125	4 606 394	4 781 422	4 973 358	5 109 645
Crewing expenses	745 701	846 618	1 011 802	1 292 249	1 365 174	1 531 109	1 584 864	1 602 702	994 970	1 014 227	1 089 911	1 263 976	1 391 211	1 471 791	1 508 581	1 546 519
Operating expenses																
Technical cost	339 404	366 662	427 185	472 221	480 554	523 488	463 496	343 258	275 084	265 641	273 799	309 506	332 807	352 257	361 064	370 090
Bunkers and lube oil	24 392	39 429	47 117	48 864	79 433	76 041	76 766	89 367	55 673	53 762	55 413	62 639	67 355	71 292	73 074	74 901
Insurance, IT and other costs	143 606	170 408	265 228	325 018	243 116	270 595	433 652	613 832	284 088	274 336	282 761	319 637	343 701	363 788	372 883	382 205
Total operating costs vessels	1 253 103	1 423 117	1 751 332	2 138 352	2 168 277	2 401 233	2 558 778	2 649 159	1 609 815	1 607 966	1 701 883	1 955 758	2 135 075	2 259 128	2 315 602	2 373 715
Gross profit	1 775 985	1 784 838	1 339 537	1 504 386	2 063 025	2 172 025	2 711 051	2 194 575	2 124 077	2 068 771	2 014 565	2 245 367	2 471 319	2 522 294	2 657 756	2 735 931
%	62 %	61 %	44 %	42 %	51 %	49 %	53 %	47 %	58 %	59 %	55 %	55 %	56 %	54 %	55 %	56 %
Employees, administration	91 178	85 261	89 616	108 121	130 418	181 946	201 963	216 415	102 612	99 761	103 765	117 072	126 044	133 619	136 959	140 383
EBITDA	1 684 807	1 699 577	1 249 921	1 396 265	1 932 607	1 990 079	2 509 088	1 978 160	2 021 465	1 969 010	1 910 801	2 128 295	2 345 275	2 388 675	2 520 797	2 595 547
%	59 %	59 %	41 %	39 %	48 %	45 %	49 %	42 %	55 %	56 %	53 %	52 %	53 %	50 %	51 %	51 %
Depreciations	561 966	762 681	689 307	996 407	682 736	544 704	602 802	2 156 841	611 664	674 431	663 342	644 642	626 503	627 612	615 060	596 608
EBIT	1 122 841	936 896	560 614	399 858	1 249 871	1 445 375	1 906 286	-178 681	1 409 801	1 294 579	1 247 458	1 483 653	1 718 773	1 761 063	1 905 737	1 998 939
%	39 %	32 %	18 %	11 %	31 %	33 %	37 %	-4 %	39 %	37 %	34 %	36 %	39 %	37 %	39 %	40 %
Tax from accounts	-64 949	1 091	-89 232	-197 931	-105 062	-266 748	-422 198	-469 619	-57 802	-53 078	-51 146	-60 830	-70 470	-72 204	-78 135	-81 957
NOPAT	1 057 892	937 987	471 382	201 927	1 144 809	1 178 627	1 484 088	-648 300	1 351 999	1 241 501	1 196 313	1 422 824	1 648 303	1 688 859	1 827 602	1 916 983
%	37 %	32 %	15 %	6 %	29 %	27 %	29 %	-14 %	36 %	34 %	32 %	34 %	36 %	36 %	37 %	38 %
Interest expenses	-464 796	-312 076	-467 682	-693 077	-692 791	-664 760	-694 492	-723 593	-714 918	-702 980	-683 748	-666 133	-668 164	-655 778	-636 830	-652 750
Net financial items before tax	-1 096 558	390 300	-272 538	-685 845	-557 750	-795 442	-1 453 475	-1 640 146	193 028	189 805	184 612	179 856	180 404	177 060	171 944	176 243
Tax shield	136 047	-105 381	73 585	185 178	150 593	214 769	392 438	442 839	-521 890	-513 175	-499 136	-486 277	-487 760	-478 718	-464 886	-476 508
Net financial items after tax	-960 511	284 919	-198 953	-500 667	-407 158	-580 673	-1 061 037	-1 197 307	830 109	728 326	697 177	936 547	1 160 543	1 210 141	1 362 716	1 440 475
Net profit	97 382	1 210 890	259 078	-315 079	721 708	582 750	402 942	-1 865 339								
%	3 %	42 %	8 %	-9 %	18 %	13 %	8 %	-40 %	22 %	20 %	19 %	22 %	25 %	26 %	28 %	28 %

INVESTED CAPITAL - Balance Reference case	2008	2009	2010	2011	2012	2013	2014	2015	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
Assets																
Total non-current operating assets	11 340 008	11 620 541	17 185 607	18 342 029	17 429 411	18 149 403	21 711 787	20 388 809	22 481 023	22 111 402	21 488 060	20 883 418	20 920 416	20 502 008	19 886 947	20 384 121
Non-current liabilities	241 630	37 051	87 241	57 078	3 000	0	9 339	9 903								
Net working capital	319 058	293 102	81 501	301 391	169 097	636 710	435 040	490 526	328 451	317 176	326 917	369 551	397 373	420 597	431 112	441 889
Invested Capital	11 416 380	11 876 406	17 176 399	18 565 007	17 615 293	18 738 111	22 122 781	20 869 432	22 809 474	22 428 578	21 814 977	21 252 969	21 317 789	20 922 604	20 318 059	20 826 010
Equity, beginning									5 885 655	8 667 600	8 522 860	8 289 691	8 076 128	8 100 760	7 950 590	7 720 862
Net profit									830 109	728 326	697 177	936 547	1 160 543	1 210 141	1 362 716	1 440 475
Dividends									1 951 836	-873 066	-930 345	-1 150 110	-1 135 912	-1 360 311	-1 592 443	-1 247 453
Equity, end	5 220 612	5 846 615	6 453 093	6 073 474	6 558 498	6 949 039	7 392 548	5 885 655	8 667 600	8 522 860	8 289 691	8 076 128	8 100 760	7 950 590	7 720 862	7 913 884
Net-interest bearing debt (NIBD)	6 195 768	6 029 791	10 723 306	12 491 533	11 056 795	11 789 072	14 730 233	14 983 777	14 141 874	13 905 718	13 525 286	13 176 841	13 217 029	12 972 015	12 597 197	12 912 126
								242 %								
Invested Capital	11 416 380	11 876 406	17 176 399	18 565 007	17 615 293	18 738 111	22 122 781	20 869 432	22 809 474	22 428 578	21 814 977	21 252 969	21 317 789	20 922 604	20 318 059	20 826 010
	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN	SANN
Cash flow statement									2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
NOPAT									1 351 999	1 241 501	1 196 313	1 422 824	1 648 303	1 688 859	1 827 602	1 916 983
Depreciations									611 664	674 431	663 342	644 642	626 503	627 612	615 060	596 608
Changes in net working capital									162 075	11 275	-9 741	-42 634	-27 822	-23 223	-10 515	-10 778
Deferred income									-9 903	-	-	-	-	-	-	-
Cash flow from operations									2 115 835	1 927 207	1 849 914	2 024 831	2 246 983	2 293 248	2 432 147	2 502 813
Investments, Vessels, Equipment and vehicles (CAPEX)									-2 703 878	-304 810	-40 000	-40 000	-663 500	-209 204	-	-1 093 782
Free cash flow to the firm									-588 043	1 622 397	1 809 914	1 984 831	1 583 483	2 084 044	2 432 147	1 409 031
Changes in NIBD									-841 903	-236 155	-380 433	-348 445	40 188	-245 015	-374 818	314 930
Net financial expenses after tax									-521 890	-513 175	-499 136	-486 277	-487 760	-478 718	-464 886	-476 508
FCFE									-1 951 836	873 066	930 345	1 150 110	1 135 912	1 360 311	1 592 443	1 247 453
Dividends									1 951 836	-873 066	-930 345	-1 150 110	-1 135 912	-1 360 311	-1 592 443	-1 247 453

Total income vessels – Solstad and REM merged

Estimated avg. Income per day	9.998.507	9.655.278	9.951.798	11.249.650	12.096.603	12.803.553	13.215.060	13.678.061
Annual avg. Income	3.649.455.222	3.524.176.454	3.632.406.293	4.106.122.342	4.415.260.000	4.673.296.932	4.823.496.878	4.992.492.311
Total growth	-22,4%	-3,4%	3,1%	13,0%	7,5%	5,8%	3,2%	3,5%
Base end 2015								
4.700.020.000								

A. 30: Solstad and REM – Merged DCF and EVA

DCF-model	Budgeting period							Terminal period	Growth
	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2,5 %
Free cash flow to the firm	-588 043	1 622 397	1 809 914	1 984 831	1 583 483	2 084 044	2 432 147	1 409 031	
WACC	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	
Discount factor	0,90	0,81	0,73	0,66	0,59	0,54	0,48		
Discounted FCFF	-530 034	1 318 098	1 325 390	1 310 100	942 084	1 117 579	1 175 592		
Discounted, budgeting period	6 658 809	# of shares	58 641 809						<div><div></div><div>■ Discounted, budgeting period</div><div>■ Discounted, terminal period</div></div>
Discounted, terminal period	8 065 418								
EV	14 724 226								
NIMB	14 141 874								
Market value NOK	582 352 705								
Market value per share	10,3								

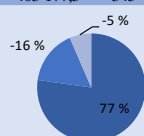


WACC	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %
ROIC	6,18 %	5,77 %	5,72 %	6,98 %	8,06 %	8,42 %	9,38 %	9,60 %
Synergy	190					0,435674352		

EVA-model	Budgeting period							Terminal period	Growth
	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2,5 %
NOPAT	1 351 999	1 241 501	1 196 313	1 422 824	1 648 303	1 688 859	1 827 602	1 916 983	
Invested capital, beginning	20 869 432	22 809 474	22 428 578	21 814 977	21 252 969	21 317 789	20 922 604	20 318 059	
WACC	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	10,94 %	
Cost of capital	2 284 000	2 496 323	2 454 637	2 387 483	2 325 976	2 333 070	2 289 820	2 223 657	
EVA	-932 001	-1 254 822	-1 258 324	-964 659	-677 672	-644 211	-462 218	-306 674	
Discount factor	0,90	0,81	0,73	0,66	0,59	0,54	0,48		
Discounted FCFF	-840 062,8	-1 019 465,5	-921 463,9	-636 729,5	-403 177,3	-345 461,3	-223 415,7		
Invested capital, beginning	20 869 432,0								
Discounted, budgeting period	-4 389 775,8								
Discounted, terminal period	-1 755 429,8								
EV	14 724 226								
NIMB	14 141 874								
Market value NOK	582 352 705	# of shares	58 641 809						
Market value per share	10,3								

A pie chart illustrating the components of Enterprise Value (EV). The chart is divided into three segments: a large blue segment representing 'Invested capital, beginning' at 77%, a medium grey segment representing 'Discounted, budgeting period' at -16%, and a small light blue segment representing 'Discounted, terminal period' at -5%.

Category	Percentage
Invested capital, beginning	77 %
Discounted, budgeting period	-16 %
Discounted, terminal period	-5 %



A. 31: Solstad and REM – Administration synergies

Administration costs Rem	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total administration expenses	27 607	28 301	31 172	27 054	23 622	27 724	29 095	29 848	30 594	31 359
Other operating expenses	20 109	19 732								
Payroll and payroll-related expenses	7 498	8 569	8 952	7 770	6 784	7 962	8 356	8 572	8 786	9 006
% of total admin costs	27,2%	30,3%								
Wages, management	3 403	3 489	3 854	3 345	2 921	3 428	3 597	3 690	3 783	3 877
% of payroll	45,4%	40,7%								
Directors fee	1 096	1 067	1 212	1 052	918	1 078	1 131	1 160	1 189	1 219
% of payroll	14,6%	12,5%								
Audit	1 765	1 441	1 806	1 568	1 369	1 607	1 686	1 730	1 773	1 817
% of payroll	23,5%	16,8%								

Cost savings			6 872	5 964	5 208	6 112	6 414	6 580	6 745	6 913
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Administration synergies

NOK 000'	2016	2017	2018	2019	2020	2021	2022	2023
Solstad	73 479	74 477	81 688	91 161	98 852	105 724	108 367	111 076
Rem	31 172	27 054	23 622	27 724	29 095	29 848	30 594	31 359
Total	104 651	101 531	105 310	118 886	127 947	135 572	138 961	142 435
Cost savings		5 964	5 208	6 112	6 414	6 580	6 745	6 913
After synergy	104 651	95 567	100 102	112 774	121 533	128 991	132 216	135 522
PV of cost savings related to synergy	28 293							

Table above illustrates the implemented administration synergies in the merged forecast. The actual numbers for 2014 and 2015 is presented first in order to see the last two years “payroll expenses”. From the table we find that the average “payroll expenses” is 28,7% of total administration expenses. This is assumed to be the case in the coming years as well. Cost saving are thus calculated based on the respective % of “payroll expenses”. Total administration synergies are presented in the next table, and is calculated to NOK 28 293 000.