VALUATION AND FINANCIAL ANALYSIS
OF
FARSTAD SHIPPING ASA

By

Michael Yngve Rørnes Tucker

EXECUTIVE SUMMARY

This paper analyses the fundamental value of Farstad Shipping ASA, a leading offshore supply vessel (OSV) firm. Based on a strategic and financial analysis; trading range is found to be 130-190 NOK. The primary valuation method, a DCF model, concludes that the firm should be priced at 178 NOK, indicating that the company is undervalued with an upside of 21% from current trading levels.[1] This claim is also supported by a relative valuation.

The paper begins with a strategic analysis reviewing the present state of the OSV industry and the firm's position following the Financial Crisis, then turns to the financial analysis which constitutes the main part of this paper. The financial analysis consists of a fundamental, relative and asset-based analysis.

Given the results from the fundamental analysis at 178 NOK, the relative analysis[2] at 187 NOK and the asset-based valuation at 132 NOK; the share is given a buy recommendation with a target share price of 178 NOK.

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[1] Trading at 147 NOK 02.12.2011
[2] Result from PE Valuation

PREFACE

The reason for undertaking a company valuation is a result of being able to use knowledge from both my minor; strategy and management, and my major; financial economics. It is my opinion that such a thesis is relevant in any future position.

This paper has been challenging and rewarding and I would like to thank the following people for their important input; my supervisor and mentor; Dr. Michael Kisser for highly valued and detailed feedback throughout the writing process. Kjell Henry Knivsflå for his support on reformulation of historical statements and my family for continued support throughout the process.

Bergen, December 2011.

Michael Yngve Rørnes Tucker

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1.0 INTRODUCTION

The introduction covers the background for this thesis, as well as discussing its purpose and limitations. Thesis structure is also addressed in this chapter.

1.1 Background

Farstad Shipping ASA is one of the largest supply vessel providers in the world. Since its first supply vessel delivered in 1973, it has expanded through joint ventures, fleet purchases, and other growth activities which have provided the company with a global position while still being based in Aalesund, Norway. Being a pioneer in the North Sea oil exploration, I am intrigued by how this company with strong local ownership has not only managed to survive the financial crisis, but managed to deliver its strongest financial result in the history of the company in 2010.[3]

1.2 Purpose and Limitations

My aim is to provide the most accurate estimate of the firm's equity per outstanding share December 2011. I will then address any possible deviation to the actual share price at this point and conclude with a buy, sell or neutral recommendation of the firm's shares. The valuation is based on publicly available information, and the valuation takes the perspective of a global, well-diversified investor.

The valuation will be based on a fundamental analysis and a comparative analysis. I will not use an option based analysis as this is uncommon in the energy sector and it would not add to the discussion.

The time period for analysis is 2006-2010. Considering that the firm is stable and mature, I could use a longer time period for analysis than the one chosen, however, due to the large amount of financial data, and the structure of this paper, this limitation is necessary. Also, considering that the later time period is of special interest with regards to the financial crisis, and the firm's investments in newbuilds,

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[3] Farstad Shipping – About Farstad Shipping

financial records older than 5-6 years may not prove to be as relevant as otherwise. When analyzing changes in the energy sector, I may expand this time period.

In the comparative analysis, similar firms have been selected on the basis of fleet size, type of fleet, geographical location of business and operations. By scrutinizing the firms in the industry using these requirements, five OSV firms have been found. These firms are; Solstad Offshore, DOF, Siem Offshore, Havila Shipping and Deep Sea Supply. These firms should provide good industry estimates. Certainly, by relaxing the requirements more firms could have been selected. However, in light of the supply vessel providers being different in size, market and structure, they would not all be equally relevant. I believe my selection of comparable companies in the supply vessel market based upon these distinctions will provide a valid comparisons analysis which will give strength to the paper.

1.3 Structure

The purpose of this paper is to find the true value of the firm. I will do this using the framework presented here in figure 1.
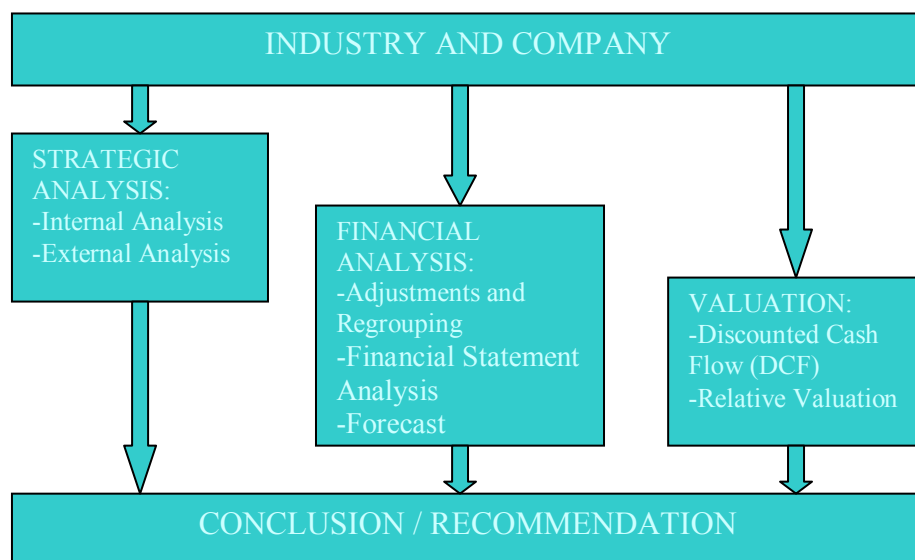
Figure 1 Framework of Analysis

After introducing the industry and company, I will undertake a strategic analysis of the company, split into an internal and external analysis. The purpose is to determine the competitiveness of the supply vessel market where the firm operates through a

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supply and demand analysis. I will then conduct a financial statement analysis. The financial statement analysis will be based on an investor perspective and adjusted thereafter. I will adjust for any measurement error following my adjustments and regrouping in order to find the true value of the firm. Following these analyses I will estimate the fair value of the firm. This will be done using several valuation methods. Discounted Cash Flow analysis will serve as the main method, but will be supplemented with a comparative valuation based on relevant firms. I will also conduct a sensitivity analysis to discuss my findings in the DCF valuation and relative valuation. The final conclusion and recommendation will be a result of the strategic and financial analysis and valuation methods.

2.0 PRESENTATION OF INDUSTRY

Farstad Shipping ASA (Farstad) operates within the oil and gas equipment sector, more specifically the marine sector, known as the offshore supply vessel sector. I will in this chapter describe this industry and its key value drivers.

Activities:

Representing a key role in supporting oil and gas installations, supply vessels are essential to any oil and gas activities conducted offshore. This creates demand for supply vessels. The offshore supply vessel sector conducts essential activities to the oil and gas industry compromising of personnel transportation, rig relocation e.g. moving rig anchors, delivering drilling equipment, fuel, nutrition, etc., and safety and emergency response to the offshore oil rigs.[4] These activities play a crucial part of the offshore oil and gas industry.

Business overview:

As a result of oil and gas exploration, drilling, and other offshore projects being correlated with the oil price, the oil and gas equipment sector, including the marine sector, are highly dependent on the oil price as well.

Below is an illustration of historical Brent oil prices in the period 2003-2011.

Figure 2 Brent Oil Price 2003-2011[5]

Following a peak in oil prices in 2007 close to 150 USD per barrel, the financial crisis effect is depicted by a sharp decline in oil prices in 2008.

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[4] GL Group – Press Center
[5] Live Charts: Brent Oil Chart 2003-2010

To illustrate the correlation between oil prices and E&P production activities, average daily oil production for the EU and Norway between 2006 and 2010 is illustrated below. Oil production falls continuously throughout 2008 as a result of falling oil prices. Daily oil production falls in the period from 2422 to 1951 thousand barrels in the EU and from 2779 to 2137 thousand barrels in Norway. With low oil prices production is slowed down and the expansive offshore activities i.e. exploration and appraisal activities are halted. As a result of this demand for supply vessels fall.
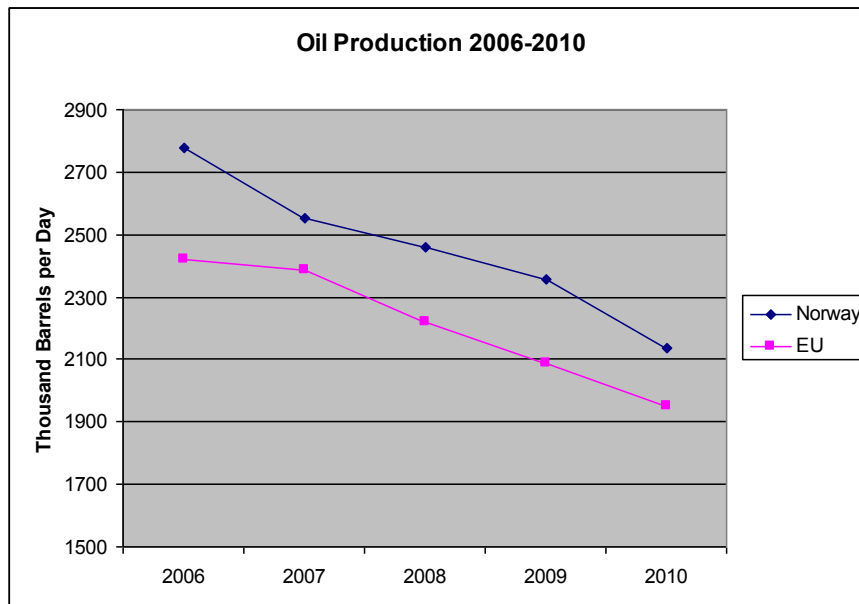
Figure 3 Oil Productions in EU and Norway 2006-2010[6]

Simply put, demand for supply vessels increase when the oil price is high and vice versa. In reality it is a bit more complex. The supply vessel companies own their own fleet of diverse supply vessels, this is also the case with Farstad. This fleet, or vessels thereof, is then contracted out to different oil companies having different demands which these supply vessels meet. These contracts may last for years, and have options for renewals. In this respect, most contracts will sustain smaller fluctuations in the oil price, despite this; larger fluctuations in the oil price will directly affect these contracts, resulting in early termination, loss on receivables or no renewals.[7] The goal for supply vessel companies is to minimize laid up/idle time for vessels and obtain sustainable rates. To ensure demand coverage in times of formidable offshore oil and gas activity, newbuilds are purchased. Unfortunately, these newbuilds are not readily available, which may put a strain on current vessels, and may also result in an

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[6] BP Statistical Review of World Energy June 2011
[7] Press Release Farstad Shipping ASA: Loss on receivables

overflow of vessels should the oil and gas activities offshore fall in the future. Careful studies are therefore necessary to ensure that supply and demand for supply vessels are in conjunction. In the pre-financial crisis years a large demand for supply vessels was created which increased demand for newbuilds. Excess supply is usual in this industry and due to vessel maintenance this is necessary. However, supply of newbuilds may compromise returns in years to come as day rates and fleet utilization will be directly affected.[8]

Supply Vessels:

Supply vessels which Farstad operate may be divided into three subcategories; Anchor Handling Tug Supply Vessel (AHTS), Platform Supply Vessel (PSV) and Subsea Construction and Support Vessel (SUBSEA). These vessels are described in detail below:

Anchor Handling Tug Supply Vessels are designed for towage and anchor services for production modules/vessels, platform jackets and semi submersibles. Certain AHTS are equipped for oil recovery, fire fighting and rescue operations.[9] Farstad owns and operates 32 AHTS above 10 000 Brake Horsepower (BHP). Global supply of AHTS with this engine power is 427 vessels with another 126 (29%) newbuilds.[10]

Platform Supply Vessels are mainly designed for transportation of equipment and supplies to and from offshore installations. This may include containers, tanks, and pipe for pipe laying activities.[11] Farstad owns and operates 24 PSV above 2000 Deadweight Ton (DWT). Global supply of PSV of this size is 625 vessels with another 172 (27%) newbuilds.[12]

Subsea Vessels are designed to support subsea activities and construction on the seabed.[13] These vessels may be divided into two subcategories; Construction Supply Vessel (CSV) and Multi-Purpose Supply Vessel (MPSV).

Construction Support Vessels are specially designed for construction and projects in deep sea territory,[14] while Multipurpose Supply Vessels are specially designed for

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[8] DN 17. February 2011 P. 10
[9] Farstad Shipping - AHTS
[10] Farstad Shipping – 2Q Presentation 2010
[11] Farstad Shipping - PSV
[12] Farstad Shipping - 2Q Presentation 2010
[13] Farstad Shipping - SUBSEA
[14] Farstad Shipping - SUBSEA

construction, maintenance and support on the seabed.[15] Subsea vessels are complex and capital intensive. They constitute a relatively new segment of supply vessels and are presently not Farstad's main focus.[16] However, they are an important and profitable segment.[17]

2.1 Key Value Drivers in the Supply Vessel Market

The supply vessel market is specialized for exploration and production of oil & gas fields offshore. This makes this industry highly contingent on the oil price and energy demand. However, there are other value drivers as well, e.g. technology, weather, availability of oil field services, exploration & production (E&P) investments and day rates. I will here explore these value drivers in detail.

Oil Price:

The Brent oil price is the single largest value driver in the supply vessel market. While many supply vessels are hired out on long-term contracts and not directly affected by fluctuations in the oil price, the day to day demand for supply vessels are dependent on a relatively high oil price enabling E&P activities to make a profit. This is especially noticeable in the spot market for supply vessels.
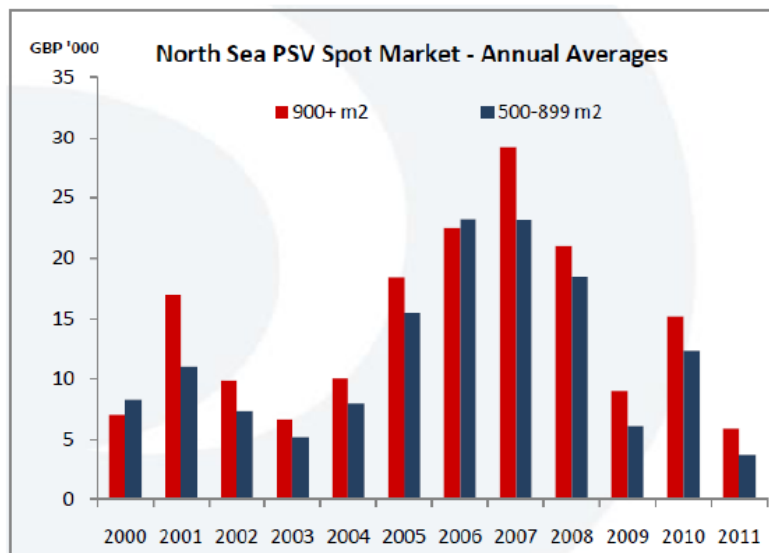
Figure 4 North Sea PSV Spot Market 2000-2011[18]

[15] Farstad Shipping - SUBSEA
[16] Farstad Shipping – Our Strategy
[17] Farstad Shipping 2Q Presentation 2010
[18] Farstad Shipping 4Q 2010

The illustration provides an overview over the PSV spot market in the period 2000-2011. As the Brent oil price peaked in 2007 at close to 150USD per barrel, annual spot rates for PSV's were close to 30000 GBP per day. However as the financial crisis slowed down production with Brent oil trading down to low 40 USD per barrel in 2008, demand for PSV's fell sharply, and left annual spot rates in 2009 at roughly 6000 GBP per day.[19] Such fluctuations in the oil price are not a regular occurrence. However, they portray how dependent oil production activities are on the oil price. Supply vessel companies are in turn compelled to focus on long-term contracts, to ensure high fleet utilization.

Technology:

Exploring and producing feasible oil & gas fields offshore have always been dependent on advances in technology as some of the most complex marine engineering projects have been undertaken in an E&P related setting. From conducting geological surveys and studying seismic data, to seabed installations and drilling optimization, technology is an essential part of the oil & gas supply chain. In the past technology has improved exploration results and increased production at current fields, (e.g. Directional oil & gas well drilling).[20] This has in turn driven demand for supply vessels, when new fields or installations are being developed, as well as established fields and installations. As technology has opened for more E&P activities, supply vessels have also needed to adapt. Deep sea activities demand Multi Purpose Supply Vessels with new specialized equipment, which older vessels cannot provide. Specialized Construction Supply Vessels are also needed to carry out deep sea installations. These types of vessels are dependent on new technology (e.g. dynamic positioning technology, and multiple anchor systems, providing increased flexibility in operational positioning).[21] In a safety perspective, offshore operations are imposed with some of the most stringent safety regulations in the industry.[22] Technology protecting people from hazardous working conditions (e.g. automated bulk-hose hook-up, located on newer supply vessels)[23] allow these operations to be carried out. From a cost perspective the supply vessel is one of the most expensive

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[19] Live Charts: Brent Oil Chart
[20] Horizontal Drilling: Horizontal – Directional Oil & Gas Well Drilling
[21] Bourbon: Announces order for 2 Multi Purpose Supply Vessels
[22] European Commission: Facing the challenge of the safety of offshore oil and gas activities
[23] ODIM ABCS: Creating Safer Decks

investments in the offshore supply chain. Newbuilds incorporate more fuel efficient, capable engines and equipment which require lower maintenance and improve value for supply vessel companies.[24] In an overall assessment technology pushes the boundaries of what offshore operations can be carried out from a technical and regulatory perspective as well as keeping operations cost-effective.

Weather:

Offshore oil and gas operations have always been contingent on the weather. Bad weather prohibits the degree of E&P activities offshore which, in turn slows demand for supply vessels. Over time specialized E&P equipment and tools, including supply vessels, have been developed to withstand rougher weather, i.e. wind and wave height.[25] This is nothing new, however, as the largest and most easily accessible offshore oil and gas fields have been discovered and/or utilized, E&P activities are moved farther offshore to harsher and more demanding climates.[26] Deep Sea E&P creates a demand for supply vessels which are robust and flexible enough to withstand the weather, while undertaking sophisticated and complex operations. This creates increased demand for new, expensive supply vessels and creates a gap in demand between those companies readily available for such activities, and those supply vessel companies that are not. As 48% of the global supply vessel fleet is more than 25 years old, with higher operating cost, maintenance cost and breakdown tendency,[27] this will prove to be an important value driver in years to come.

Availability of oil field services:

Exploration & Appraisal (E&A) requires an array of equipment and services. This entails geological surveys, seismic imaging, exploration drilling, production equipment, transportation and qualified personnel.[28] Supply vessels are important in E&A activities, but are dependent on the availability of oil rigs, personnel and other equipment and services to be employed in these E&A activities. Consequently, during an exploration period of an oil field, oil rigs, supply vessels and qualified personnel must be uniformly available to meet the criteria of the exploration area and time

[24] MTU: Offshore Supply Vessels & Crew Boats
[25] SINTEF: Offshore Supply Logistics and Integrated Operations
[26] Mantrana: Offshore Logistics – Future Outlook
[27] Mantrana: Offshore Logistics – Offshore Vessel Fleet Profile
[28] Investopedia: The Industry Handbook - The Oil Service Industry

frame. Considering that few oil & gas companies are vertically integrated, this creates a bottleneck in the industry.[29] This bottleneck is largely dependent on what type and amount of oil exploration rigs are available as well as supply vessels. Once an oilfield is deemed profitable, production is initiated creating a more stable demand for supply vessels as more stationary oil rigs are inserted and more long-term contracts with supply vessels are signed to ensure full and steady production. In the pre financial crisis period with high oil prices, the lack of oil field services became evident as funding for E&A activities was increasing, but equipment and services were scarce.[30] Following a period of newbuilds of both oil rigs and supply vessels, this issue may be less apparent in years to come, however, availability of equipment and services for exploration, appraisal and production activities will always be relevant and affecting the spot day rates for supply vessels available.

Exploration & Production Investments:

Exploration and Production activities require less support from supply vessels than fully operational installations offshore. This is due to fully operational oil fields needing more construction to be carried out, more supplies to be delivered, more possibility of incidents requiring support etc. Key demand drivers for supply vessels. Nevertheless, E&P investments are required to sustain demand for supply vessels by finding and developing new profitable production wells.[31] These investments are expensive and highly dependent on the oil price. As fields start to mature and crude oil and gas output declines, E&P investments become more important for oil companies to avoid decline in production.[32] However, exploration & appraisal activities are costly and are therefore dependent on high oil prices to be carried out. The financial crisis slowed E&A activities,[33] which consequently slowed the time it takes to put potential new undeveloped oil fields into production. Future outlook shows, however, E&A activities to be on the rise,[34] which should keep future demand for supply vessels stable.

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[29] NYTimes: Dearth Of Ships Delays Drilling Of Offshore Oil
[30] NYTimes: Dearth Of Ships Delays Drilling Of Offshore Oil
[31] Investopedia: Unearth Profits In Oil Exploration And Production
[32] Investopedia: North Sea Exploration and Development Forges On
[33] RIGZONE: Analysis – Incentives Key to Unlock North Sea Potential
[34] The Independent: Interest in North Sea Exploration Booms

Day Rates:

Supply vessel companies strive to have a fully utilized fleet at all times. While it is common to have most of the fleet chartered out on long-term contracts (longer than 30 days) with possible renewable options (i.e. the right for oil companies to renew current contracts with the OSV companies); a large part of the fleet depend on the spot market. The following chart illustrates the spot demand for supply vessels in the North Sea given by the dark blue curve, the term demand given by the light blue curve, the fleet size given by the green curve, total utilization in percentage given by the red curve and term utilization given by the grey curve. While the spot demand varies over time and according to type of vessel needed, it is a good indicator of the current supply and demand for the supply vessel market. Supply Vessel companies need to maximize rates by weighting return on long term contracts relative to the spot market. Incidentally, as a large part of the fleet depends on the spot market, it is an important value driver for any supply vessel company.
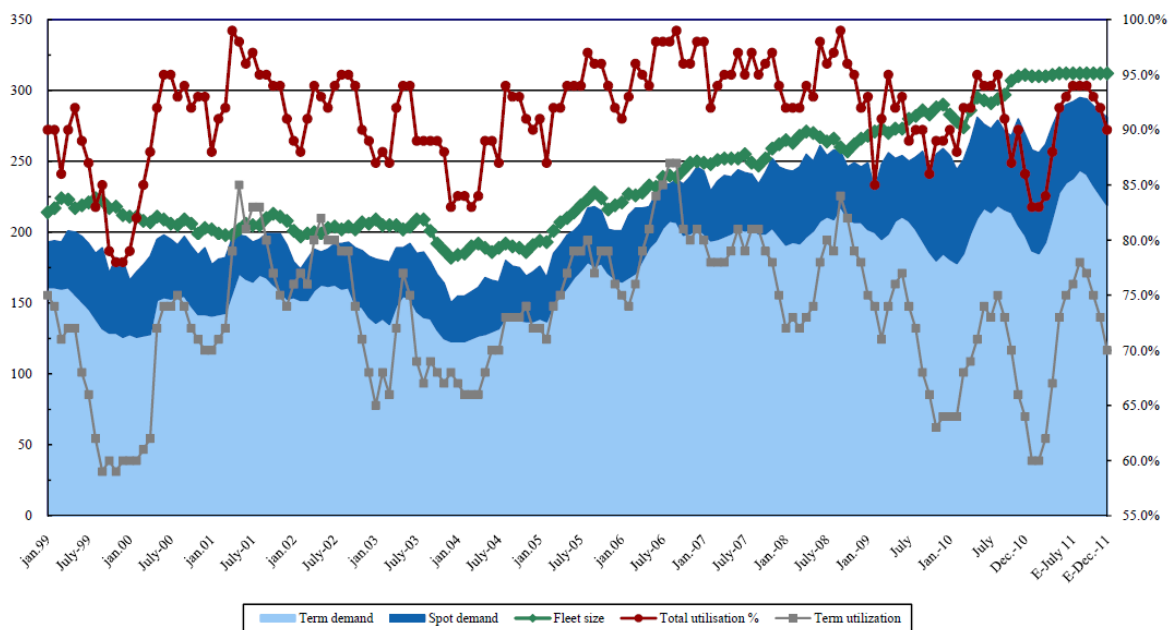
Source: ODS- Petrodata/ Farstad, January 2011

Figure 5 North Sea Fleet: Term Demand, Spot Demand, Fleet Size, Total Utilization % and Term Utilization of Offshore Supply Vessels[35]

In sum there are several important value drivers in the supply market. The oil price and energy demand are arguably the most important key value drivers by far, which may make and break the industry.[36] However, other factors, such as technology,

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[35] Farstad Shipping 4Q Presentation 2010
[36] Mantrana: Offshore Logistics

weather, day rates and availability of oil services and exploration and production investments, impact the industry on a day to day basis, and shape the profitability of the industry continuously.

3.0 PRESENTATION OF FARSTAD SHIPPING ASA

Farstad Shipping ASA is Norwegian operated supply vessel company concentrated in Aalesund. The company was established as a shipping company in 1956 and entered into the supply vessel market in 1973. Through wholly owned subsidiaries in Scotland, Australia and Singapore it is strategically located to supply the most important offshore markets.[37] The current fleet consists of 58 vessels.[38] The company went public in 1988 and is currently the largest supply vessel company (based on market value) on the Norwegian Stock Exchange. Being a publicly traded company, institutions are some of the largest shareholders, however, the Farstad family has a controlling majority with over 40% of the shares.[39]

3.1 Organization

The table below shows how Farstad Shipping is organized.
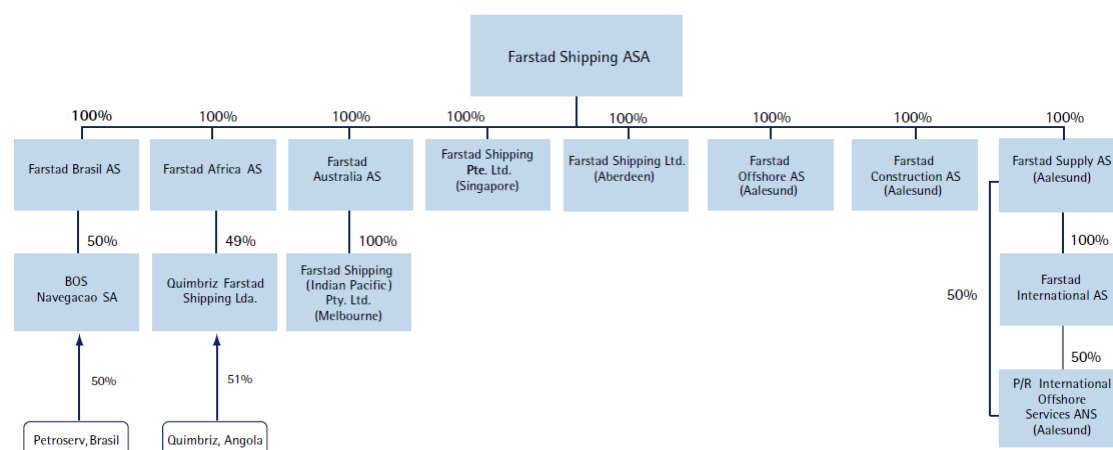
Figure 6 The Organization of Farstad Shipping ASA[40]

Farstad Shipping ASA is organized with several wholly owned subsidiaries established for different offshore markets. Among these are Singapore, Aberdeen and Australia. Operations in Africa and Brazil are undertaken in conjunction with partners. As the company is concentrated in Norway, the company has several subsidiaries in Aalesund relating to construction of newbuilds and supply both in the North Sea and internationally.

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[37] Farstad Shipping – Our History
[38] Farstad Shipping - Fleet
[39] Farstad Shipping – Largest Shareholders
[40] Farstad Shipping – Organisasion & Location

3.2 History

Farstad Shipping has roots back to 1956 when the company Sverre A. Farstad & Co was established as a shipping company. In 1963 the company had a fleet consisting of 6 vessels with a total 160 000 DWT. In 1973 the company together with a consortium of local investors ordered 4 supply vessels targeting the newly established North Sea offshore industry. An economic pool Stad Seaforth Shipping A/S was established and rapid expansion followed. By 1985 Sverre Farstad & Co A/S had vessels in the North Sea, Canada, Brazil and in the Mediterranean Area. Controlling now 50% of the supply vessels in the economic pool, the company withdrew to focus on operations out of Aalesund. In 1986 the company acquired the Wilhelmsen fleet consisting of 8 supply vessels, bringing the Farstad fleet to a total of 22 vessels. In 1988 the company was listed on the Norwegian Stock Exchange and changed its name from Far Shipping A/S to Farstad Shipping ASA. After acquiring the Seaforth Maritime Fleet in 1989 the company was the largest shipowner in the North Sea with a total of 26 vessels. In 1993 the company became an integrated shipping company with all management activities incorporated into Farstad Shipping. In the period that followed the company grew through joint ventures with P&O in 1997 and with Petroserv in 1999. Expansion into India in 2003, West-Africa in 2004 and Singapore in 2005 has positioned the company for future growth.[41]

3.3 Fleet

The Farstad fleet consists of a total of 58 vessels. This makes the Farstad supply vessel fleet the 6th largest worldwide.[42] There are 32 AHTS, 24 PSV, 2 CSV and 4 newbuilds. Current fleet position is 19 vessels in the North Sea, 13 vessels in Brazil and 26 vessels in Australia and the Far East.[43] Below is an overview of current fleet term contracts and options.

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[41] Farstad Shipping – Our History
[42] Farstad Shipping 4Q 2010
[43] Farstad Shipping - Fleet
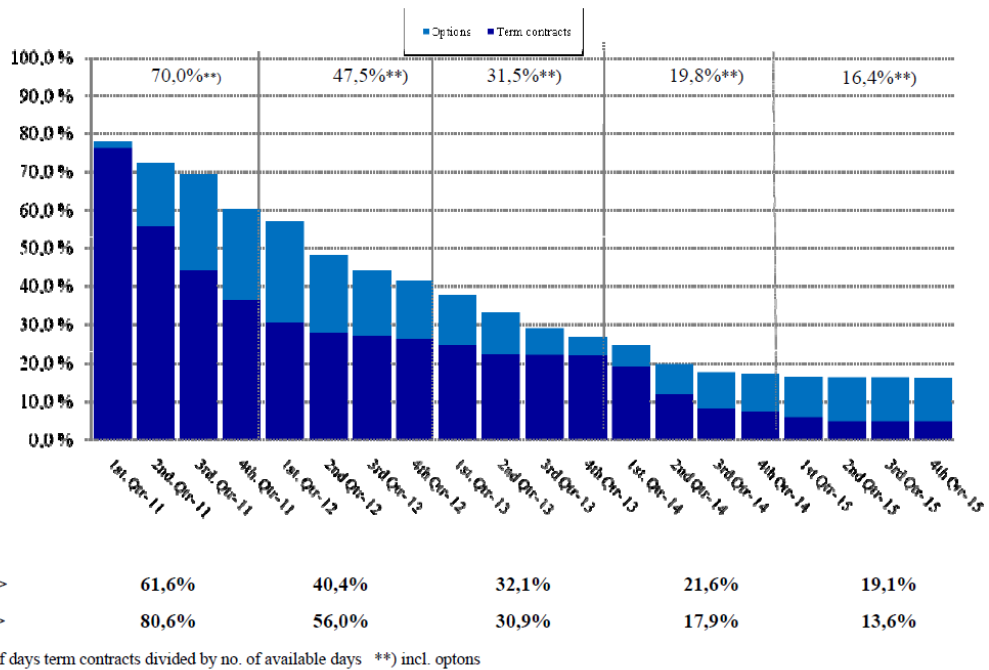
Figure 7 Farstad Shipping Contract Summary Fleet Total February 2011: Dark blue columns are term contracts, light blue columns are options[44]

For 2011 contract coverage is 80,6% for PSV for and 61,6% for AHTS. Future coverage will increase as demand for supply vessels increase when new offshore activities are finalized. Currently Farstad has a mixed position of vessels in both the spot market and in long-term contracts. Options (i.e. the right for oil companies to renew current contracts with the OSV companies) make up a large part of both PSV and AHTS/CSV long-term contracts. The current spot market (annual averages) for both AHTS and PSV is below 10 000 GBP. As AHTS/CSV are more expensive in operation than PSV; this may explain the gap in contracts between the different vessels and why certain AHTS have no contracts set.[45]

3.4 Share Development

Since being listed on the Norwegian Stock Exchange in 1988, share development has been quite favorable for investors. Despite this; Farstad Shipping is not immune to fluctuations in the global economy. The chart on the next page depicts the share price development for the firm for the previous 5 years.

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[44] Farstad Shipping 4Q 2010
[45] Farstad Shipping 4Q 2010

Figure 8 Farstad Shipping - Share Development 2006-2011[46]

Having experienced growth in income and revenue in the years leading up to the
financial crisis; the share price was trading at 170 NOK in 2007, yielding a market
value for the firm of 6.6 billion NOK. With the financial crisis, the share price
plummeted to 67 NOK in late 2008, pricing the firm at 2.6 billion NOK. However, the
deflated share value recuperated quickly, bringing the firm back to stable share values
by 2010. Entering into 2011, the share price surpassed pre-financial crisis peaks and
was trading for 185 NOK. The firm is currently priced at 147 NOK per share with a
market value of 5.7 billion NOK.[47] The following chart depicts how the Norwegian
energy sector has developed in the same time period.

Figure 9 0SE010 Energy Index - Development 2006-2011[48]

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[46] NetFonds: Teknisk Analyse for FAR
[47] Share price dated 02.12.2011
[48] NetFonds: Teknisk Analyse for 0SE010GI

The index peaked a year later than for Farstad Shipping, but both the index and Farstad Shipping reaches its lowest point in late 2008. However, while Farstad Shipping regains its former market value in 2010; the energy index first reached pre-financial crisis levels in 2011. Furthermore, the index has yet to surpass its former peaks. The charts demonstrate that Farstad Shipping was indeed affected by the financial crisis.

3.5 Dividend

Farstad Shipping's board of directors has operated with a relatively generous dividend policy the last years, as illustrated in the following table.

Year	Dividends per share	Date proposed	Date approved	Payment date	Share price 31.12
2009	3.00	17.02.10	19.05.10	01.06.10	128.50
2008	5.00	12.02.09	14.05.09	28.05.09	67.50
2007	4.00	26.02.08	14.05.08	27.05.08	148.00
2006	3.00	15.02.07	10.05.07	29.05.07	135.50
2005	3.00	17.02.06	11.05.06	31.05.06	97.00
2004	5.00	25.02.05	12.05.05	31.05.05	76.00

Figure 10 Farstad Shipping Dividend Policies in NOK 2004-2009[49]

This high level of dividends per share, which is sustained even in times of distress e.g. in 2008, is explained by the firm's goal to give shareholders a competitive return on their shares. This return is to be provided through growth in underlying assets and payment of dividends.[50] The dividend policy is relatively high, but with a high cash reserve, the firm has never been in a position where dividends needed to be withheld. While such a high dividend policy may be, understandably, disregarded by many companies in times of distress, such as the financial crisis, the high dividend policy has created a trust between the owners and managers which may be considered a valuable asset. Dividend policy for 2010 is proposed to be 4.00 NOK, an increase of 33% relative to 2009.

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[49] Farstad Shipping - Dividends
[50] Farstad Shippind - Dividends

4.0 STRATEGIC ANALYSIS

The purpose of this chapter is to provide a strategic analysis of both the firm, Farstad Shipping, and the industry in which the firm operates, i.e. the offshore supply vessel industry. The strategic analysis is an essential part of the fundamental analysis and provides an important overview over both firm and industry before addressing the financial analysis. The strategic analysis is based upon publicly available information.

4.1 Framework for Strategic Analysis

To comprehend the purpose of the strategic analysis, it may be suitable to describe the purpose of strategy in a corporate environment. Johnson & Scholes (1999:10) has the following description; "Strategy is the direction and scope of an organization over the long-term: which achieves advantage for the organization through its configuration of resources within a challenging environment, to meet the needs of markets and to fulfill stakeholder expectations." Paraphrased, strategy is thus a method of optimally utilizing resources, relative to the business environment. This view will be central when analyzing the strategic position of the firm in its current corporate environment. The strategic analysis will be divided into two sections: internal and external. The internal analysis will focus on the strength and weaknesses of the firm itself, while the external analysis will focus on opportunities and threats in the corporate environment, i.e. the offshore supply vessel industry. The analysis will provide insight into if the firm and/or industry will have a temporary or sustained competitive advantage in the future, based upon its current situation.

Competitive advantage may be described as return on invested capital (ROIC) being higher than weighted average cost of capital (WACC).

The SWOT model will be applied as the framework for the analysis. The model indentifies opportunities and threats within the industry, and strength and weaknesses within the firm. The model is illustrated on the following page.
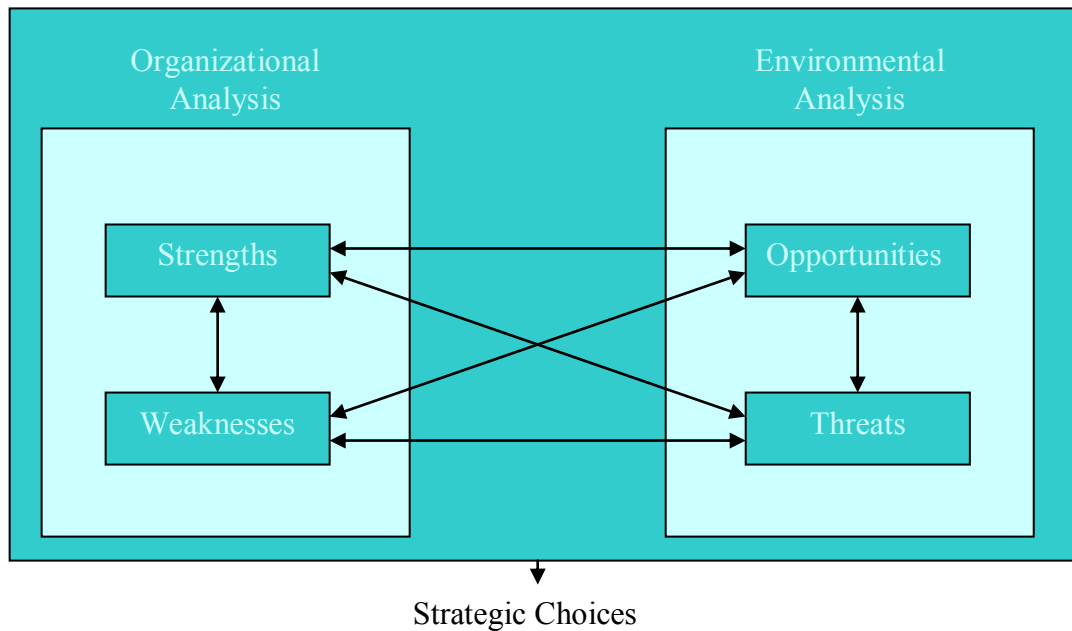
Figure 11 Strategic Analysis: External and Internal (SWOT Model)[51]

The organizational/internal analysis of strengths and weaknesses will be conducted using the VRIO model, I.e. reviewing if a resource is valuable, rare, imitable and can be applied in the organization. The environmental/external analysis of opportunities and threats will be conducted using the Five-Forces model. I will address suppliers and customers' bargaining power, threats from new entrants and substitute products and rivalry within the industry. Overview of the strategic analysis is depicted below.
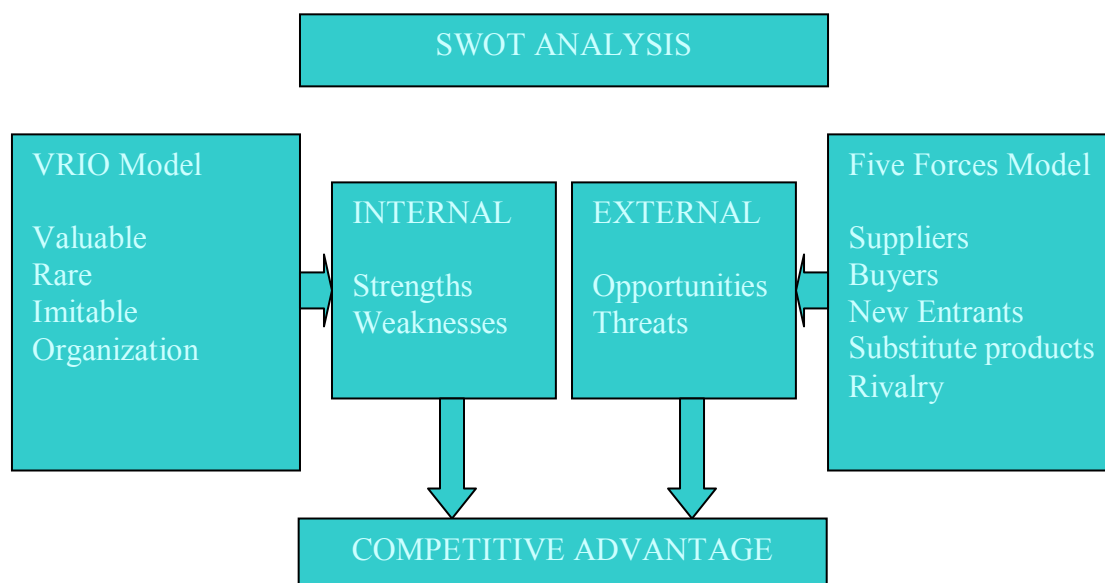
Figure 12 Overview of Strategic Analysis

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[51] Barney (1997:22)

4.1.1 Internal Resource Oriented Analysis: VRIO

The purpose of the internal analysis is to determine which resources a firm has at its disposal, and if these resources are strength or weaknesses. Moreover, these resources, either strength or weaknesses, may help explain the current economic position of a firm, and how to improve the economic future, by utilizing these resources optimally. The VRIO framework distinguishes resources by using the following questions:

1. The Question of Value: Do a firm's resources and capabilities enable the firm to respond to environmental threats or opportunities?
2. The Question of Rarity: Is a resource currently controlled by only a small number of competing firms?
3. The Question of Imitability: Do firms without a resource face a cost disadvantage in obtaining or developing it?
4. 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?[52]

The VRIO framework is depicted below. Notice that competitive advantage increases according to how special the resource or capability is, i.e. valuable, rare etc.

The VRIO Framework: Is a resource or capability…				
Valuable?	Rare?	Costly to Imitate?	Exploited by the Organization?	Competitive Implications
No	—	—	No	Competitive Disadvantage
Yes	No	—	—	Competitive Parity
Yes	Yes	No	—	Temporary Competitive Advantage
Yes	Yes	Yes	Yes	Sustained Competitive Advantage

Figure 13 The VRIO Framework[53]

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[52] Barney (2007:138)
[53] Barney (2007:150)

In correlation with the SWOT analysis, the VRIO framework can be applied to determine if a resource or capability is a strength or weakness.

The relationship between the VRIO framework and organizational strength and weaknesses is depicted below. Notice that the organizational strength increases according to how special the resource or capability is, i.e. valuable, rare etc.

The VRIO Framework – Organizational Strengths and Weaknesses: Is a resource or capability…				
Valuable?	Rare?	Costly to Imitate?	Exploited by the Organization?	Strength or Weakness
No	—	—	No	Weakness
Yes	No	—	—	Strength
Yes	Yes	No	—	Strength and Distinctive Competence
Yes	Yes	Yes	Yes	Strength and Sustainable Distinctive Competence

Figure 14 The Relationship Between the VRIO Framework and Organizational Strengths and Weaknesses[54]

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[54] Barney (2007:151)

4.1.2 External Industry Oriented Analysis: Porter's Five-Forces

The purpose of the environmental/external analysis is to examine the overall economic attractiveness of an industry.[55] Furthermore, the analysis may explain if the industry as a whole is in a position to provide ROIC higher than WACC, i.e. provide a super profit. Porter's Five Forces model, which will be used as the framework for the external analysis is illustrated below.
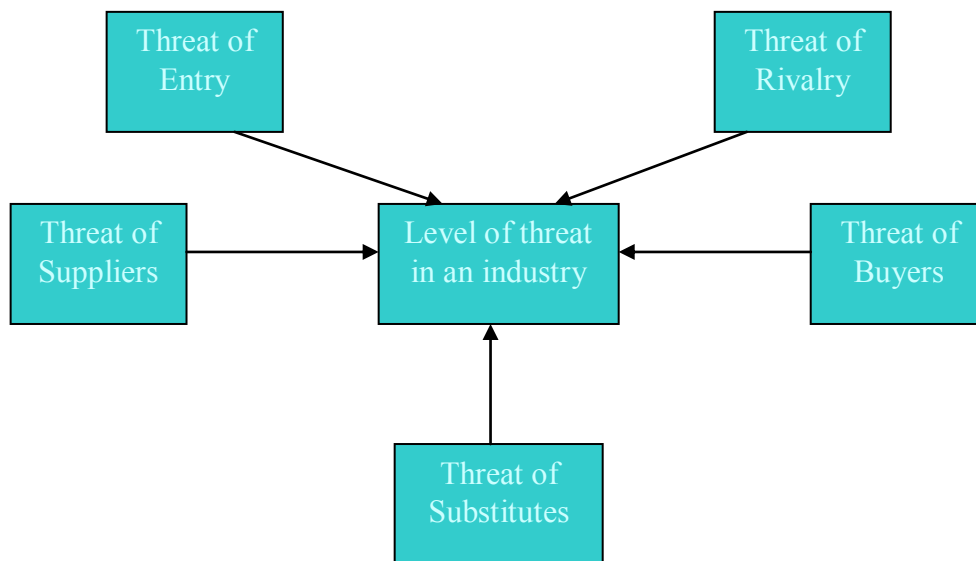
Figure 15 The Five Forces Model of Environmental Threats[56]

The Five Forces framework depicts 5 threats or forces, which may affect the profitability of an industry. They are:

1. The threat of new entrants lowering profitability to current firms in the industry.

2. The threat of rivalry lowering return to all current firms in the industry.

3. The threat of substitutes lowering the overall return to all firms in the industry.

4. The threat of suppliers bargaining power.

5. The threat of buyers bargaining power.

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[55] Barney (2007:53)
[56] Barney (2007:58)

4.2 Strategic Analysis of Farstad Shipping

Farstad Shipping's strategy is "to be a long-term, major supplier of large, modern offshore supply vessels to the oil industry worldwide."[57] Considering the firm's strong global position in the OSV market; this is a strategy the firm is following well. I will in this segment explain why this is the case and if the firm is in a position to sustain this strong position and yield a super profit to its shareholders.

4.2.1 Internal Analysis – VRIO

The internal analysis will be conducted using the VRIO framework earlier described. For simplification, resources will represent both resources and capabilities within a firm. When discussing the firms resources, four categories will be addressed; financial capital, physical capital, human capital and organizational capital.[58]

Financial Capital:

Financial capital pertains to all monetary resources a firm may utilize to develop and initiate strategies, e.g. banks, equity holders, bond holders etc.[59] Farstad has a healthy capital reserve. Among its peers on the Norwegian Stock Exchange, it has one of the lowest debt/equity ratio at 122%. Given such a low debt/equity ratio puts the firm in a strong financial position, especially when considering the firm is one of the largest operators in the OSV market. A strong financial position such as this means that the firm is capable of taking on new capital intensive investments and also increase its leverage if necessary. Certainly, with the strong cash flow performance in the last years, the firm is able to keep a healthy capital reserve even in times of distress, and hence be able to invest in new opportunities, when other firms may be more limited due to debt.

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[57] Farstad Shipping – Our Strategy
[58] Barney (2007:134)
[59] Barney (2007:134)
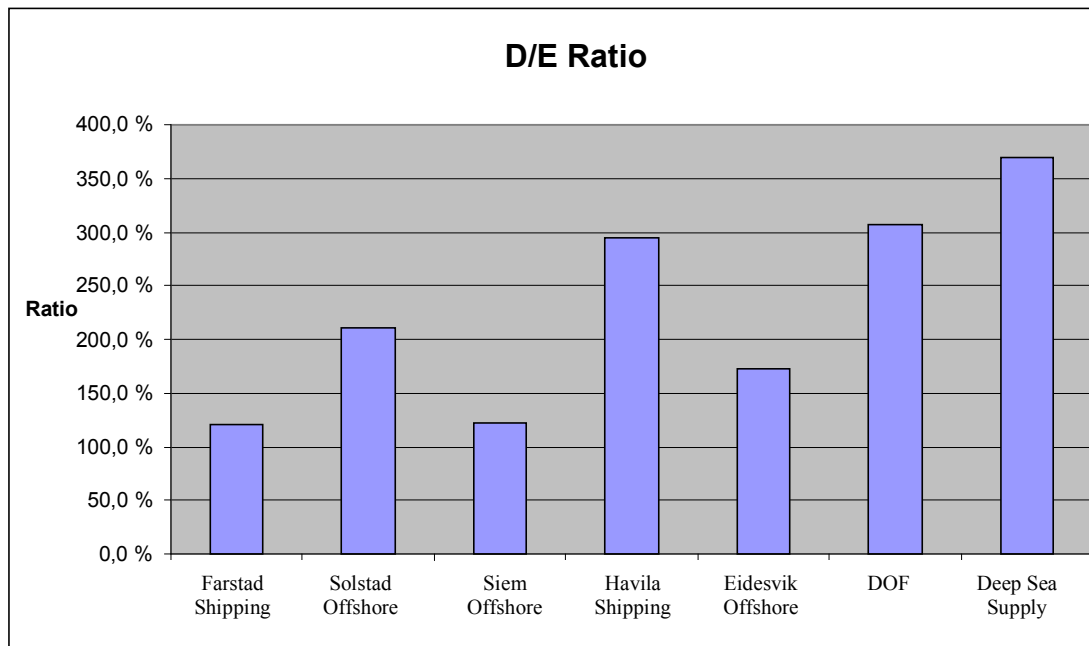
Figure 16 Debt/Equity Ratio of Offshore Supply Vessel Firms on the Norwegian Stock Exchange[60]

Farstad Shipping is clearly in a much stronger financial position than most of its peers. While certain firms also have a low D/E ratio, e.g. Siem- and Eidesvik Offshore, they are much smaller, financially speaking. In light of financial capital being valuable, rare and costly to imitate; this resource must be considered a competitive advantage. Being able to apply financial capital in times of distress to fund new opportunities; this resource may be considered sustained competitive advantage.

Conclusion: Financial Capital (Strength and Sustainable Distinctive Competence)

Physical Capital:

The physical capital for Farstad Shipping is their offshore supply vessels. The importance of the current fleet is relative to the age of the fleet, which segments it is exposed to and what contract coverage the fleet has.

First; a young fleet means less maintenance, less idle time. Upkeep and maintenance cost increase considerably when vessels become more than 20 years. Naturally, it would be beneficial to have a young fleet. Farstad Shipping's fleet has an average age of 11,25 years. More importantly, the AHTS, PSV and SUBSEA segment have an

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[60] Based upon Q4 2010 Figures

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average of 10,4, 12,4 and 6 years respectively.[61] In comparison, the worldwide AHTS, PSV and SUBSEA segments have an average of 15,4, 13,7 and 13 years respectively.[62] While the PSV fleet is not that much younger than on average, both the AHTS and SUBSEA fleet is. However, with a surge of newbuilds underway, the average age of the OSV fleet will fall. In other words, a young fleet age is only a temporary competitive advantage.

Second; the OSV market may be divided into four segments; AHTS, PSV, SUBSEA and small AHT. Their market shares are respectively; 53%, 40%, 13% and 4%.[63] Farstad Shipping has the fleet breakdown; 55% AHTS, 41% PSV and 3,5% SUBSEA. Having a relatively similar breakdown of the fleet as the global OSV fleet has does not necessarily need to be a strength or weakness. More importantly is how demand is going to develop for these segments. Considering that prognoses show that E&P activities will continue to move to deepwater and ultra deepwater, high specification AHTS, PSV and SUBSEA vessels will experience increasing demand. I.e., Farstad Shipping is positioned wisely for future growth. Despite this, as most peers have a similar breakdown of the fleet, especially in Norway, this may only be considered competitive parity.

Third; Contract coverage is vital in maximizing return in both the spot market and the long-term market. However, with the spot market for both PSV and AHTS still lagging, several firms are focusing on the long-term market. This is also the case with Farstad Shipping, having several vessels, mostly AHTS, currently laid up. While this may create loses in the short term, it may improve long term return with vessels gaining favorable rates. In other words, having a large part of the fleet locked into contracts with poor terms is a disadvantage. The increased flexibility of having high specification vessels ready when rates improve is therefore a competitive parity. Overall, Farstad Shipping has a fleet that is young, well diversified into growth segments of the OSV market and has a relatively good mixture of short-term and long-term contracts. Despite this being a valuable resource; it is not rare, as many peers also have these fleet qualities. Therefore this resource may only be considered competitive parity.

Conclusion: Physical Capital (Parity/Strength)

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[61] Farstad Shipping - Fleet
[62] Mantrana: Offshore Logistics – Offshore Vessel Fleet Profile
[63] Mantrana: Offshore Logistics – Offshore Vessel Fleet Profile

Human Capital:

The human capital of Farstad Shipping is its employees; including management, offshore personnel, staff, administration etc. This is any company's most important resource. Having been a long term participant in the OSV market especially with AHTS and PSV; the competence which has been acquired is indeed invaluable, not only from an economic view, but also with regards to safety. Nevertheless, while Farstad Shipping has special knowledge of how to optimally run their firm, there is little evidence that their employees perform better than their peers. Moreover, many highly skilled employees change employers while staying in the same industry. As most firms within the industry have relatively the same values, safety focus, knowledge and skill level, it is unlikely that human capital is a competitive advantage. However, it is competitive parity.

Conclusion: Human Capital: (Parity/Strength)

Organizational Capital:

Organizational capital pertains to how the firm is structured administratively, its culture, reputation and network within the business environment.

Farstad Shipping has a professional organizational structure, which provides the firm with an ability to respond swiftly and effectively to changes in its business environment. Its planning, controlling and coordinating systems have been developed over many years to perform optimally. Focusing on a relatively flat organization structure, with close links between customers and management, the firm has a market focused organization. Having operated in the OSV market for three decades, the firm has put great emphasis on having a solid reputation towards customers, shareholders and all parties in any relation with the firm. This reputation creates an important trust which many OSV firms arguably do not have.[64] Certainly most firms with a long term view in any market strive to have good relationships with its business associates, but not all firms have the strong reputation and trust which takes time to develop. This is a valuable resource in times of distress. This reputation may be a result of Farstad Shipping being a largely family owned firm, thus creating a culture embodying important values of respect and trust which is incorporated in the firm. Farstad Shipping also has a well developed network. This network does not only pertain to

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[64] Farstad Shipping – HSE Awards

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customers, but all business partners, ranging from suppliers, yards, future clients, and a network of contacts relative to all major OSV markets.

Predominantly, most firms of this size will have a well developed and professional administrative framework, and a large and well maintained relationship to all partners in its business network, similar to Farstad Shipping. Despite this, a strong reputation, trust and a value enhancing culture takes time to develop, and may only persist over time if the firm is organized to develop and protect these qualities. This must be considered a valuable, rare and hard to imitate resource which must be considered a competitive advantage. Considering that such a resource may be utilized in times difficulty, this resource may be considered sustained competitive advantage.

Conclusion: Organizational Capital (Strength and Sustainable Distinctive Competence)

The following table shows the results of the VRIO analysis of Farstad Shipping:

Resource/VRIO	Valuable	Rare	Imitable	Organization	Implications
Financial	X	X	X	X	Sustained Competitive Advantage (Strength and Sustainable Distinctive Competence)
Physical	X				Competitive Parity (Strength)
Human	X				Competitive Parity (Strength)
Organizational	X	X	X	X	Sustained Competitive Advantage (Strength and Sustainable Distinctive Competence)

Figure 17 Summary VRIO: Farstad Shipping

In summary, Farstad Shipping has no competitive advantage to its competitors with regards to physical and human capital. However, both financial (low D/E ratio) and organizational (good reputation) capital may be considered sustained competitive advantage. It is difficult to determine if the firm's quick recovery from the financial crisis was due to a low D/E ratio. In a long-term perspective this is an advantage as less leverage allows for investments with less constraints, however, the equity in a highly levered firm should increase more than the equity in a low levered firm in a recovering economy. Overall, it is fair to assume that in a long-term perspective both the financial and organizational resources should provide a super profit, ROIC > WACC.

4.2.2 External Analysis – Porters Five-Forces

The external analysis will be conducted using Porters Five-Forces framework earlier described. When discussing the firms threats, five categories will be addressed; threat of entry, threat of rivalry, threat of suppliers, threat of buyers and threat of substitutes.

Threat of Entry:

The threat of entrants is dependent on what entry barriers exist in the industry. Higher entry barriers indicate a lower threat of entrants and vice versa.[65] In the OSV market the main entry barriers are; capital, know-how, switching-cost and economies of scale.[66]

Capital

Supply vessels are one of the largest investments in the E&P supply chain. Despite this, older supply vessels may be purchased relatively cheap. This made capital a low entry barrier 20-30 years ago. However, maintenance cost and idle time are much higher on older vessels, a natural deterrent to purchasing older OSV. Also, today's E&P activities entail very complex and demanding operations which depend upon new multitasking vessels with modern technology, which has raised the entry barrier.[67] Also the OSV market has become more diverse ranging from cheaper PSV to expensive CSV. This may have kept the entry barrier low by making it easier to enter by purchasing a cheaper PSV. Nevertheless, E&P activities do not rely solely on one type of supply vessel. A drilling firm may want both PSV and AHTS for one operation. Offshore drilling firms may rather select an OSV firm which may deliver a diverse selection of vessels for different operations, rather than handling multiple contracts with many smaller OSV firms.

Capital is therefore considered a medium barrier to entrants.

Know-How

Operating complex supply vessels in demanding places such as the North Sea, creates a demand for a highly skilled workforce, both on land and offshore. Having the

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[65] Barney (2007:59)
[66] Barney (2007:58-71)
[67] Mantrana: Offshore Logistics – Offshore Logistics

necessary knowledge and competence in these areas can save money, time, and lives. Certainly, an OSV firm may hire skilled personnel and take advantage of the skills these employees possess. But a firm may also develop knowledge which is embodied in an organization and does not easily transfer to a new organization. Also, highly skilled personnel may be inclined to work for a new firm with no established reputation or history in the OSV market. Also, established firms may try to keep highly skilled employees.

Know-How is therefore considered a high barrier to entrants.

Switching-Cost

A well established network is essential in the OSV market, where efficient and quick solutions are combined with smooth transactions to fit small time frames. Solutions are tailored to fit the needs of the drilling firms and transaction costs may be high. However, once an agreement between an OSV firm and drilling firm has been made and a positive end result has been reached, business is likely to repeat itself. While other OSV firms may be cheaper or offer better terms, the psychological investments and transaction costs of choosing a new OSV partner may serve as a natural deterrent. This is especially the case when considering new entrants with little or no established reputation in the market. The customer-switching cost may be too high. Incumbent OSV firms may also try to lock-in clients in longer-term contracts.

Switching-Cost is therefore considered a medium barrier to entrants.

Economies of Scale

The bulk of costs for an OSV firm are fixed overhead cost relating to management and logistics and variable costs relating to maintenance costs and upgrade costs. Large OSV firms may spread their fixed cost over many vessels, thereby enabling them to have more competitive bids. Also by representing a large fleet, favorable terms may be made with yards for maintenance, upgrades and newbuilds. Economies of scale may therefore mean the difference between surplus and deficit. An offshore drilling firm may also be inclined to hire an OSV firm with a large fleet, than an OSV firm with a smaller fleet, everything else equal. While high cost OSV firms may do well when the oil price and day rates are high, larger firms with economies of scale have a surplus even in a poor OSV market. Notably, economies of scale have been increasingly important in the latter years.

Economies of scale is therefore considered a high barrier to entrants.

Threat Strength: Medium, but increasing

Threat of Rivalry:

The threat of rivalry describes the degree of competition which may exist within an industry. In the OSV market this is dependent upon the following attributes; amount of competing firms and degree of size and influence, industry growth and product differentiation.[68]

Competing Firms and Degree of Size and Influence

Domestically and internationally, there are a large number of competing firms within the OSV market. This naturally increases the threat of rivalry between incumbent firms. Also many of these firms are similar in relative size and influence in the industry. With many similar OSV firms it is difficult to reduce rivalry through tacit collusion.[69] Though there exist certain larger OSV firms, (e.g. Edison Chouest, Tidewater and Maersk) they do not dominate the global market. This claim is supported by the Herfindahl-Hirschman Index. This index indicates the level of competition within an industry using the following formula $H = \sum_{i=1}^{N} s_i^2$. i.e. summing the square root of the market shares for each OSV firm. Studying the 40 largest OSV suppliers a result of 4,1% is achieved.[70] This indicates an unconcentrated index and a relatively high level of rivalry.[71] Despite this, the OSV market is highly fragmented as OSV firms specialize in both regions and type of vessel. This lowers the degree of rivalry within the industry. Furthermore, the 7 largest OSV suppliers control 47,6% of the OSV vessels.[72] Competing firms and degree of size and influence is therefore considered a medium threat.

Industry Growth

Increasing E&P activity, high oil price and new fields, creates high growth possibilities for the OSV market. High growth tends to reduce rivalry, as there is more

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[68] Barney (2007:71-72)
[69] Barney (2007:71)
[70] The 40 largest OSV suppliers own roughly 995 vessels
[71] Financial Education: Herfindahl Index
[72] Pareto Securities' 15th Annual Oil & Offshore Conference

overall surplus in the industry, and demand is higher than supply.[73] Despite this, OSV supply increased greatly with many newbuilds ordered in the pre-financial years. This may increase rivalry in the post-financial crisis period. Also considering a falling oil price and most large oil & gas fields arguably discovered there should be a high degree of rivalry. Yet, with an aging global fleet not suitable for the work modern OSV undertake, new large oil fields being discovered in mature fields[74] and a stabilization of the oil price, industry growth may still be high.

Industry growth is therefore considered a medium threat.

Product Differentiation

Rivalry is usually high when there is little differentiation between products. In the OSV market there is generally one need to be covered, namely supplying offshore installations. However, with different operations needed to be carried out, more specialized vessels such as AHTS and CSV have been developed, creating a more diverse selection in the OSV market. Certainly, there are firms that have a very diverse fleet covering most needs in an E&P related setting. Nevertheless, a large modern fleet demands a high degree of capital and infrastructure. Therefore, most firms employ a specific fleet strategy, focusing on one or two types of vessels. This increases diversity among OSV suppliers.[75] Also, OSV suppliers tend to specialize in certain regions where they have invested in infrastructure and network.[76] This further increases product differentiation.

Product differentiation is therefore considered a low threat.

Threat Strength: Medium

Threat of Suppliers:

The threat of suppliers describes the degree suppliers can gain profitability on behalf of the OSV firms in the industry. Suppliers in the OSV industry may be characterized by yards and labor. While the threat of yards is dependent upon, amount of suppliers and degree of differentiation,[77] the threat of labor is dependent upon the Health, safety and environment (HSE) in E&P activities and the amount of highly qualified labor.

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[73] Barney (2007:72)
[74] NetFonds: Recent North Sea Discovery Even Larger than Expected
[75] Farstad Shipping – Our Strategy
[76] Farstad Shipping – Organisation & Locations
[77] Barney (2007:73-75)

Yards

Domestically and internationally there are many yards capable of supplying the needs of the OSV industry. This should decrease the bargaining power of suppliers. However, though large foreign yards may be able to provide cheaper vessels, an OSV firm is a much smaller customer with a large foreign yard than for a smaller domestic yard, increasing the bargaining power of the foreign yards. Also considering the stringent quality guidelines for vessels built in Norway by *Det Norske Veritas* organization,[78] many domestic OSV firms are therefore inclined to have their vessels built, domestically, in Norway. While many OSV vessels are built domestically, there are enough domestic yards to change suppliers if necessary, lowering the threat of suppliers. However, with the increased differentiation in OSV vessels the last years from cheaper PSV to expensive high-tech AHTS and CSV; many OSV firms are much more inclined to changing suppliers of PSV than changing suppliers of AHTS and CSV.[79] This may be explained by fewer yards specializing in AHTS and CSV construction, but also the high degree of psychological investments creating a lock-in effect between supplier and buyer of these sizeable investments.
Yards are therefore considered a low threat.

Labor

Highly skilled labor is required not only from an economical view, but also from a regulatory view. As the offshore industry has to comply with some of the most stringent work regulations with regards to health, safety and environment[80], there are great costs involved in training of new employees in the industry. There is therefore high demand for qualified personnel. Supply of labor is especially a problem in times with high E&P activities, leaving little time to train new personnel and a low supply of qualified personnel in the labor market. Certainly, this directly affects the bargaining power of offshore personnel and hence, the wages in the industry.
Labor is therefore considered a high threat.
Threat Strength: Medium

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[78] DNV – Om Oss
[79] Farstad Shipping – Fleet List
[80] Petroleum Safety Authority Norway - Regulations

Threat of Buyers:

The threat of buyers describes the degree buyers can negatively affect profitability in the industry by lowering rates. The threat of buyers is dependent upon amount of buyers, Buyer switching costs and economic profits among buyers.[81] Oil companies constitute the buyers in the OSV market and are also the focus here.

Amount of Buyers

The fewer buyers there are in a market, the more bargaining power each buyer has.[82] The clients in the OSV market are the oil companies conducting E&P activities. They vary in size, region and degree of vertical integration. While firms such as ExxonMobil, Royal Dutch Shell and BP certainly may exert more buying power than most other clients, most clients rely upon the OSV rates provided by the market. The suppliers and buyers in the OSV market are highly correlated, with supply being generally slightly higher than demand. In 2007 the order-book for AHTS and PSV was respectively 216 and 178 newbuilds, with a current global fleet size of 1448 and 457.[83] Though supply was increasing relatively to demand, these newbuilds may result in an abundance of OSV in the following years, due to a fall in E&P activity resulting from the financial crisis. With less E&P activity being conducted globally, the buyers may experience greater bargaining power, at least temporarily. Certainly, newbuilds may replace an aging fleet, but this takes time.

Amount of buyers is therefore considered a medium threat.

Buyer switching costs

Low product differentiation increases buyer's ability to switch suppliers. General demand in the OSV market depends upon the oil price. However, there are also trends within the OSV market depending upon what operations are carried out. With a high oil price in the pre-financial years; E&A was conducted in the deepwater (5000-7500 feet) and ultra-deepwater (7500+ feet) segments. These segments required the latest drilling technology and also supply vessels fitted with the latest technology allowing calibration between supply vessels (e.g. AHTS or CSV) and drilling rig. Hence, older OSV, were excluded from such operations and used more in the shallow (max 400

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[81] Barney (2007:75-76)
[82] Barney (2007:75)
[83] OSCLimited – High Day Rates Remain for Offshore Support Vessels

feet) and mid-water (1000-5000 feet) segments. This increased differentiation between OSV firms as not all firms were focusing on covering all segments. Arguably, E&A activities in the DW and UDW segments suffered from the financial crisis, lowering differentiation between firms, as these were costly operations contingent on a stable oil price. However, OSV firms are also differentiated with regards to regions, type of fleet and strategy; increasing switching costs for oil companies.

Buyer switching costs is therefore considered a low threat.

Economic Profits among Buyers

Buyers are a stronger threat when they are earning low economic profits, as they are forced to scrutinize their costs.[84] The last years (2009-2010) have depicted a lower performance among oil companies mainly due to a falling oil price.[85] Naturally, offshore oil companies have therefore become more comprehensive when undertaking E&A activities, due to their high costs and uncertain yield.[86] This has increased the bargaining power of those oil companies undertaking these projects. Also considering the significant cost OSV represent to an offshore oil company's total cost, OSV rates, both short-term and long-term are much lower than in previous years. However, with a stabilizing global economy and an increasing oil price, economic profits among oil companies are increasing,[87] which should affect OSV rates positively with increased fleet utilization.

Economic Profits among Buyers is therefore considered a medium threat.

Threat Strength: Medium

Threat of Substitutes:

There are few viable substitutes replacing the work conducted by supply vessels. This is due to the complexity of supply vessels; from being able to support construction on the seabed in deep sea territory (using CSV) or withstand rugged weather while supplying offshore installations without endangering vessel, rig or the environment (using powerful PSV). Considering many AHTS and CSV being specifically constructed for different missions, a threat from substitutes seems unlikely. In a macro

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[84] Barney (2007:76)
[85] NetFonds: Technical Analysis for Oslo Integrated Oil & Gas Index
[86] Mantrana: Offshore Oil & Gas
[87] NetFonds: Technical Analysis for Oslo Energy Index

view, one may view energy sources such as heavy oil[88] or oil shale[89] as a substitute to offshore drilling. However, due to their high cost and environmental impact, they are an unlikely substitute to conventional oil drilling.

Substitutes are therefore considered a low threat.

Threat Strength: Low

The following table shows the results of the Porter's Five-Forces analysis of the offshore supply vessel industry:

External Analysis Summary	Entry	Rivalry	Suppliers	Buyers	Substitutes
Low					X
Medium	X	X	X	X	
Strong					
Trend	↗	→	→	→	→

Figure 18 Summary Porter's Five Forces: Offshore Supply Vessel Industry

In summary, the OSV industry is highly dependent on E&P activity and hence a stable viable oil price. The recent financial crisis has proven how a significant drop in the oil price can directly affect OSV contracts; both in the spot market and in long-term contracts. However, there are currently few suitable energy substitutes for this industry. Also considering the high entry cost and high degree of diversification among OSV firms; threats are medium with overall stable trends. The external analysis is concluded with an overview over demand and supply and a market outlook.

4.2.3 Macro Economic Trends – Supply and Demand

Global demand for OSV is indirectly correlated to the oil price, Brent oil demand, spare capacity and extraction costs among operators and drilling firms. These factors contribute to the capital expenditures (CapEx) in E&P activities.[90] When conducting

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[88] Oil Sands and Tar Sands Information Center: About Tar Sands
[89] Oil Sands and Tar Sands Information Center: About Oil Shale
[90] Oil & Gas Financial Journal: Global E&P Capital Expenditure: Trends & Determinants

an analysis of the demand for OSV, the oil price outlook may be especially relevant in a long-term perspective, as short-term fluctuations due not effect daily operations. Therefore oil price and Brent oil demand are the most important factors in determining E&P CapEx and furthermore OSV demand and profitability. The following chart provides an overview over the long-term oil price forecast.

Historical Nominal $/b	
2001	24.9
2002	25.1
2003	28.5
2004	38.1
2005	55.0
2006	66.2
2007	72.7
2008	98.7
2009	62.6
Forecast Nominal $/b	
Q1-10	77
Q2-10	80
Q3-10	80
Q4-10	84
2010	80
2011	85
2012	100
2013	120
2014	135
2015	150
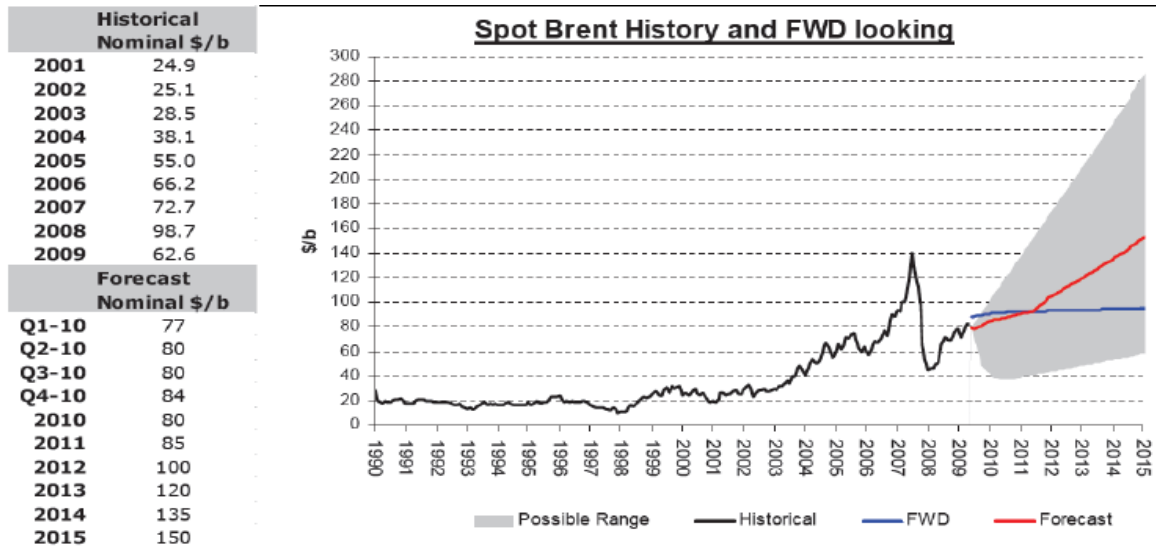
Figure 19 DnB NOR Long-Term Oil Price Forecast: Possible range given by the grey area, historical price given by the black graph, FWD rates given by the blue graph and the forecast price given by the red graph[91]

The chart depicts an increasing oil price in the period 2011-2015. Moreover, the oil price is expected to stabilize slightly in mid-2011, at 90USD/B before further increasing in 2012, then steadily increasing to 150USD/B in 2015. Importantly, the range of the forecast increases further into the forecast. However, the bottom range continuously moves upwards from low 40USD/B to 60USD/B in 2015. Overall, this indicates increased E&P CapEx and increased OSV demand and profitability. The chart on the following page describes the historical correlation between E&P CapEx and oil prices in the period 1971-2005.

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[91] DnB Nor Markets: Sector Report Offshore Supply Rough Times Ahead, But Asset Prices Offer Valuation Support

Fig. 1: Global E&P capex ($ bn, 2004 prices) LHS;oil prices ($/bbl real) RHS
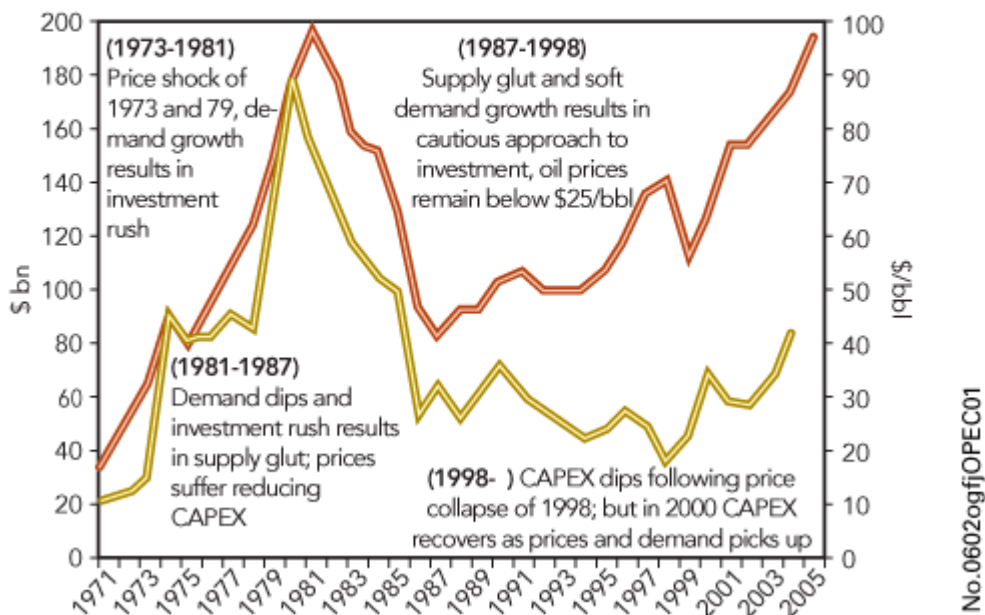
Figure 20 Global E&P CapEx (Red curve is CapEx, orange curve is demand, oil prices are stated on the right axis. [92]

Studies show that demand is often a prominent factor in determining E&P CapEx.
E.g. in the period 1988-2000, demand was a key contributor to E&P CapEx.[93]
However, the oil price was a much more important factor when explaining E&P
CapEx in the period 1973-1988 and 2000-2005. This may be explained by oil price
shocks and expected future prices to be either high or low. Spare capacity and
extraction cost are also critical factors when determining E&P CapEx. Nevertheless,
these factors have a greater effect on a micro- than on a macroeconomic level. This is
due to operators and drilling firms varying greatly with regards to both spare capacity
and extraction cost, as a result of e.g. a spare rig fleet or cheaper extraction costs due
to technology or drilling segments, e.g. cheaper MW compared to expensive UDW.[94]
Overall, the oil price and Brent oil demand are important factors in determining E&P
CapEx and hence OSV demand and profitability.

However, in the short-term, demand does not immediately fall with a dip in the oil
price. This is due to costs tied up in ongoing E&P activities. Hence, demand for OSV

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[92] Oil & Gas Financial Journal: Global E&P Capital Expenditure: Trends & Determinants
[93] Oil & Gas Financial Journal: Global E&P Capital Expenditure: Trends & Determinants
[94] Oil & Gas Financial Journal: Global E&P Capital Expenditure: Trends & Determinants

is more directly correlated with rig activity. To forecast OSV activity, it is therefore necessary to forecast rig activity.[95] This is industry practice as rig activity is OSV demand is directly related to rig activity. E.g. if rig activity is falling in the UDW segment, demand for modern AHTS above 10 000 BHP is also likely to fall. Naturally, as supply for OSV and rig tend to move in conjunction with each other, studying the fluctuations of these are important to determine over- or undersupply of OSV. To measure OSV and rig supply, *The ratio of OSV to one rig* is used. This is illustrated in the following chart.
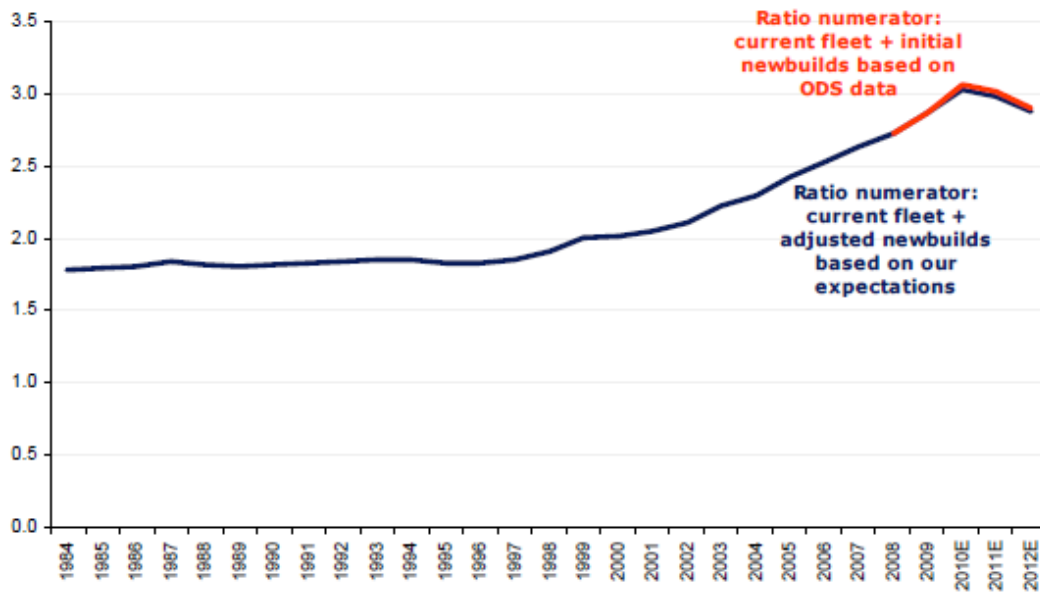
Figure 21 The ratio of OSV to one rig (1994-2012E)[96]

The ratio has steadily increased over the last two decades from 1.7 to 3.0. This may be explained by increased safety regulations, more deepwater and ultra deep water activities, more subsea activities and longer distances between installations. In 2010-2011 this ratio is expected to be 3.0, then fall to 2.9 in 2012 and stabilize at 2.8 in 2013. This signals a healthy supply/demand of OSV. The increased ratio in 2010 and 2011 is a result of newbuilds ordered in 2008-2009. These OSV units enter the market quicker than the corresponding rig units. The ratio is expected to stabilize in 2012-2013 as a result of less OSV growth and increased rig newbuilds.[97] Considering an ageing OSV fleet with possible increased scrapping and increasing demand for

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[95] T he Workboat Offshore Service Vessel Report – Six Year Analysis: 2005-2010
[96] DnB Nor Markets: Sector Report Offshore Supply Rough Times Ahead, But Asset Prices Offer Valuation Support
[97] DnB Nor Markets: Sector Report Offshore Supply Rough Times Ahead, But Asset Prices Offer Valuation Support

modern, high tech OSV; supply should equal demand in 2012. This is based on the assumption that the all rigs are utilized.[98]

From the supply side, there is currently an OSV supply overhang compared to rig activity. While this oversupply is currently a larger problem in the PSV segment, Smaller AHTS are also experiencing low returns. However, profits are expected to return to all segments by 2012. The following table provides an overview over supply of rigs in the jackup, semisubmersible, and drillship segments, compared to OSV supply.

Age	Jackup	JU Accum	Fleet growth	Semi	Semi Accum	Fleet growth	Drillship	Drillship Accum	Fleet growth	OSV	OSV Accum	Fleet growth
Above 25 years	334	334		119	119		20	20		881	881	
Between 15 - 24 years	22	356	7%	18	137	15%	1	21	5%	135	1016	15%
Between 5 - 14 years	25	381	7%	29	166	21%	17	38	81%	686	1702	68%
Between 1 - 4 years	77	458	20%	20	186	12%	11	49	29%	842	2544	49%
Into service 2010	30	488	7%	19	205	10%	13	62	27%	431	2975	17%
Into service 2011	11	499	2%	11	216	5%	18	80	29%	122	3097	4%
Into service 2012	17	516	3%	8	224	4%	5	85	6%	22	3119	1%

Figure 22 Fleet Growth Jackup, Semisubmersible, Drillship and OSV over time[99]

Notice especially the increase of rig newbuilds entering into service in 2011-2012 compared to less OSV newbuilds. Increased profits in the PSV and AHTS segments may be explained by increased rig activity, especially in the Deep Water (DW)and Ultra Deep Water (UDW) segments were semi-submersibles rigs and drillships operate.

To conclude; the market outlook for OSV may be considered optimistic. The oil price is expected to increase as demand for oil recovers. Moreover, OSV supply is also expected to coincide with rig activity by 2012, thereby increasing rates. Despite this, there is still uncertainty in the market, as recession fears is still an important international issue. Furthermore as the larger oil & gas reserves are arguably in the DW and UDW segments, profits may fall in the competitive shallow and mid-water segments. However, with few real external threats, and a recovering market, the immediate outlook is good.

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[98] PetroMin: Oil & Gas Upstream Magazine - Offshore Supply Sector Review
[99] DnB Nor Markets: Sector Report Offshore Supply Rough Times Ahead, But Asset Prices Offer Valuation Support

5.0 FINANCIAL STATEMENT ANALYSIS

The purpose of this chapter is to carry out a financial statement analysis of Farstad Shipping. The chapter begins by giving an overview of the framework for the analysis, then applying this framework to the financial statements of Farstad Shipping. The financial statement analysis coupled with the strategic analysis will provide the forecasted financial statements for Farstad Shipping. The financial analysis is based upon publicly available information.

5.1 Framework for financial statement analysis

The purpose of a financial statement analysis (accounting review) is to review historical financial data to estimate possible future risk and potential while also reviewing the current performance of the firm.[100] Financial statements consist of three specific parts; the balance sheet (describing a firm's assets and liabilities at a specific time) the income statement (describing revenue, expenses and income development over time) and the cash flow statement (describing cash flows in and out of the firm over time).[101] All parts are equally important when conducting a financial statement analysis. However, the balance sheet and income statement are of special interest as they are used for financial statement modeling, forecasting future financial statements and valuating of the firm.[102] The valuation takes the perspective of an investor. Hence, the purpose of the analysis is to forecast future cash flows. The following framework will be implemented when conducting the analysis.

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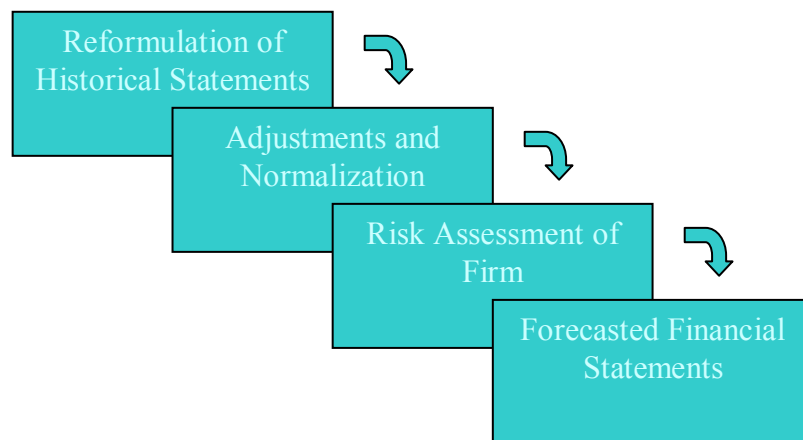
[100] Financial Statement Analysis: Financial Statement Analysis
[101] Financial Statement Analysis: Financial Statement Analysis
[102] Financial Statement Analysis: Financial Statement Analysis

Furthermore, there are four aspects which must be addressed before beginning the analysis.

1. Time period

Which time period should be the focus of the analysis? I.e. how many years of historical data should be used? This is dependent upon type of business, e.g. for a cyclical business a longer time frame might be optimal compared to a non-cyclical business. Which stage the firm itself is at, e.g. mature firms may use a longer time period than incumbent firms, moreover, a firm in a growth period or in a declining state may use shorter time periods than more stable firms.

2. Degree of in-depth analysis

To what degree should the firm be analyzed? I.e. should the firm be analyzed by the different business entities or on a consolidated level? If the business entities are homogenous a consolidated level may be preferable. Furthermore, analyzing the different business entities may not yield different results than an analysis on a consolidated level. This decision is also dependent on the availability of data for the different business entities.

3. User focus

Who are the financial statements prepared for? Traditionally, the financial statements are prepared for creditors and focus is on debt, liquidity and efficiency. Investors will focus more on cash flows. The financial statements need to be reformulated since the paper takes the focus of an investor.

4. Comparable firms

Which firms should be used in comparison to the firm? The comparable firms need to be representative for the industry the underlying firm is in. Moreover, the firms need to be exposed to the same markets and economic changes and have relatively similar size and risk level.

5.1.1 Reformulation of financial statements

Financial statements are reformulated from their current state to the perspective of an investor by doing the following: normalize earnings (i.e. separating normal long-term earnings and more transitory earnings) and separating financial assets from operating assets (preparing the statements for further analysis).[103] By reformulating the financial statements a better view of the financial situation of the firm is achieved for an investor and a more accurate and stylized financial statement is created for further analysis. The following chart provides an overview of the reformulated balance sheet.

The Reformulated Balance Sheet

Assets	Liabilities and Stockholder's Equity
Financial assets:	Financial liabilities:
- Cash equivalents	- Short-term borrowings
- Short-term investments	- Current maturities of long-term debt
- Short-term notes receivable (?)	- Short-term notes payable (?)
- Long-term non-marketable debt investments	- Long-term borrowing (bank loans, bonds, payable, notes payable)
- Long-term marketable debt securities	- Lease obligations
	- Preferred stock
Operating assets:	Operating liabilities:
all else	all else
	Common equity

Figure 23 The Reformulated Balance Sheet Overview[104]

Reformulation of the financial statements may be divided into 4 parts: dividends payable, dirty surplus, extraordinary earnings and separating operations and financing.[105]

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[103] London International: Valuation Security Analysis
[104] Slideshare: The Analysis of the Balance Sheet and the Income Statement
[105] Penman (2004:291-292)

Part 1: Dividends Payable

Dividends payable is subtracted from short-term liabilities and added to equity. The current formulation indicates that the investor is in debt to himself and hence needs to be reformulated.[106]

Part 2: Dirty Surplus

Dirty surplus are income and expenses which are reported as a part of equity and not in the income statement. While all income and costs are to be registered in the income statement, dirty surplus may legally occur when rectifying mistakes in post financial statements and/or changing accounting principles. These are here added to the income statement.[107]

Part 3: Extraordinary Earnings

In order to forecast future financial statements, extraordinary earnings (income or expenses) are separated from ordinary earnings. Extraordinary earnings may be earnings or expenses which are not a part of normal earnings, e.g. a singular expense not expected to occur again. By normalizing earnings, the financial statement is more accurate for further analysis.[108]

Part 4: Separating Operations and Financing

Separating operations and financing provides further insight into the financial cost of capital and economic situation of the firm. Hence focus is not on liquidity with a creditor oriented focus, but rather operational and financial capital with an investor oriented focus.[109]

The chart on the following page provides an overview of the reformulated income statement.

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[106] Penman (2004:244)
[107] Penman (2004:248)
[108] Accounting, Financial, Taxation: Income Statement's Require Special Disclosure
[109] Penman (2004:11-12)

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                The Reformulated Income Statement

Net sales
- Expenses to generate sales
Operating income from sales (before tax)
- Tax on operating income from sales
  + Tax as reported
  + Tax benefit from net financial expenses
  - Tax allocated to other operating income
Operating income from sales (after tax)
+/- Other operating income (expense) requiring tax allocation
  Restructuring charges and asset impairments
  Merger expenses
  Gain and losses on asset sales
  Gains and losses on security transactions
- Tax on other operating income
+/- After tax operating items
  Equity share in subsidiary income
  Operating items in extraordinary income
  Dirty-surplus operating items
  Hidden dirty-surplus operating items
Operating income (after tax)
- Net financial expenses after tax
  + Interest expense
  - Interest revenue
  +/- Realized gains and losses on financial assets
  = Net interest expense before tax
  - Tax benefit from net interest expenses
  = Net interest expenses after tax
  +/- Gains and losses on debt retirement
  +/- Dirty-surplus financial items (Including preferred dividends)
  +/- Hidden dirty-surplus financing items
- Minority interest
= Comprehensive income to common
```

Figure 24 The Reformulated Income Statement Overview[110]

5.1.2 Adjustment for measurement error

There may be differences between the fair value and reported numbers in the
accounting. This is a result of the reported financial accounts not correctly reflecting
the fair value. This creates a measurement error in both the balance and the income
statement, which may need to be accounted for. There are mixed views regarding
adjustment for error, as some feel it will create more "noise" in the evaluation.[111]
Adjustments for measurement error will be discussed where relevant.

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[110] Penman (2007:314)
[111] The American Accounting Association: The Pricing of Fair Values during the Financial Crisis:
Evidence from an International Setting

5.1.3 Risk Assessment

Risk may be defined as the difference between actual and expected returns.[112] It is necessary to evaluate the financing strategy of a firm to find the liquidity and default risk of the firm.[113] Furthermore, a credit premium is necessary to find the cost of capital. The credit premium is found using a synthetic rating. The risk assessment is divided between liquidity risk and default risk.

Liquidity Risk

Liquidity risk is the risk of not being able to pay the firms short-term obligations. While this may be considering only a temporary insolvency, it may also lead to default. Current ratio and quick/acid ratio are the most commonly used ratios to measure liquidity risk.[114]

Current Ratio:

The current ratio is $\frac{\text{Current Asset}}{\text{Current Liabilities}}$. I.e. current assets (cash, inventory, accounts receivable) to current liabilities (obligations due within the next period). Current ratio of less than 1 indicates liquidity risk as the firm has more obligations due in the next period than assets the firm can easily liquidate. Traditionally it is advised to maintain a ratio of 2 or larger. However, there is a balance between liquidity risk and having a large degree of capital in net working capital (current assets – current liabilities), as a high degree of net working capital suggest problems reducing inventory.[115]

Quick/Acid Ratio:

The Quick/Acid ratio is $\frac{\text{Cash + Marketable Securities}}{\text{Inventory + Accounts Receivable}}$. I.e. current assets that may be easily liquidated (cash, marketable securities) to those current assets that may not be easily liquidated (inventory, accounts receivable). Inventory or accounts receivable may also be a part of the numerator in the ratio if they are easily liquidated.[116]

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[112] Damodaran (2002:47)
[113] Damodaran (2002:47)
[114] Damodaran (2002:47)
[115] Damodaran (2002:47-48)
[116] Damodaran (2002:48)

Default Risk

While liquidity risk focuses on being able pay short-term obligations, Long-Term Solvency and Default Risk focuses on being able to pay long term obligations. The purpose is to review the firm's capability of paying interest and principal payments.[117] Moreover, default risk may also be described as the firm's capacity to generate cash flows from operations.[118]

Interest Coverage Ratios:

The Interest Coverage Ratio is $\frac{EBIT}{Interest\ Expenses}$. The ratio measures the capability of the firm to pay interest from predebt, pretax earnings. A high ratio indicates a firm being able to comfortably meet interest payments. However, EBIT may fluctuate greatly, depending on industry and economy. Therefore the Interest Coverage Ratio may not accurately reflect the degree of risk in a firm.[119]

Fixed charges Coverage Ratios:

The Interest Coverage Ratio may be extended to include fixed payments. The fixed charges coverage ratio is then $\frac{EBIT\ (before\ fixed\ charges)}{Fixed\ Charges}$. Moreover, the fixed charges coverage ratio may also be stated in terms of cash flow instead of terms of earnings. The cash fixed charges coverage ratio is then $\frac{EBIDTA}{Cash\ Fixed\ Charges}$. Neither Interest Coverage Ratios nor Fixed Charges Coverage Ratios take into account capital expenditures. The following ratio, the Operating Cash Flow to Capital Expenditures[120] does this with the ratio $\frac{Cash\ Flows\ from\ Operations}{Capital\ Expenditures}$[121].

Debt Ratios:

The debt to capital ratio is $\frac{Debt}{Debt\ +\ Equity}$ and the debt to equity ratio is simply $\frac{Debt}{Equity}$. These ratios attempt to discover if a firm is capable of repaying the principal on outstanding debt. Similar debt ratios only include long-term debt as short-term debt is believed to be transitory. However, this may provide a false representation of the financial state of the firm. Other debt ratios include the market value of debt and equity, illustrating the

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[117] Damodaran (2002:49)
[118] Damodaran (2002:79)
[119] Damodaran (2002:49)
[120] Damodaran (2002:50)
[121] Cash flows from operations = EBIT (1- Tax rate) – change in Working capital

firm's capability of borrowing more than the book values of debt and equity would indicate. Using market values may be volatile and uncertain, but they are updated regularly and may provide a valid foundation for debt ratios.[122]

Equity Ratio:

The equity ratio is similar to the debt ratio. However, focus is on equity instead of debt. The equity ratio is $\frac{\text{Total Shareholder's Equity}}{\text{Total Assets}}$. This ratio tells how much of the firm's assets are financed with equity. A high equity ratio indicates a firm which may be able to sustain more debt, but also more financial distress without defaulting.

Return on Capital:

The Return on Capital (ROC) ratio is $\frac{\text{EBIT (1-T)}}{\text{Book Value of Debt + Book Value of Equity}}$. While this ratio may be considered to focus more on the profitability of the firm, it also may be used as a supplement when analyzing the risk of the firm. This is a good way to calculate firm performance. Similar ratios such as Return on Equity (ROE) may also be used.[123]

Return on Net Operating Assets:

The Return on Net Operating Assets (RNOA) ratio is $\frac{\text{Net Operating Profit After Taxes}}{\text{Average Net Operating Assets}}$[124]. Average Net Operating Assets is (Operating Assets – Operating Liabilities). This ratio is arguably more suited for calculating operating performance. This ratio reflects the return to operating assets rather than total assets. A low RNOA indicates a high risk for an equity investor.

5.1.4 Synthetic Rating

The synthetic rating is used to find the credit premium which is used to calculate the cost of capital. The synthetic rating represents the default risk of the firm. Such ratings are made by credit rating agencies such as Fitch Ratings, Moody's and Standard & Poor's in relation to bond ratings. Rating of AAA to BBB is considered investment grade, rating of BB to B is considered speculative and C and below is

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[122] Damodaran (2002:51)
[123] Damodaran (2002:43-45)
[124] TheValueAtRisk: Return on Net Operating Assets (RNOA)

52

considered high risk or in default. The following chart provides an overview over average cumulative default rates. Moreover, the chart also provides an overview over average key ratios for firms within the different ratings.

Rating	Current Ratio	Interest Coverage Ratio	Equity Ratio	Return on Net Operating Assets	Default Probability	Risk Premium	Definition	Notes
AAA	8,9	11,6	89,50 %	30,80 %	0,0001	0,1	Highest Rating Available	Investments Grade Bonds
AA	4,6	4,83	75,50 %	21,60 %	0,0012	0,15	Very High Quality	
A	2,35	2,76	55,00 %	13,10 %	0,0024	0,25	High Quality	
BBB	1,45	1,69	38,00 %	8,20 %	0,0037	0,4	Minimum Investment Grade	
BB	1,05	1,06	27,00 %	5,40 %	0,0136	0,6	Low Grade	Below Investments Grade "Junk Bonds"
B	0,75	0,49	17,50 %	2,60 %	0,0608	1	Very Speculative	
CCC	0,55	-0,35	10,50 %	-0,20 %	0,3085	3	Substanstial Risk	
CC	0,45	-1,17	3,00 %	-3,00 %	0,5418	9	Substanstial Risk	
C	0,35	-2	-10,00 %	-5,80 %	0,7752	27	Substanstial Risk	
D	N/A	N/A	N/A	N/A	N/A	N/A	Default	

Figure 25 Average Default Rates Compared to Key Ratios[125]

E.g. a firm which received an AAA rating, had a 0.0001 probability of defaulting in the next three years, while in comparison a firm which received a B rating had a 0.0608 probability of defaulting. Based upon the ratios described; the chart may be used to describe the risk rate Farstad Shipping.

5.1.5 Analysis of Profitability

Ratios of profitability provide a view of the profitability in terms of percentages. This may be useful when comparing firms and development over time within an industry. Moreover, these ratios can be adapted to the user of the ratios, either a creditor oriented view or an investor oriented view. There are two main ratios to measure profitability; Return on Assets (ROA) and Return on Capital (ROC).[126] Considering the analysis takes the perspective of an investor, Return on Equity (ROE) will be used instead of ROC.

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[125] Knivsflå (2008)
[126] Damodaran (2002:43)

Return on Assets

The Ratio of Return on Assets is $\frac{EBIT\ (1-\ Tax\ Rate)}{Total\ Assets}$ or $\frac{(Net\ Income + Interest\ Expense)*(1-Tax\ Rate)}{Total\ Assets}$.

ROA describes the operating effectiveness of providing profits from the firm's assets regardless of financing methods. By excluding method of financing from the ratio of profitability, ROA provides a transparent return of the firm's assets.[127]

Return on Equity

The standard ratio of Return on Equity is $\frac{Net\ Income}{Book\ Value\ of\ Equity}$[128]. Compared to the Return on Capital ratio, the ROE ratio does not describe the general profitability of the firm, but rather that of the equity investor in the firm. In correlation to the reformulated income statement, the ratio Return on Common Equity (ROCE) will be utilized here.

The ROCE ratio is $\frac{Comprehensive\ Earnings}{Average\ Common\ Shareholder's\ Equity}$

This ratio uses the comprehensive income to common found in the reformulated income statement. ROCE may be decomposed into the following ratio

$\frac{Operating\ Income - Net\ Financial\ Expense}{Net\ Operating\ Assets - Net\ Financial\ Obligations}$. Further decomposition of ROCE creates the

following transparent ratio: $\frac{Net\ Operating\ Assets * Return\ on\ Net\ Operating\ Assets}{Common\ Shareholder's\ Equity}$ Minus

$\frac{Net\ Financial\ Obligations * Net\ Borrowing\ Cost}{Common\ Shareholder's\ Equity}$ [129]

In comparison to Return on Assets, the ROCE ratio is affected by the financing method utilized in the firm.

5.1.6 Historical Cost of Capital

When assessing if the firm is profitable; profits will be compared to the historical cost of capital for the firm. WACC will be used to compute the historical cost of capital. WACC is based upon the Capital Asset Pricing Model (CAPM) and is composed of a debt and an equity part. This model will be addressed in detail later.

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[127] Damodaran (2002:43)
[128] Net Income: Net profit after taxes and interest expense
[129] Penman (2004:351)

5.2 Financial Statement Analysis for Farstad Shipping ASA

Financial statements for Farstad Shipping as a publicly traded firm is available back to 1988. While in certain aspects it may be considered valid to use a long time frame to analyze e.g. fluctuations in the market and cycles; the structure of this analysis limits the possibility of analyzing 2 decades of financial statements. Furthermore, considering the changes the firm has been exposed to with regards to fleet composition and market turmoil, it may not be advisable to utilize a long time period for the analysis, as this may not add to the analysis and also shift focus away from the current financial situation of the firm. Therefore a five year period (2006-2010) will be used when analyzing the financial statements. This should provide ample material to analyze the firm and will also take into account the financial crisis. Moreover, where necessary, a longer time period of ten years (2001-2010) will be used. The longer time period will be used as a supplement the main analysis in the five year period.

The financial statements for Farstad Shipping are prepared using International Financial Reporting Standards (IFRS). As these accounting principles have a creditor oriented focus, they will be reformulated to have an investor oriented focus.
The firm may be consists of three business segments; AHTS, PSV and SUBSEA. These are relatively similar business segments, exposed to the same business cycles, geographical and economical markets. Analyzing the firm on a consolidated level may seem preferable. The SUBSEA fleet is, however, different as this is a more specialized market. Despite this Farstad Shipping only has 3 SUBSEA vessels compared to its 32 AHTS and 22 PSV, i.e. the business segment is small, and is not a substantial part of the firm's core business. Furthermore the SUBSEA segment is relatively new, with scarce business data compared to the AHTS and PSV segments. Considering the homogeneity of the main business segments, and that an in-depth analysis of the segments would therefore not add value, the analysis will be conducted on a consolidated level.

Comparable firms for the analysis have been selected on the following prerequisites: exposure to the same markets and economic changes, similar size and risk level.

Comparable firms are thus firms with an international focus, which have the North Sea as their main market, and relatively same fleet composition and size as that of Farstad Shipping. This provided the following list of comparable firms: Solstad Offshore, DOF, Siem Offshore, Havila Shipping, and Deep Sea Supply, a total of five comparable firms. Though these firms are not identical and have their own unique strategy and fleet composition, they are relatively similar in size and risk level and are therefore suitable examples of comparable firms. Also, by using a total of five comparable firms, a credible industry average may be developed and provide a realistic view of the industry as a whole.

5.2.1 Historical Financial Statements

The following table provides an overview of the financial statements for Farstad Shipping in the period 2006-2010. The focus will be on the balance sheet, the income statement and the cash flow statement and the financial statements will be presented in that order.

The following table provides an overview of the income statements for Farstad Shipping in the period 2006-2010.

Farstad Shipping ASA Income Statement (1000 NOK)		2006	2007	2008	2009	2010
	Total Income	1 940 910	2 514 304	3 019 674	3 257 579	3 358 223
-	Total Operating Expenses	953 803	1 137 470	1 290 544	1 521 419	1 942 653
=	EBITDA	987 107	1 376 834	1 729 130	1 736 160	1 415 570
-	Depreciation	286 359	336 763	365 438	454 909	516 237
=	EBIT	700 748	1 040 071	1 363 692	1 281 251	899 333
-	Net Financial Items	125 887	114 864	454 424	+ 142 439	377 376
=	Pre-Tax Profit	574 861	925 207	909 268	1 423 690	521 957
-/+	Tax	31 600	1 014 534	+ 316 287	+ 507 813	90 191
-/+	Minority Interest	782	+ 153	+ 158	+ 43	-
=	Net Income	542 479	-89 174	1 225 713	1 931 546	431 766
	Earnings Per Share (EPS)	13,91	-2,29	31,43	49,53	11,07

Figure 26 Farstad Shipping ASA Income Statements 2006-2010[130]

Farstad Shipping has increases its income continuously in the period 2006-2010. Notably, EBIT increased ca. 83% in the period 2006-2009. In 2010 there is a fall in EBIT as a result of increased operating expenses[131] and depreciation in 2010.

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[130] Abbreviated version, see appendix A for complete version
[131] Especially crewing expenses

Operating expenses in general increase in the period, where crewing expenses constituted the largest operating expense. EBITDA margin is relatively stable in the range 51-57% in the period 2006-2009 and falls to 42% in 2010.

The following table provides an overview of the balance sheet for Farstad Shipping in the period 2006-2010. In this period the debt rate was relatively stable and decreased from 56% in 2006 to 55% in 2010. Total equity increased 86% from NOK 3.53bn to NOK 6.58bn and total assets increased 80% from NOK 8.07bn to NOK 14.57bn.

Farstad Shipping ASA Balance Sheet (1000 NOK)	2006	2007	2008	2009	2010
Assets					
Fixed Assets:					
Goodwill	30 247	30 247	30 247	30 247	30 247
Vessels etc.	5 938 657	6 743 177	7 871 618	10 237 712	11 467 552
Contracts Newbuilds	639 801	550 795	495 380	191 242	64 149
Deferred Tax Benefit	-	-	54 831	-	16 963
Other Long-term Receivables	7 184	9 927	14 517	24 977	27 824
Receivables from Group Companies	-	-	-	-	-
Shares	4 456	4 444	5 123	5 170	5 204
Total Fixed Assets	**6 620 345**	**7 338 590**	**8 471 716**	**10 489 348**	**11 611 939**
Current Assets:					
Account Receivables, Freight Income	315 716	341 200	533 327	473 130	471 567
Bunkers and other Inventories	17 438	10 525	19 665	29 743	40 480
Other Short-term Receivables	101 080	156 963	144 245	296 126	176 860
Forward Currency and Interest Contracts	47 875	38 812	-	15 671	-
Other Current Financial Assets	-	-	198 998	188 291	133 338
Cash and Cash Equivalents	972 286	1 461 425	1 544 379	1 525 413	2 136 364
Total Current Assets	**1 454 395**	**2 008 925**	**2 440 614**	**2 528 374**	**2 958 609**
Total Assets	**8 074 740**	**9 347 515**	**10 912 330**	**13 017 722**	**14 570 548**
Equity and Liabilities					
Paid-in Capital:					
Share Capital	39 000	39 000	39 000	39 000	39 000
Share Premium Reserve	198 396	198 396	198 396	198 396	198 396
Total Paid-in Capital	**237 396**	**237 396**	**237 396**	**237 396**	**237 396**
Retained Earnings:					
Other Equity	3 294 087	3 191 897	4 201 936	6 014 499	6 344 972
Total Retained Earnings	3 294 087	3 191 897	4 201 936	6 014 499	6 344 972
Minority Interests	2 229	814	656	-	-
Total Equity	**3 533 712**	**3 430 107**	**4 439 988**	**6 251 895**	**6 582 368**
Non-Current Liabilities:					
Pension Liabilities	57 510	56 721	56 181	60 118	61 901
Deferred Tax Liabilities	21 946	7 989	-	14 902	-
Bonds	300 000	-	-	-	-
Leasing Obligation	294 988	-	-	-	-
Tax Liabilities and Environmental Fund	-	880 614	508 476	-	9 516
Interest-bearing Mortgage Debt	2 987 416	3 805 923	4 719 722	5 466 499	6 287 220
Total Non-Current Liabilities	**3 661 860**	**4 751 247**	**5 284 379**	**5 541 519**	**6 358 637**
Current Liabilities:					
Accounts Payable	112 482	165 574	204 593	177 019	231 161
Taxes Payable	18 180	122 073	99 514	22 325	46 487
Forward Currency and Interest Contracts	-	-	153 134	-	29 221
Other Current Liabilities	189 187	183 192	220 041	253 193	330 856
Current Portion of Interest-bearing Debt	559 319	695 322	510 681	771 771	991 818
Total Current Liabilities	**879 168**	**1 166 161**	**1 187 963**	**1 224 308**	**1 629 543**
Total Liabilities	**4 541 028**	**5 917 408**	**6 472 342**	**6 765 827**	**7 988 180**
Total Equity and Liabilities	**8 074 740**	**9 347 515**	**10 912 330**	**13 017 722**	**14 570 548**

Figure 27 Farstad Shipping ASA Balance Sheets 2006-2010

The following table provides an overview of the cash flow statements for Farstad Shipping in the period 2006-2010.

Farstad Shipping ASA Cash Flow Statement (1000NOK)	2006	2007	2008	2009	2010
Net Cash Flow from Operating Activity	742 533	964 939	1 501 385	1 621 273	1 666 754
Net Cash Flow from Investment Activity	-1 046 218	-639 397	-1 223 546	-2 438 422	-1 491 216
Net Cash Flow from Finance Activity	91 329	288 344	49 264	800 132	414 571
Cash and Cash Equivalents at 01.01	1 180 200	972 286	1 189 490	1 544 379	1 525 413
Net Changes in Liquidity over the year	-207 914	489 139	354 889	-18 966	610 951
Cash and Cash Equivalents at 31.12*	972 286	1 461 425	1 544 379	1 525 413	2 136 364

*From 2008 Shares, Primary Capital Certificates and Bonds are Excluded

Figure 28 Farstad Shipping ASA Cash Flow Statements 2006-2010[132]

Net Cash Flow from Operating Activity has been positive and increased 124% from 2006-2010. Net Cash Flow from finance activity has been positive and was high in 2008 due to a sizeable new long-term loan. Net Cash Flow from Investment Activity was particularly negative in 2008-2010 due to several newbuilds ordered. Cash and Cash Equivalents increased from NOK 972 Mn. at the end of 2006 to NOK 2.14 Bn. at the end of 2010, an increase of 120%. Farstad Shipping has also posted transactions directly to equity, dirty surplus, these transactions will be discussed later.

The following table provides an overview of the changes in equity for Farstad Shipping in the period 2006-2010.

Farstad Shipping ASA Changes in Equity (1000 NOK)	2006	2007	2008	2009	2010
Equity 01.01	3 086 023	3 533 712	3 430 107	4 439 988	6 251 895
Profit for the Year	543 261	-89 327	1 225 555	1 931 503	431 766
Dividend Payment	-117 000	-117 000	-156 000	-195 000	-117 000
Changes Minority Interest	656	-1 649	-	-613	-
Other Comprehensive Income	20 772	104 371	-59 674	76 017	15 707
Equity 31.12	3 533 712	3 430 107	4 439 988	6 251 895	6 582 368

Figure 29 Farstad Shipping ASA Changes in Equity 2006-2010

5.2.2 Reformulation of Historical Statements

Farstad Shipping's financial statements are prepared using International Financial Reporting Standards (IFRS), these regulations do not provide the best view of the

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[132] Abbreviated version, see appendix B for complete version

financial situation of the firm for an investor and is therefore reformulated to suit this need. The reformulation also prepares the financial statements for further analysis. The reformulation begins with the balance sheet of Farstad Shipping where focus will be on operating assets.

Dividends Payable

Dividends payable is not accounted for in the balance sheet under IFRS regulations. Dividends payable is only found in the cash flow statement, thus there is no need for any changes.

Dirty Surplus

Farstad Shipping reports transactions directly to equity, known as dirty surplus, in the period 2006-2010. These transactions need to identified and added to the income statement to attain a transparent view of the profitability of the firm. The most common explanations for dirty surplus are; unrealized gains and losses on securities available for sale, foreign currency translation gains and losses and unrealized gains and losses on derivatives.[133] The following table depicts comprehensive income as a result of net income and dirty surplus (dirty surplus shows changes to equity, but does not include dividend payments or changes to minority interest).

Farstad Shipping ASA Comprehensive Income (1000 NOK)	2006	2 007	2008	2009	2010
Reported Net Income	542 479	-89 174	1 225 713	1 931 546	431 766
Dirty Surplus	20 772	104 371	-59 674	76 017	15 707
Comprehensive Income	563 251	15 197	1 166 039	2 007 563	447 473

Figure 30 Farstad Shipping ASA Comprehensive Income 2006-2010

The dirty surplus comes from currency and interest hedging instruments, translation effects and other equity changes (change in deferred tax).[134]

Extraordinary Earnings

Farstad Shipping has some extraordinary earnings that need to be accounted for in able to normalize income statement for further analysis, furthermore the tax expense needs to be accounted for.

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[133] Penman (2004:248)
[134] Farstad Shipping – Financial Reports 2006-2010

Other Income should generally be adjusted for. However, considering that the income is relatively stable and present in every year in the period 2006-2010 it does not fit the description for extraordinary items; "Unusual and infrequent".[135] Hence Other Income is not normalized and no adjustments are made here.

Profit on Sale of Fixed Assets is extraordinary earnings and need to be adjusted for. These extraordinary earnings come from the sale of; Far Centurion, Far Crusader, Lady Elizabeth and Lady Margareth in 2007, Lady Dawn in 2008 and Far Viscount in 2010. Taxes are 28% according to Norwegian Law.

There is no indication of bad debt to accounts receivables and hence no adjustments have been carried out here.

There are no extraordinary operating expenses reported in the income statement. Crewing and fuel expenses are considered normal operating expenses and are not adjusted for.

Financial Items have several extraordinary income/expenses. These are related to realized and unrealized agio and disagio.[136] These are relatively stable, but can affect the income statement greatly with fluctuations. E.g. unrealized disagio in 2008 was -316 Mn and in 2009 it was 350 Mn. For analytical purposes all financial items (realized and unrealized agio/disagio) except financial income and financial expenses are defined as extraordinary items, and set to zero. Tax on financial items is 28% according to Norwegian Law. The following table provides an overview of the extraordinary earnings for Farstad Shipping in the period 2006-2010.

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[135] AccountingCoach: Reporting Unusual Items
[136] Difference in value either positive (agio) or negative (disagio) compared to nominal value for e.g. currency or stocks or bonds.

Farstad Shipping ASA Extraordinary Earnings (1000 NOK)	2006	2007	2008	2009	2010
Profit on Sale of Fixed Assets	-	196 068	61 050	-	1 114
- Tax on Extraordinary Operating Assets	0	54 899	17 094	0	312
= Total Operating Income Extraordinary Items	0	141 169	43 956	0	802
+/- Realised Agio (Disagio)	22 668	26 197	83 122	18 843	108 521
+/- Unrealised Agio (Disagio)	22 674	38 584	- 315 804	349 506	- 165 324
- Tax on Extraordinary Financial Items	12 696	18 139	-65 151	103 138	-15 905
= Net Extraordinary Financial Items	32 646	46 642	-167 531	265 211	-40 898
+ Dirty Surplus	20 772	104 371	-59 674	76 017	15 707
= Total Extraordinary Items	53 418	292 182	-183 249	341 228	-24 389

Figure 31 Farstad Shipping ASA Extraordinary Earnings 2006-2010

The normalized operating and financial tax rate needs to be found for further analysis. This is done by separating extraordinary and normal earnings. The following table provides an overview of the normalized operating tax rate for Farstad Shipping in the period 2006-2010. An average normalized tax rate based in the period 2006-2010 is found to be 5,95%

Farstad Shipping ASA Normalized Operating Tax Rate (1000 NOK)	2006	2007	2008	2009	2010
Reported Tax Expense	-31 600	-1 014 534	+ 316 287	+ 507 813	-90 191
- Extraordinary Tax Operating Assets	0	54 899	17 094	0	312
= Adjusted Tax Expense	-31 600	-1 069 433	299 193	507 813	-90 503
- Tax on Financial Income	11 700	19 738	24 136	21 908	20 883
+ Tax on Financial Expenses	59 644	70 039	86 224	85 163	110 643
- Tax on Extraordinary Financial Items	12 696	18 139	-65 151	103 138	-15 905
= Tax on Operations	3 648	-1 037 271	426 432	467 930	15 162
EBIT	700 748	1 040 071	1 363 692	1 281 251	899 333
= Tax Rate on Operations	0,52 %	-99,73 %	31,27 %	36,52 %	1,69 %
Normalized Operating Tax Rate			-5,95 %		

Figure 32 Farstad Shipping ASA Normalized Operating Tax Rate 2006-2010

The normalized operating tax rate found is thus ca. 6%. In the period 2006-2010 the tax rate on operations varies from -99% in 2007 to 36% in 2009. However, these were extreme years. 2007 had a negative tax rate mainly due to negative effects of calculated tax payable with transition to a new Norwegian shipping tax system. 2009 had a positive tax rate due to positive effects of the shipping company tax scheme and positive calculated tax payable with transition to a new Norwegian tonnage tax system. While these years may not be representative of the normal fiscal year, they

have been included in the average as they account for 40% of the analytical period and because they are extremes of both positive and negative they do not affect the average notably. The normalized operating tax rate of ca. 6% is less than the normal tax rate of 28% in Norway mainly due to the effects of the shipping company tax schemes.

Separating Operations and Financing

Separating operating and financing activities will provide a more transparent view over the economic situation of the firm and provide a better overview of the financial cost of capital. The result is the reformulated balance sheet and reformulated income statement.

The reformulated balance sheet is based upon the model depicted in chapter 5.1.1. Given the newbuild program Farstad Shipping has, the balance sheet could be altered to include committed capital and operating liabilities to operating assets, and financial assets to liabilities and stockholder's equity. However, this is not done here because it is not expected to provide increased value to the analysis, as the newbuild program is decreasing. The reformulated balance sheet does not alter the balance sheet formula: Common Stockholder's Equity = (Operating Assets – Operating Liabilities) – (Financial Obligations – Financial Assets)[137]

The firm's assets are split between financial assets and operational assets.
The firm's financial assets are classified as: Shares, Forward Currency and Interest Contracts, Other Current Financial Assets and Cash and Cash Equivalents. Arguably, capital may be defined as a necessary part of the firm's operations, however, they are analyzed as financial assets due to their liquidity in the industry.
The firm's operational assets are classified as: Goodwill, Vessels etc., Contracts Newbuilds, Deferred Tax Benefit, Other Long-term Receivables, Receivables from Group Companies, Account Receivables, Freight Income, Bunkers and other Inventories and Other Short-term Receivables. These assets are all contingent on the operations of the firm, in contrary to the firm's financial assets.

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[137] Penman (2004:283)

The firm's liabilities and stockholder's equity is split between financial liabilities, operating liabilities, minority interest and common equity.

The firm's financial liabilities are classified as: pension liabilities, bonds, interest-bearing mortgage debt, forward currency and interest contracts and current portion of interest-bearing debt.

The firm's operating liabilities are classified as: deferred tax liabilities, leasing obligation, tax liabilities and environmental fund, accounts payable, taxes payable and other current liabilities.

The following table provides an overview of the contracted results from the reformulated balance sheet for Farstad Shipping in the period 2006-2010.

Farstad Shipping ASA Reformulated Balance Sheet Equation (1000 NOK)	2 006	2007	2008	2009	2010
Net Operating Assets (Operating Assets - Operating Liabilities)	6 413 340	6 483 392	8 131 206	10 815 738	11 677 622
Net Financial Obligations (Financial Obligations - Financial Assets)	-2 879 628	-3 053 285	-3 691 218	-4 563 843	-5 095 254
Common Shareholder's Equity (Excluding Minority Interest)	3 531 483	3 429 293	4 439 332	6 251 895	6 582 368

Figure 33 Farstad Shipping ASA Reformulated Balance Sheet Equation 2006-2010

The complete reformulated balance sheet for Farstad Shipping in the period 2006-2010 is illustrated on the following page.

Farstad Shipping ASA Reformulated Balance Sheet (1000 NOK)	2006	207	2008	2009	2010
Assets					
Financial Assets:					
Shares	4 456	4 444	5 123	5 170	5 204
Forward Currency and Interest Contracts	47 875	38 812	-	15 671	-
Other Current Financial Assets	-	-	198 998	188 291	133 338
Cash and Cash Equivalents	972 286	1 461 425	1 544 379	1 525 413	2 136 364
Total Financial Assets	1 024 617	1 504 681	1 748 500	1 734 545	2 274 906
Operating Assets:					
Goodwill	30 247	30 247	30 247	30 247	30 247
Vessels etc.	5 938 657	6 743 177	7 871 618	10 237 712	11 467 552
Contracts Newbuilds	639 801	550 795	495 380	191 242	64 149
Deferred Tax Benefit	-	-	54 831	-	16 963
Other Long-term Receivables	7 184	9 927	14 517	24 977	27 824
Receivables from Group Companies	-	-	-	-	-
Account Receivables, Freight Income	315 716	341 200	533 327	473 130	471 567
Bunkers and other Inventories	17 438	10 525	19 665	29 743	40 480
Other Short-term Receivables	101 080	156 963	144 245	296 126	176 860
Total Operating Assets	7 050 123	7 842 834	9 163 830	11 283 177	12 295 642
Total Assets	8 074 740	9 347 515	10 912 330	13 017 722	14 570 548
Liabilities and Stockholder's Equity					
Financial Liabilities:					
Pension Liabilities	57 510	56 721	56 181	60 118	61 901
Bonds	300 000	-	-	-	-
Interest-bearing Mortgage Debt	2 987 416	3 805 923	4 719 722	5 466 499	6 287 220
Forward Currency and Interest Contracts	-	-	153 134	-	29 221
Current Portion of Interest-bearing Debt	559 319	695 322	510 681	771 771	991 818
Total Financial Liabilities	3 904 245	4 557 966	5 439 718	6 298 388	7 370 160
Operating Liabilities:					
Deferred Tax Liabilities	21 946	7 989	-	14 902	-
Leasing Obligation	294 988	-	-	-	-
Tax Liabilities and Environmental Fund	-	880 614	508 476	-	9 516
Accounts Payable	112 482	165 574	204 593	177 019	231 161
Taxes Payable	18 180	122 073	99 514	22 325	46 487
Other Current Liabilities	189 187	183 192	220 041	253 193	330 856
Total Operating Liabilities	636 783	1 359 442	1 032 624	467 439	618 020
Minority Interest	2 229	814	656	-	-
Common Equity	3 531 483	3 429 293	4 439 332	6 251 895	6 582 368
Capital Employed	8 074 740	9 347 515	10 912 330	13 017 722	14 570 548

Figure 34 Farstad Shipping ASA Reformulated Balance Sheet 2006-2010

The following table provides an overview of the reformulated income statement for Farstad Shipping in the period 2006-2010.

Farstad Shipping ASA Reformulated Income Statement (1000 NOK)		2006	2007	2008	2009	2010
	Freight Income	1 932 110	2 292 736	2 943 241	3 237 111	3 353 307
+	Other Income	8 800	25 500	15 383	20 468	3 802
=	Total Operating Income	1 940 910	2 318 236	2 958 624	3 257 579	3 357 109
	Crewing Expenses Vessels	584 954	702 938	789 673	926 878	1 161 855
+	Other Operating Expenses Vessels	256 101	305 675	350 428	421 208	582 968
+	Administration	112 748	128 857	150 443	173 333	197 830
+	Depreciation	286 359	336 763	365 438	454 909	516 237
=	Total Operating Expenses	1 240 162	1 474 233	1 655 982	1 976 328	2 458 890
-	Operating Tax Expense (1)	3 648	-1 037 271	426 432	467 930	15 162
=	Total Operating Result	704 396	-193 268	1 729 074	1 749 181	913 381
+	Total Financial Income	41 787	70 493	86 200	78 243	74 582
=	Total Result to Capital Employed	746 183	-122 775	1 815 274	1 827 424	987 963
-	Total Financial Expenses	213 016	250 138	307 942	304 153	395 155
-	Total Minority Interests	782	-153	-158	-43	-
=	Net Result to Equity	532 385	-372 760	1 507 490	1 523 314	592 808
+	Results from Extraordinary Operating Items (2)	-	196 068	61 050	-	1 114
+	Results from Extraordinary Financial Items (3)	66 114	169 152	-292 356	444 366	-41 096
-	Extraordinary Tax Expense (4)	12 696	18 139	-65 151	103 138	-15 905
=	Total Net Result to Equity	585 804	-25 679	1 341 335	1 864 542	568 731
-	Total Dividends Paid	117 000	117 000	156 000	195 000	117 000
=	Change in Equity	468 804	-142 679	1 185 335	1 669 542	451 731

(1) Derived on page 62
(2) Profit on Sale of Fixed Assets
(3) Realised and Unrealised agio/disagio including Dirty Surplus
(4) Derived on page 62

Figure 35 Farstad Shipping ASA Reformulated Income Statement 2006-2010

The reformulated income statement provides an overview over total net result to equity and change in equity in the period 2006-2010. Extraordinary operating and financial items are included here. Total net result to equity is positive every year excluding 2007.[138] From the reformulated balance sheet common equity increases ca. 86% in the period 2006-2010.

5.2.3 Adjustments and Normalization

Adjustments and normalization are made to the reformulated financial statements to improve the financial data for further analysis. This chapter will discuss certain

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[138] Mainly due to high operating tax expenses that year

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adjustments to provide further insight and a more correct view of the firm's performance. Furthermore, certain items in the financial statements need to be normalized, however, these changes are not expected to make a large impact on the valuation. There are generally three main areas where measuring error may occur. 1. Measuring error between historic and fair cost. 2. Measuring error due to poor auditing routines and wrong historic cost. 3. Measuring error due to creative accounting. Following the reasoning that the auditing firm Ernst & Young confirms that the Farstad Shipping prepare their financial statements in accordance with the regulations and laws and are presented fairly;[139] measuring error type 2 and 3 are disregarded. However, measuring error between historic and fair cost will be discussed.

Historic Cost

Farstad Shipping prepares their financial statements in accordance with IFRS. These standards adopt the historical cost principle throughout the accounts except for derivatives, short-term shareholdings and bonds, which are recognized at their fair value. Setting vessels etc. at fair value may perhaps provide a more current view of the firm's assets, but may also provide more noise in the further analysis. No adjustments are made in relation to the historic cost principle.

Deferred Taxes

Farstad Shipping also has deferred tax liabilities in year 2007 and 2009 and deferred taxes in year 2008 and 2010. Furthermore the firm has tax liabilities and environmental fund[140] liabilities in year 2007, 2008 and 2010. Following the reasoning that no immediate future sales of vessels are planned and that no specific future taxes are specified, no adjustments are made here.

Minority Interest

Arguably minority interest could be set to their fair value instead of historic cost. However, minority interest equates to only a small part of the total equity and any change to this post would only have a very small impact on the overall analysis. Without inside firm knowledge, the best estimate of the minority interest is thus what

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[139] Ernst & Young Auditing Comment for Farstad Shipping
[140] Tax obligation

the firm states in its financial statements. Moreover, the change would arguably create too much "noise" in the analysis compared to the benefit. Therefore no adjustments are made here.

Pension Liabilities

Pension expenses may be smoothed into income to attain a more correct analysis of the firm. Currently pension obligations are set to their present value while pension plan assets are set to their fair value. These posts should both be set to their present value and the difference should equal the pension cost.[141] Furthermore the smoothing that occurs, may arguably adjust irregular movements in the pension posts, however the adjustment is considered necessary to attain the correct pension costs.

The following table provides an overview of the pension liabilities for Farstad Shipping in the period 2006-2010.

Farstad Shippping ASA Pensions (1000 NOK)	2006	2007	2008	2009	2010
Interest cost on pension liability	10 107	9 832	11 532	11 079	12 965
+ Expected return on plan assets	-10 745	-11 653	-12 938	-11 739	-12 367
= Adjusted Pension Cost	-638	-1 821	-1 406	-660	598
Present value of the pension obligation at the end of the year	244 327	247 418	271 311	289 346	341 939
- Fair values of pension plan assets at the end of the year	210 851	204 939	176 976	192 583	227 119
= Net pension liability at fair value	-33 476	-42 479	-94 335	-96 763	-114 820
- Unrecognized actuarial gains and losses	-20 982	-7 919	43 980	51 403	74 644
= Net pension liability at the end of the year	-54 458	-50 398	-50 355	-45 360	-40 176
- Capitalised plan assets included in other long-term receivables	3 052	6 323	5 826	14 758	21 725
= Capitalised pension lability	-57 510	-56 721	-56 181	-60 118	-61 901
Effect on balance sheet:					
Non-current operating liabilities	-20 982	-7 919	43 980	51 403	74 644
- Deferred Tax (1)	-1 248	-471	2 617	3 058	4 441
= Net operating assets	-19 734	-7 448	41 363	48 345	70 203
= Equity	-19 734	-7 448	41 363	48 345	70 203
Effect on income statement:					
Extraordinary operating result	20 982	-13 063	-51 899	-7 423	-23 241
- Changes deferred tax (1)	1 248	-777	-3 088	-442	-1 383
= Extraordinary net operating result	19 734	-12 286	-48 811	-6 981	-21 858

(1) Normalized tax rate of 5,95% is used

Figure 36 Farstad Shipping ASA Pension Liabilities 2006-2010

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[141] This is simplified, as unrecognized actuarial gains and losses are also taken into account.

5.2.4 Risk Assessment for Farstad Shipping ASA

The risk assessment for Farstad Shipping is carried out to attain an overview over the default probability of the firm, by studying the variance in the financial statements. In other words, the purpose is to find the correct synthetic rating for the firm. The following ratios will be examined; current ratio, interest coverage ratio, cash flow and equity ratio. Furthermore, the capital structure of the firm and total operating return of the firm will be discussed. This will provide a synthetic rating which will further be used to calculate the cost of debt in the WACC calculation.

Liquidity Risk

The following risk assessments are made using non-adjusted historical financial data for the firm. Industry averages are calculated using the comparable firms selected in chapter 5.2 page 59. Farstad Shipping's ability to meet short-term obligations will be assessed by reviewing the current ratio.

Current Ratio

The current ratio explains if a firm has enough resources to meet its debt maturing over the next year. A ratio of 2 is often promoted as being sound, but this is also contingent on the type of firm. For a supply vessel firm with relatively low current assets, a slightly lower ratio may also be sound.

The following table provides an overview of the current ratio for Farstad Shipping and the industry average in the period 2006-2010.
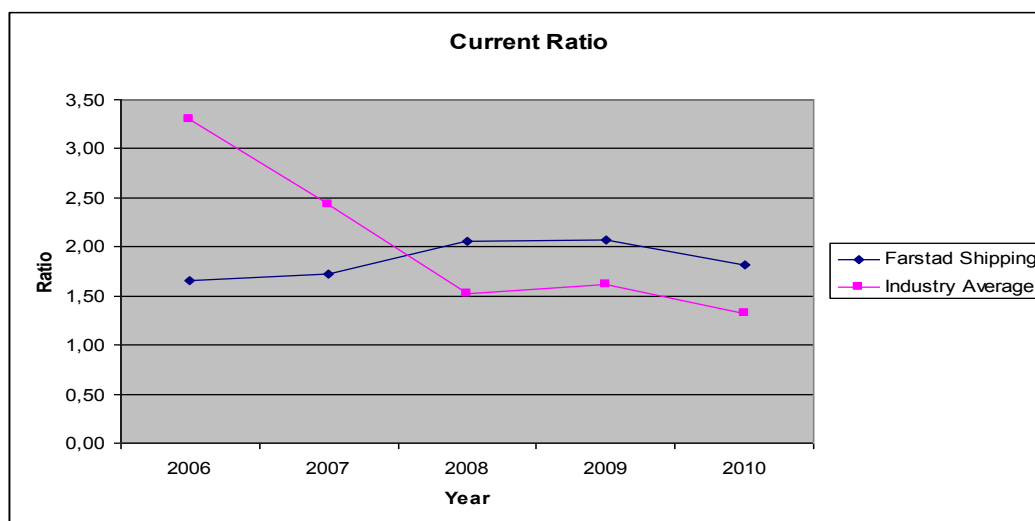

Figure 37 Current ratio 2006-2010

The chart depicts Farstad Shipping sustaining a current ratio between 1,6-2 throughout the whole period. This indicates that the firm had enough current assets to meet its current liabilities in the period of analysis. Compared to the industry average, the current ratio for the firm was lower than the industry average in 2006 and 2007. However, these years are offset by a few firms in the industry average which experienced a high current ratio.[142] Moreover, while the industry average fell to roughly 1,5 and below in 2008-2010, Farstad Shipping maintained a current ratio of 1,8-2 in the same period. In sum Farstad Shipping maintained a stable and generally above average current ratio. To supplement the current ratio, analysis of the quick ratio has also been done for Farstad Shipping. Naturally, given the type of industry, there was little difference, although the quick ratio was marginally higher in most instances with the firm.

Default Risk

Farstad Shipping's ability to meet long-term obligations will be assessed by reviewing the interest coverage ratio, the firm's cash flow, debt ratio and equity ratio.

Interest Coverage Ratio

The interest coverage ratio reviews the firm's ability to meet its interest from predebt, pretax earnings (EBIT). A higher ratio is thus preferable, but may fluctuate according to industry and economy.

The interest coverage ratio for Farstad Shipping and the industry average in the period 2006-2010 is illustrated on the following page.

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[142] Especially Siem Offshore and Havila Shipping had current ratios peaking at over 5.
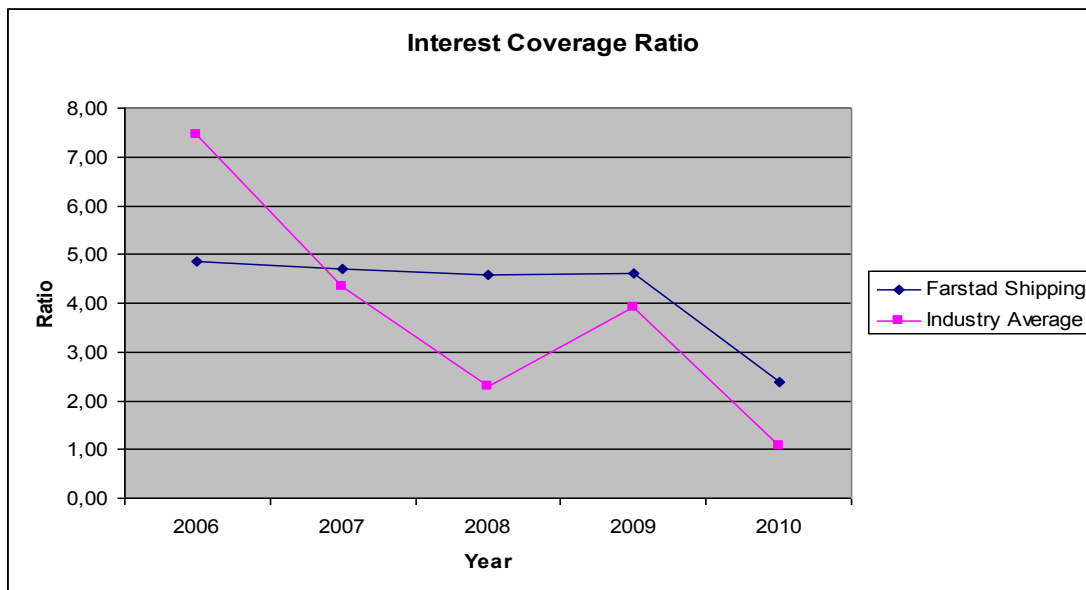
Figure 38 Interest Coverage Ratio 2006-2010

The chart depicts Farstad Shipping sustaining an interest coverage ratio between 2,4-4,8 throughout the whole period. This means that the firms had ample means of meeting interest expenses with operating income. Compared to the industry average, the interest coverage ratio for the firm was lower than the industry average in 2006.[143] However, this year was offset by a few firms in the industry average which experienced a high interest coverage ratio.[144] Farstad Shipping maintained a relatively high and stable interest coverage ratio between 4-5 until 2010. In 2010 the ratio fell to 2,4 and 1,1 for the firm and the industry average respectively. In sum Farstad Shipping maintained a relatively stable and above average ratio. The fall in the interest coverage ratio is not specific to the firm or the industry, but is a result of the financial crisis. Furthermore Farstad Shipping has a relatively high interest coverage ratio even in 2010, indicating a relatively stable and strong operating income and relatively low interest expenses compared to the industry.

Cash Flow

The cash flow provides an overview over cash flows in and out of the firm. They are the most important part in the valuation. To find the equity value, future cash flows are discounted. Damodaran (2002:26-28) has the following description of cash flows; "The statement of cash flows specifies the sources and uses of cash to the firm from

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[143] DOF is not included in the industry average due to irregularities in their interest expenses.
[144] Especially Siem Offshore and Deep Sea Supply had interest coverage ratios peaking at over 10.

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operating, investing, and financing activities during a period." This is necessary as the income statement does not report non-cash entries e.g. depreciation or amortization, or certain costs, such as an office building or inventory.[145] The complete cash flow statement for Farstad Shipping in the period 2006-2010 is illustrated in appendix B. Net cash flow from operating activities is positive and increasing steadily throughout the whole period. This is largely due to a positive pre-tax profit, but also high ordinary depreciation. Net cash flow from investments activities are mainly affected by the investment in fixed assets and contracts new buildings which range between 1-2.5 bn NOK in the period 2006-2010. New long-term debt is used to cover these expenses and is the main post in financial activities. Cash and cash equivalents are positive throughout the period. In sum the cash flow statements are a good indication of a sound firm with a high liquidity rate.

Debt ratio

The debt ratio is used to find out if a firm can repay the principal on its debt. This does not provide an in-depth overview over the default risk of the firm, but rather a simplified view over the financial state of the firm.

The following table provides an overview of the debt ratio for Farstad Shipping in the period 2006-2010.
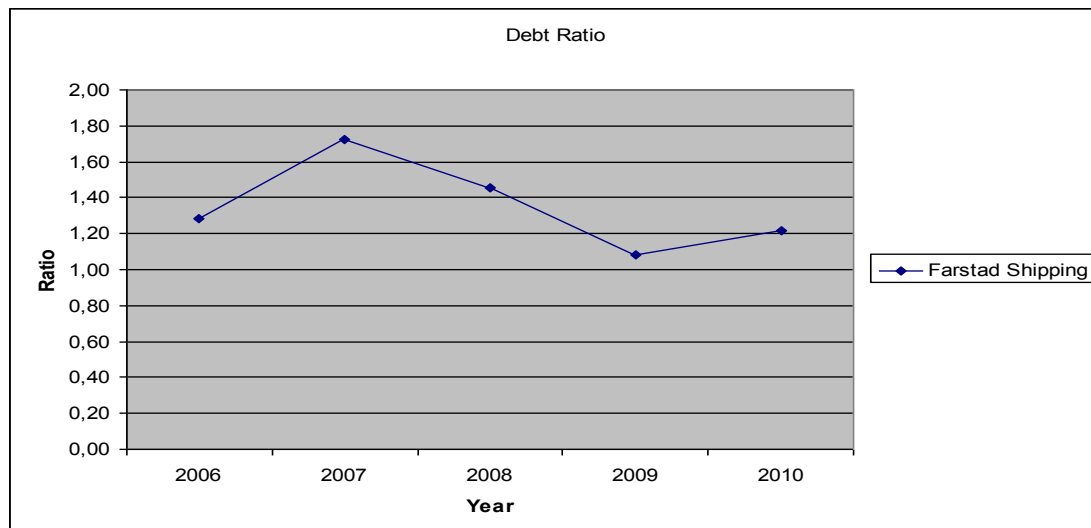

Figure 39 Debt Ratio 2006-2010

The debt ratio ranges from 1,08-1,73 in the period 2006-2010. Overall, this may be considered low, which is positive. Newbuilds and new activities are therefore well

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[145] Berk & DeMarzo (2011:35)

financed by both equity and debt. As these are very capital intensive investments, a high debt ratio may however occur with certain firms. In the following example the equity ratio will be discussed to provide insight into how the firm compares to the industry average.

Equity Ratio

The equity ratio is similar to the debt ratio, but focuses on the degree of equity the firm has to meet financial distress or increase the degree of debt to finance activities. The following table provides an overview of the equity ratio for Farstad Shipping and the industry average in the period 2006-2010.
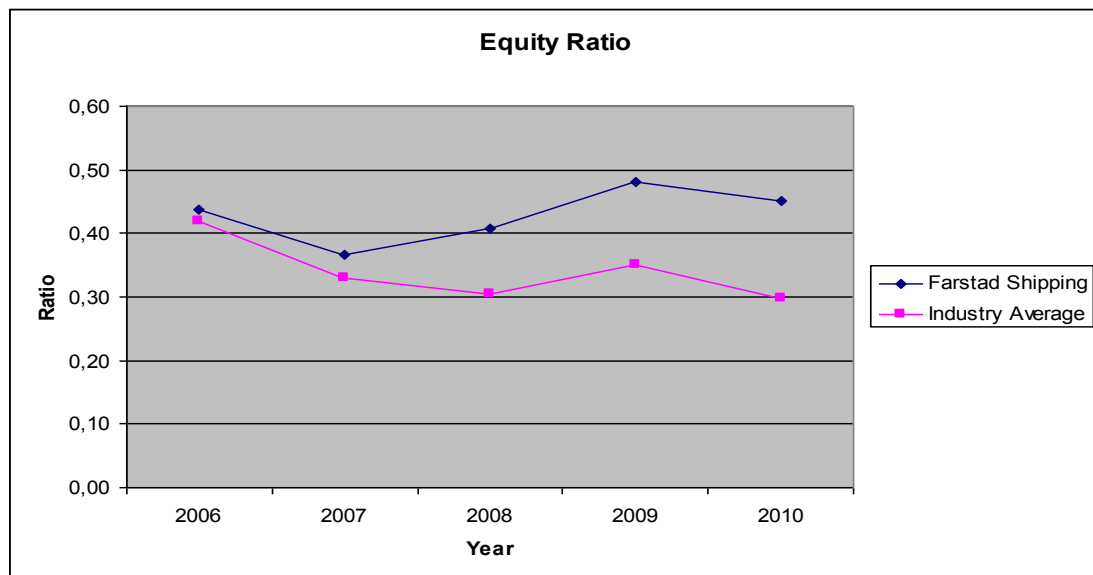
Figure 40 Equity Ratio 2006-2010

The chart depicts Farstad Shipping having an equity ratio between 0,37-0,48. This is a strong indication of the firm being able to increase its debt ratio and not default in times of financial distress. In comparison, the industry average was lower with an equity ratio between 0,3-0,42. Notably there were certain differences between the firms in the industry average as well. While most firms had an average equity ratio of about 0,3, Siem Offshore had an equity ratio close to 0,5. It may be noted that a too large equity ratio may not be advisable as a firm could develop quicker with by increasing its debt. However, there is no indication of the equity ratio being too large. On the contrary, the equity ratio of Farstad Shipping is both stable and in a good range

for a mature industry.[146] Furthermore, considering the extensive newbuilds program the firm has carried out in recent years, the financing is quite stable. Overall, the chart provides us with the following conclusion; the firm's assets are well financed between debt and equity and there is no indication that this trend is changing.

Return on Capital

Return on Capital (ROC) gives an overview over the profitability of the firm, by comparing return to invested capital. While also used to measure profitability; ROC shows return not only to equity shareholders, but all invested capital including debt. The following table provides an overview of the ROC ratio for Farstad Shipping and the industry average in the period 2006-2010.


Figure 41 Return on Capital Ratio 2006-2010

The chart depicts Farstad Shipping having an ROC ratio between 0,06-0,1.[147] Compared to the industry average between 0,03-0,1; this may be considered average for the industry. There were no large deviations among the comparable firms in this ratio. This indicates that both the firm and the industry may be considered relatively stable. Year 2007 is not representative for Farstad Shipping as this was affected by an irregular tax expense.[148] The yellow curve shows Farstad Shipping ROC adjusted for

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[146] A less mature industry would arguably have more debt in order to expand its business ventures.
[147] This excludes 2007 results which are not representative due to irregular tax expenses
[148] Taxes are offset by a transition to a new Norwegian tax shipping tax system

this tax expense. In 2010 the firm had an ROC ratio well above its peers, indicating that the firm has faired relatively well through the financial crisis.

Return on Net Operating Assets

Return on Net Operating Assets (RNOA) provides an overview over the relationship between operating profit after tax and operating assets invested in the firm. It is thus a measure of the firm's capability to earn positive returns on its operating capital. E.g. A low RNOA indicates a risky firm as the firm has low operating income compared to its operating assets. The following table provides an overview of the RNOA for Farstad Shipping and the industry average[149] in the period 2006-2010.
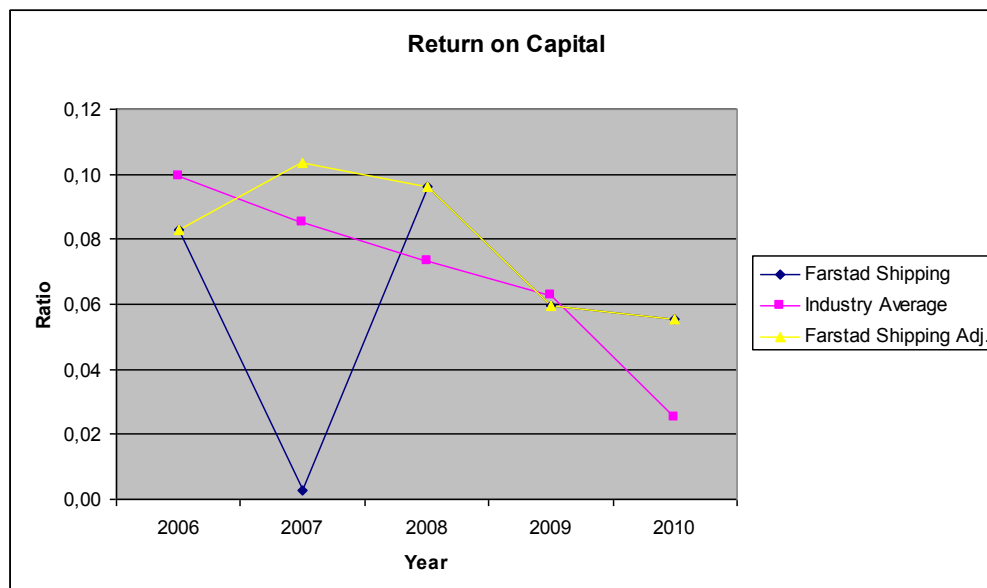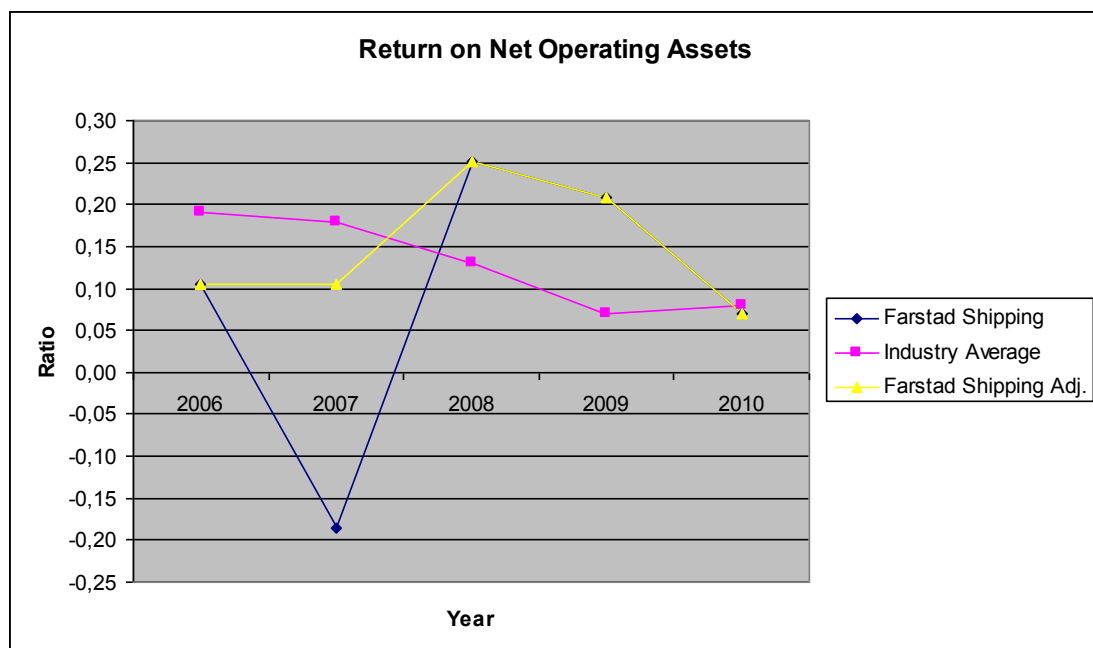

Figure 42 Return on Net Operating Assets Ratio 2006-2010

The chart depicts Farstad Shipping having an RNOA between 0,07 and 0,25.[150] Compared to the industry average between 0,07-0,19[151]; this may be considered average for the industry. Similarly to the ROC ratio, this indicates a relatively stable firm and industry. The yellow curve is adjusted here for the irregular tax expense it encounters in 2007. Farstad Shipping roughly coincides with the positive industry average RNOA in 2010. Overall this is not poor performance, however, there is a

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[149] The industry average is collected from an OSV benchmarking analysis in the period 2006-2010 and entails a few more OSV firms, this to provide more credible industry average as Farstad Shipping clearly outperforms its immediate comparative firms
[150] This excludes 2007 result which are not representative due to irregular tax expenses
[151] PWC: Riding the Storm – Global Shipping Benchmarking Analysis 2011

falling trend following the financial crisis from 2008. In 2010 the firm's RNOA has fallen to 0,07. Despite this, the firm's average RNOA over the whole period is 0,15.[152] Since the decrease is not dramatic and not negative (i.e. not a negative RNOA), this is not a sign of great risk, but rather a result of the financial crisis' effect on the industry.

To conclude; Farstad Shipping moves in conjunction with the industry. However, the firm outperform its peers in almost all ratios, especially in recent years. The firm may therefore be considered to have less (liquidity and default) risk than the industry average.

Synthetic Rating for Farstad Shipping ASA

The synthetic rating for Farstad Shipping is based upon the rating chart in chapter 5.1.4 page 53. By comparing the current ratio, equity ratio and RNOA ratio and the correlating bond rating to the average firm ratios; the synthetic rating is found. The following table provides an overview of the synthetic rating for Farstad Shipping in the period 2006-2010.[153]

Farstad Shipping ASA Synthetic Rating	2006		2007		2008		2009		2010		Average	
Current Ratio	1,65	(BBB)	1,72	(BBB)	2,05	(BBB)	2,07	(BBB)	1,82	(BBB)	1,86	(BBB)
Interest Coverage Ratio	4,85	(AA)	4,71	(A)	4,57	(A)	4,60	(A)	2,39	(BBB)	4,22	(A)
Equity Ratio	43,76%	(BBB)	36,7%	(BB)	40,69%	(BBB)	48,03%	(BBB)	45,18%	(BBB)	42,87%	(BBB)
Return on Net Operating Assets	10,49%	(BBB)	N/A		25,15%	(AA)	20,87%	(AA)	7,05%	(BB)	15,89%	(A)
Total Rating	BBB		BBB		A		A		BBB		BBB	

Figure 43 Farstad Shipping ASA Synthetic Rating 2006-2010

Based upon the five year average for each of the four ratios, Farstad Shipping has a BBB rating. This is considered investment grade. Standard & Poor's Rating Services has the following description of a BBB rating: "Adequate capacity to meet financial commitments, but more subject to adverse economic conditions."[154] In other words liquidity and default risk is considered low.

Analysis of Profitability

Farstad Shipping's analysis of profitability will be assessed by reviewing the ratio of return on assets (ROA) and the return on common equity (ROCE).

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[152] This is based on adjusted RNOA
[153] RNOA results for 2007 are excluded in the average due to the irregular tax expenses
[154] S&P: Ratings Credit Ratings Definition & FAQs

Cost of Equity - CAPM

To properly review the performance of the firm over the period, it is considered necessary to discount the cash flows to see if the returns are positive compared to the cost of capital. The CAPM model is used to calculate the cost of equity. The CAPM model is explained as follows: $E(R_i) = R_f + \beta_i(E(R_m) - R_f)$, where Rf is riskfree return, B is the firm's Beta, Rm is return on the market and Ri is return on equity.[155] The Beta is found by using regression on the simple monthly returns for Farstad Shipping listed on the Oslo Stock Exchange and its correlating index OSEBX. The beta throughout the period 1997-2005 is 0,4195 which may be considered low. The riskfree rate that will be utilized, is the benchmark interest rate set by the Norwegian Central Bank[156] in the period 2006-2010.

The risk premium rate that will be utilized, is the risk premium for the Norwegian period in the period 1915-2009. The following table provides an overview of the cost of equity (CAPM) for Farstad Shipping in the period 2006-2010.

Farstad Shipping ASA Cost of Equity	2006	2007	2008	2009	2010
Beta	0,4195	0,4195	0,4195	0,4195	0,4195
Risk Premium (Rm - Rf)	5,40 %	5,40 %	5,40 %	5,40 %	5,40 %
Riskfree Rate (Rf)	2,80 %	4,10 %	5,20 %	1,90 %	2,00 %
Cost of Equity (CAPM)	5,07 %	6,37 %	7,47 %	4,17 %	4,27 %

Figure 44 Farstad Shipping ASA Cost of Equity 2006-2010

In correlation with the financial crisis, the cost of equity peaks in 2008. However, the cost of equity falls in the following years as a result of a much lower riskfree rate.

Cost of Debt – Interest Expense

To calculate the cost of debt the interest expense is used as a norm. The interest expense is compared to total liabilities to find the annual percentage interest expense. To find the net interest expense, I find the post tax interest expense using the normalized tax rate of 5,95%. The following table provides an overview of the cost of debt for Farstad Shipping in the period 2006-2010.

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[155] Damodaran (2002:73)
[156] Norges Bank

Farstad Shipping ASA Cost of Debt	2006	2007	2008	2009	2010
Financial Liabilities	3 904 245	4 557 966	5 439 718	6 298 388	7 370 160
Operating Liabilities	636 783	1 359 442	1 032 624	467 439	618 020
Total Liabilities	4 541 028	5 917 408	6 472 342	6 765 827	7 988 180
Interest Cost	-144 532	-220 745	-298 223	-278 484	-376 084
Interest Cost (Percentage)	3,18 %	3,73 %	4,61 %	4,12 %	4,71 %
Tax Rate	5,95 %	5,95 %	5,95 %	5,95 %	5,95 %
Net Interest Expense (Cost of Debt)	2,99 %	3,51 %	4,33 %	3,87 %	4,43 %

Figure 45 Farstad Shipping ASA Cost of Debt 2006-2010

The table depicts an increasing cost of debt from 2,99% in 2006 to 4,43% in 2010. This is mainly a result of increased interest-bearing mortgage debt.

Cost of Capital - WACC

The cost of capital is found by multiplying the cost of debt and equity to the weights of debt and equity. The weight of equity is found by multiplying outstanding shares with the share price at the end of the year. The following table provides an overview of the cost of capital for Farstad Shipping in the period 2006-2010.

Farstad Shipping ASA Cost of Capital	2006	2007	2008	2009	2010
Cost of Equity	5,07 %	6,37 %	7,47 %	4,17 %	4,27 %
Cost of Debt	2,99 %	3,51 %	4,33 %	3,87 %	4,43 %
Percentage Equity (1)	54,06 %	48,95 %	28,91 %	42,55 %	46,07 %
Percentage Debt	45,94 %	51,05 %	71,09 %	57,45 %	53,93 %
Cost of Capital (WACC)	4,11 %	4,91 %	5,24 %	4,00 %	4,35 %

(1) Market Value (Share Price at the end of the year * Shares outstanding) / Market Value + Debt

Figure 46 Farstad Shipping Cost of Capital 2006-2010

The cost of capital (Weighted Average Cost of Capital (WACC)) is affected by the increase of cost of equity in 2008 which declines towards 2010. The degree of equity is relatively stable throughout the period.[157]

Return on Assets

Return on Assets (ROA) provides an overview over the firm's ability to achieve profits from the firm's assets. The following table provides an overview of the return on assets compared to the total cost of capital (WACC) for Farstad Shipping in the period 2006-2010.

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[157] This excludes 2008 which is effected by a low equity market value
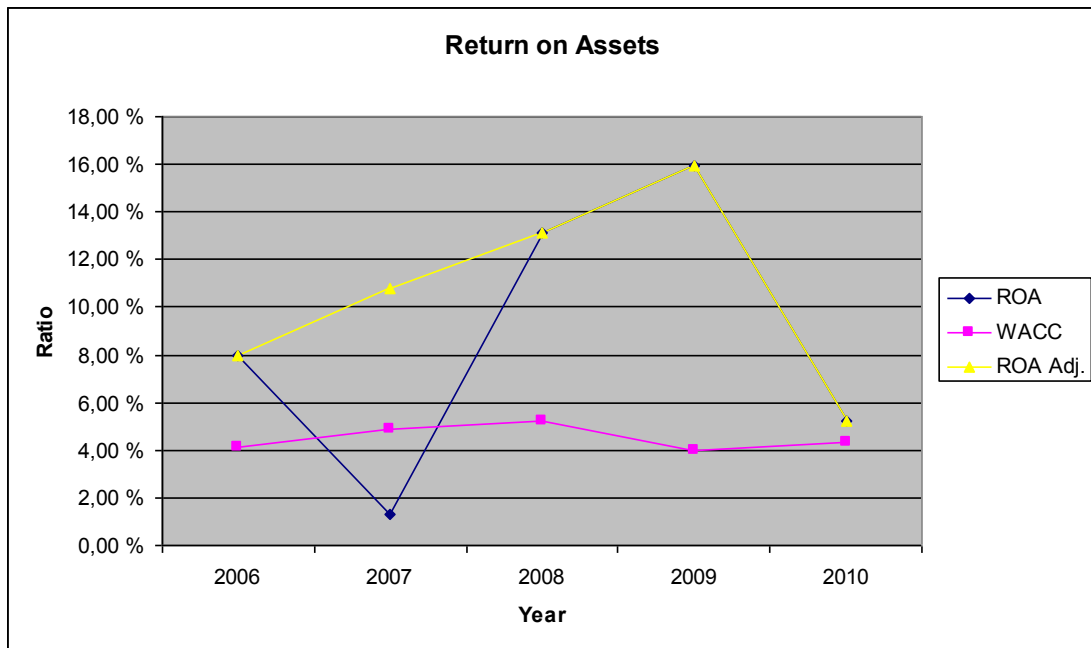
Figure 47 Return on Assets 2006-2010

The chart depicts Farstad Shipping having an ROA between 5,2%-16%.[158] Overall this is not poor performance and ROA is higher than the cost of capital in all years excluding 2007.[159] In 2010 ROA has fallen to 5,2%, mainly due to fall in net income. Despite this, the average ROA over the whole period is 8,73% (10,63% if adjusted ROA is used) compared to an average cost of capital (WACC) of 4,52%%. This must be considered positive and proves that the firm is capable of performing positively and delivering strong results despite the financial crisis.

Return on Equity

Return on Common Equity (ROCE) provides an overview over the general profitability of the firm. The following table provides an overview of the return on common equity compared to the cost of equity (CAPM) for Farstad Shipping in the period 2006-2010.

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[158] This excludes 2007 result which are not representative due to irregular tax expenses
[159] The tax expense is adjusted for in the curve ROA Adj.
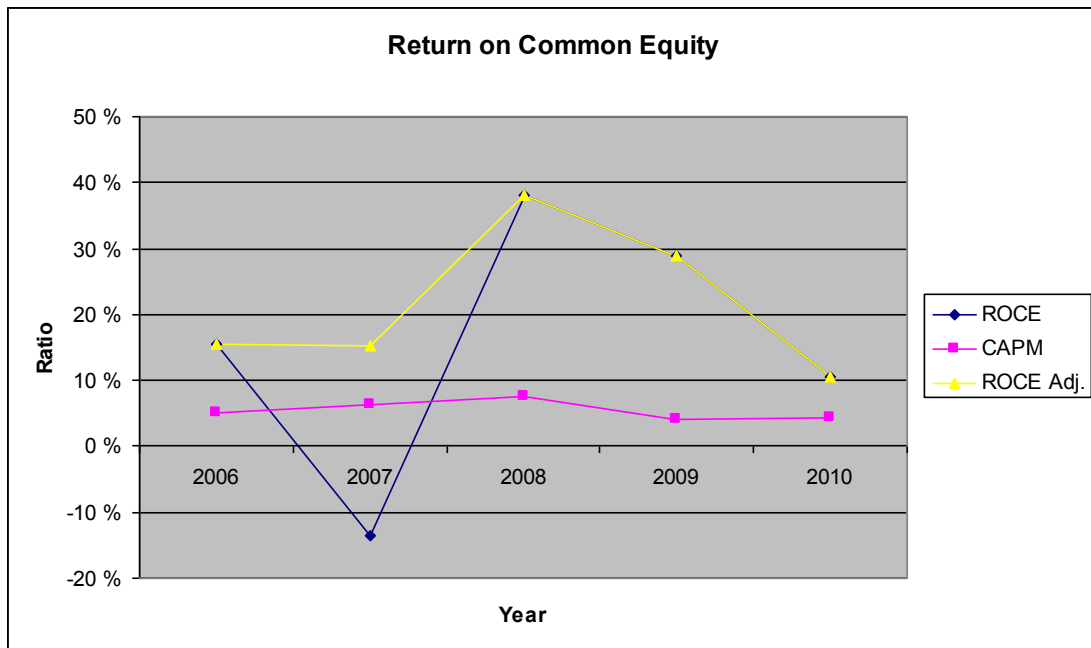
Figure 48 Return on Common Equity 2006-2010

The chart depicts Farstad Shipping having an ROCE between 11%-38%.[160] The ROCE is higher than CAPM in all years using the adjusted ROCE. Similar to the ROA, this is not poor performance. In 2010 ROCE has fallen to 11%, mainly due to fall in net income. The average over the whole period is 16% (21,7% if adjusted ROCE is used) compared to an average CAPM of 5,47%. This must again be considered positive and proves that the firm is delivering strong returns. It may be a sign of weakness that ROCE falls in 2009 and 2010, however this may be considered a stabilization period following the financial crisis. Notably, ROCE in 2006 was 16%, only slightly higher than ROCE in 2010. In comparing ROA and ROCE, the results are affected by the financing method. Despite this, both methods yield the result that the firm is profitable.

Overall the firm has low liquidity and default risk, furthermore the firm has stable profitability. The risk associated to this firm and industry must be considered low.

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[160] This excludes 2007 result which are not representative due to irregular tax expenses

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5.2.5 Forecasted Financial Statements for Farstad Shipping ASA

To forecast the financial statements for the period 2011-2020 the functional relationships for the 2010 financial statement is utilized. The following assumptions are made:

1. Operating Income is set as the driver variable, using data back to 2001, the average growth is set to 12,58%. Calculations are found in Appendix C. A 10 year period has been used to establish an accurate growth rate.

2. "Cash and Cash Equivalents" in the balance sheet is set as the policy variable, i.e. changes in "liabilities and equity" are evened out in "Total Assets" by changing the variable "Cash and Cash Equivalents". This is a standard policy variable and there were no indication of other policy variables being more appropriate.

3. "Depreciation" is set as a percentage of "Total Fixed Assets".[1] This is assumed to be a more realistic functional relationship than the "Operating Income".

4. "Pension Liabilities" is set as a percentage of "Crewing Expenses Vessels". This is assumed to be a more realistic functional relationship than the "Operating Income".

5. To estimate the 2011-2020 income statement and balance sheet the functional relationships for 2010 are utilized. However, in certain variables the value has been set to a constant. This has been done when it would be speculative to use the current functional relationship due to the variables sporadic nature.

6. "Total Dividends Paid" is assumed 0. This has been done as there is no clear indication of the firm's future dividends policy. Perhaps earlier dividends could be used as an average, but this would be speculative and has been avoided here.

A complete overview over the functional relationships and assumptions are available in Appendix D. The following table provides an overview of the estimated reformulated income statement for Farstad Shipping in the period 2010-2020.[2]

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[1] In this case the posts *Vessels etc.* and *Contracts Newbuilds* are used
[2] Notably the data for 2010 are not estimated

Farstad Shipping ASA Income Statement (1000 NOK)	2010	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020e
Freight Income	3 353 307	3 775 040	4 249 813	4 784 296	5 386 000	6 063 377	6 825 946	7 684 420	8 650 861	9 738 848	10 963 667
+ Other Income	3 802	4 280	4 818	5 424	6 107	6 875	7 739	8 713	9 808	11 042	12 431
= Total Operating Income	3 357 109	3 779 320	4 254 631	4 789 721	5 392 106	6 070 252	6 833 685	7 693 133	8 660 670	9 749 890	10 976 098
Crewing Expenses Vessels	1 161 855	1 307 977	1 472 477	1 657 665	1 866 143	2 100 841	2 365 056	2 662 501	2 997 353	3 374 320	3 798 695
+ Other Operating Expenses Vessels	582 968	656 286	738 824	831 744	936 349	1 054 110	1 186 682	1 335 926	1 503 941	1 693 086	1 906 019
+ Administration	197 830	222 710	250 720	282 252	317 750	357 712	402 700	453 346	510 362	574 548	646 807
+ Depreciation	516 237	564 772	614 491	668 597	727 477	791 555	861 290	937 183	1 019 780	1 109 675	1 207 517
= Total Operating Expenses	2 458 890	2 751 745	3 076 512	3 440 257	3 847 719	4 304 218	4 815 727	5 388 956	6 031 436	6 751 629	7 559 038
- Operating Tax Expense (1)	15 162	61 141	70 098	80 293	91 891	105 079	120 068	137 099	156 439	178 397	203 315
= Total Operating Result	913 381	966 435	1 108 021	1 269 170	1 452 496	1 660 955	1 897 889	2 167 078	2 472 794	2 819 865	3 213 745
+ Total Financial Income	74 582	83 962	94 521	106 409	119 792	134 858	151 818	170 912	192 407	216 605	243 847
= Total Result to Capital Employed	987 963	1 050 397	1 202 543	1 375 580	1 572 288	1 795 812	2 049 707	2 337 990	2 665 201	3 036 469	3 457 591
- Total Financial Expenses	395 155	444 852	500 800	563 783	634 688	714 511	804 372	905 535	1 019 421	1 147 630	1 291 963
- Total Minority Interests	-	-	-	-	-	-	-	-	-	-	-
= Net Result to Equity	592 808	605 544	701 743	811 796	937 600	1 081 302	1 245 335	1 432 455	1 645 780	1 888 840	2 165 629
+ Results from Extraordinary Operating Items (2)	1 114	0	0	0	0	0	0	0	0	0	0
+ Results from Extraordinary Financial Items (3)	-41 096	0	0	0	0	0	0	0	0	0	0
- Extraordinary Tax Expense (4)	-15 905	0	0	0	0	0	0	0	0	0	0
= Total Net Result to Equity	568 731	605 544	701 743	811 796	937 600	1 081 302	1 245 335	1 432 455	1 645 780	1 888 840	2 165 629
- Total Dividends Paid	117 000	0	0	0	0	0	0	0	0	0	0
= Change in Equity	451 731	605 544	701 743	811 796	937 600	1 081 302	1 245 335	1 432 455	1 645 780	1 888 840	2 165 629

(1) Derived on page 62
(2) Profit on Sale of Fixed Assets
(3) Realised and Unrealised agio/disagio including Dirty Surplus
(4) Derived on page 62

Figure 1 Farstad Shipping ASA Estimated Reformulated Income Statement 2010-2020

The estimated reformulated balance sheet for Farstad Shipping in the period 2010-2020 is illustrated on the following page. Notably both income statement and balance sheet are linked using the functional relationship throughout the estimated period 2011-2020.

Farstad Shipping ASA Balance Sheet (1000 NOK)	2010	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020e
Assets											
Financial Assets:											
Shares	5 204	5 204	5 204	5 204	5 204	5 204	5 204	5 204	5 204	5 204	5 204
Forward Currency and Interest Contracts	-	-	-	-	-	-	-	-	-	-	-
Other Current Financial Assets	133 338	150 107	168 986	190 239	214 164	241 099	271 421	305 557	343 985	387 247	435 950
Cash and Cash Equivalents (Policy Variable)	-	625 159	976 476	1 435 472	2 021 253	2 755 814	3 664 446	4 776 196	6 124 394	7 747 238	9 688 479
Cash and Cash Equivalents (NWC)	2 136 364	2 078 626	2 340 047	2 634 346	2 965 659	3 338 639	3 758 527	4 231 223	4 763 368	5 362 440	6 036 854
Total Financial Assets	2 274 906	2 859 096	3 490 713	4 265 261	5 206 280	6 340 755	7 699 598	9 318 180	11 236 951	13 502 129	16 166 487
Operating Assets:											
Goodwill	30 247	30 247	30 247	30 247	30 247	30 247	30 247	30 247	30 247	30 247	30 247
Vessels etc.	11 467 552	12 472 110	13 564 666	14 752 931	16 045 288	17 450 855	18 979 550	20 642 159	22 450 412	24 417 068	26 556 003
Contracts Newbuilds	64 149	143 755	161 835	182 188	205 101	230 896	259 935	292 626	329 429	370 860	417 502
Deferred Tax Benefit	16 963	19 096	21 498	24 202	27 246	30 672	34 530	38 872	43 761	49 265	55 461
Other Long-term Receivables	27 824	31 323	35 263	39 698	44 690	50 311	56 638	63 761	71 780	80 808	90 971
Receivables from Group Companies	-	-	-	-	-	-	-	-	-	-	-
Account Receivables, Freight Income	471 567	530 874	597 640	672 803	757 419	852 677	959 915	1 080 640	1 216 549	1 369 549	1 541 793
Bunkers and other Inventories	40 480	45 571	51 302	57 754	65 018	73 195	82 401	92 764	104 430	117 564	132 350
Other Short-term Receivables	176 860	199 103	224 143	252 333	284 068	319 794	360 014	405 291	456 263	513 646	578 245
Total Operating Assets	12 295 642	13 472 080	14 686 595	16 012 157	17 459 078	19 038 648	20 763 230	22 646 361	24 702 871	26 949 007	29 402 571
Total Assets	14 570 548	16 175 865	18 003 118	20 081 975	22 445 990	25 133 101	28 186 203	31 653 780	35 590 633	40 058 685	45 127 904
Liabilities and Stockholder's Equity											
Financial Liabilities:											
Pension Liabilities	61 901	69 686	78 450	88 317	99 424	111 928	126 005	141 852	159 692	179 776	202 386
Bonds	-	-	-	-	-	-	-	-	-	-	-
Interest-bearing Mortgage Debt	6 287 220	7 077 941	7 968 107	8 970 227	10 098 379	11 368 415	12 798 179	14 407 759	16 219 770	18 259 670	20 556 122
Forward Currency and Interest Contracts	29 221	29 221	29 221	29 221	29 221	29 221	29 221	29 221	29 221	29 221	29 221
Current Portion of Interest-bearing Debt	991 818	1 116 555	1 256 980	1 415 066	1 593 034	1 793 384	2 018 931	2 272 845	2 558 692	2 880 489	3 242 758
Total Financial Liabilities	7 370 160	8 293 403	9 332 759	10 502 830	11 820 058	13 302 948	14 972 336	16 851 676	18 967 375	21 349 157	24 030 487
Operating Liabilities:											
Deferred Tax Liabilities	-	-	-	-	-	-	-	-	-	-	-
Leasing Obligation	-	-	-	-	-	-	-	-	-	-	-
Tax Liabilities and Environmental Fund	9 516	9 516	9 516	9 516	9 516	9 516	9 516	9 516	9 516	9 516	9 516
Accounts Payable	231 161	260 233	292 962	329 807	371 285	417 980	470 548	529 727	596 349	671 350	755 783
Taxes Payable	46 487	52 333	58 915	66 325	74 666	84 057	94 628	106 529	119 927	135 010	151 990
Other Current Liabilities	330 856	372 467	419 310	472 045	531 413	598 247	673 486	758 188	853 542	960 889	1 081 737
Total Operating Liabilities	618 020	694 549	780 703	877 693	986 880	1 109 800	1 248 178	1 403 960	1 579 335	1 776 765	1 999 025
Minority Interest	-	-	-	-	-	-	-	-	-	-	-
Common Equity	6 582 368	7 187 912	7 889 656	8 701 452	9 639 051	10 720 353	11 965 688	13 398 143	15 043 923	16 932 763	19 098 392
Capital Employed	14 570 548	16 175 865	18 003 118	20 081 975	22 445 990	25 133 101	28 186 203	31 653 780	35 590 633	40 058 685	45 127 904

Figure 2 Farstad Shipping ASA Estimated Reformulated Balance Sheet 2010-2020

6.0 VALUATION FRAMEWORK

The purpose of this chapter is to give an overview over the valuation framework which will be used when estimating the fair value of Farstad Shipping. The chapter begins by describing the method of finding the Weighted Average Cost of Capital (WACC), before describing the Discounted Cash Flow Model (DCF). Additionally, relative and asset-based valuation methods will be described as a supplementary method to the DCF model. Finally the primary valuation method will be discussed in more detail.

6.1 Weighted Average Cost of Capital (WACC)

The Weighted Average Cost of Capital (WACC) may be defined as "the cost of capital for operations or the cost of capital for the firm"[3] Paraphrased, WACC is the cost of the different methods of financing (debt and equity) weighted to their relative market values.[4] The WACC model is explained as follows:

$$\text{WACC} = \frac{MV_e}{MV_d + MV_e} \cdot R_e + \frac{MV_d}{MV_d + MV_e} \cdot R_d \cdot (1 - t)$$, where MVe is market value of equity, MVd is market value of debt, t is the corporate tax rate, Re is the equity cost of capital and Rd is the debt cost of capital.[5] I.e. WACC represents the return the firm must have on its investments to be profitable. The WACC model is based upon the Modigliani-Miller II principle: "The cost of capital of levered equity increases with the firm's market value debt-equity ratio."[6] I.e. increasing debt in a firm increases the cost of both debt and equity, but considering that debt is a cheaper method of financing, WACC remains constant. However, this assumes perfect capital markets with no taxes. The following chart depicts the Modigliani-Miller II proposition.

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[3] Penman (2004:442)
[4] Damodaran (2002:13)
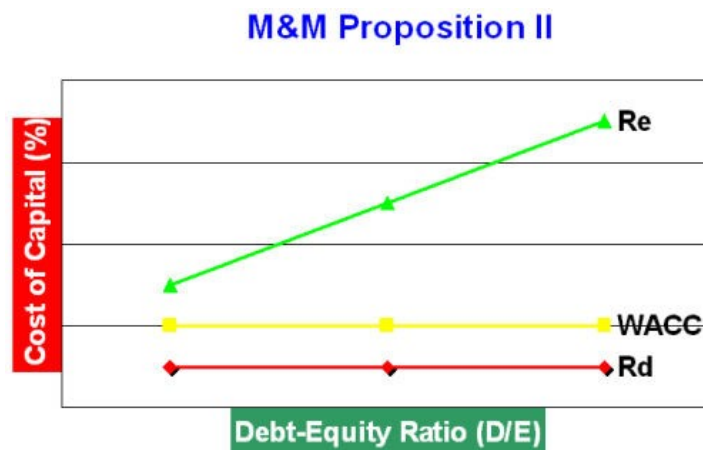[5] Berk & DeMarzo (2011:596)
[6] Berk & DeMarzo (2011:461)

Figure 3 Modigliani-Miller II Principle[7]

In reality, however, WACC will be affected by the capital structure as there are no perfect capital markets and taxes and transaction costs do exist. In the following segments the cost of equity and the cost of debt will be discussed in more depth.

Cost of Equity

As previously discussed in chapter 5.2.4 page 81; the cost of equity is calculated using the Capital Asset Pricing Model (CAPM): $E(R_i) = R_f + \beta_i(E(R_m) - R_f)$, where Rf is riskfree return, B is the firm's Beta, Rm is return on the market and Ri is return on equity. There are three variables that need to be determined; the risk-free rate (rf), the firm's Beta (B) and the market risk premium (rp).

The risk-free rate relates to the rate an investor can borrow and save capital.[8] Usually this rate corresponds to the Treasury yields in the country where the firm is situated. Although this rate is considered risk-free and a reasonable estimate for the investors' risk-free rate, most investors pay a premium to borrow depending on the length of the debt and the liquidity of the loan.[9] However, this may be complex to determine and at times negligible, hence, the treasury rate is an appropriate estimate to the investors' risk-free rate, alternatively, high quality corporate bond rates may be used.[10] Furthermore, the Treasury rates are affected by interest rate risk, hence it is important to select the corresponding Treasury rate correlating to the investments time period.[11]

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[7] FinanceScholar: Modigliani & Miller (M&M Proposition I & II)
[8] Berk & DeMarzo (2011:381)
[9] Berk & DeMarzo (2011:381)
[10] Berk & DeMarzo (2011:381)
[11] Berk & DeMarzo (2011:381)

The firm's Beta is the sensitivity of the firm to the market portfolio. The Beta is calculated using historical data, which assumes the market risk of the firm is relatively stable over time. The Beta is normally calculated using monthly or weekly data in a 2-5 year period. Using linear regression between the firm's return and the market portfolio return, the firm's Beta is found. The market portfolio is a collection of the securities which represent the market. E.g. the market index of the country where the firm is being traded may be a good example of the market portfolio. However, a firm that is traded in many markets, or is more affiliated with another market, another market portfolio may be more suitable. An alternative to estimating the Beta is studying the firm's fundamentals. This method analyses the Beta as a result of 1; the firm's type of business, 2; operating leverage and 3; financial leverage. The levered Beta is explained as follows: Levered Equity Beta = Unlevered Equity Beta [1 + (1 − tax rate) (Debt/Equity)]. Notably a cyclical business will have a higher Beta than a more stable business. Also, a firm with little leverage will generally have a lower Beta than a firm with high leverage, as the firm's risk depends upon the degree of debt.[12]

The market risk premium relates to the difference in return from holding the market portfolio and the risk-free asset.[13] Importantly, the market risk premium may change over time. This was especially noticeable during the financial crisis, where the market risk premium increased greatly.[14] As a result of the market risk premium not being a stable return, it is important to select a correct market risk premium which corresponds to the relevant markets and time period as that of the risk-free asset and the underlying asset. Moreover, selecting the correct market risk premium is dependent upon the investment horizon being short-term or long-term. A long-term market risk premium may be more open to personal market views, while a more short-term market risk premium should be bases upon the current implied market premium. A historical risk premium may also be used, but should perhaps be used in light of its standard deviation.[15]

Cost of Debt

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[12] Damodaran (2002:192-195)
[13] Penman (2004:107)
[14] Musings on Markets: Equity Risk Premiums: The 2011 Edition
[15] Musings on Markets: Equity Risk Premiums: The 2011 Edition

The cost of debt is defined as "The cost of debt measures the current cost to the firm of borrowing funds to finance projects".[16] The cost of debt is determined by three variables; The riskless rate, the default risk and the tax advantage of debt.

The riskless rate effects the cost of debt as a lenders request a higher return on the loan as the riskless rate increases and vice versa.

The default risk affects the possibility of the lenders retrieving the principal on the loan to the firm. As a result of this, increased default risk results in the lenders requesting a higher return on their debt. Different concepts are used to find the default risk rate, some use yield to maturity (YTM). The default risk rate may then be found by comparing key firm ratios to bond ratios. The problem with YTM is that it overstates the return on debt if there is a high default risk. Conceptually, an expected cost of debt measure would need to be used. However, considering the investment grade rating (BBB) the firm has and hence low default rate, the difference is considered negligible.

The tax rate affects the cost of debt as the interest rates on the debt are tax deductible. This tax benefit results in after tax interest cost being less than the pretax interest cost.

The cost of debt for established firms may be found by viewing the firm's corporate bond ratings and yields. This will provide the market yield expected on the firm's debt. Should the firm not have any corporate bonds, the cost of debt may be found by creating a synthetic rating based upon key financial firm ratios.[17] If this proves difficult, the cost of debt may be found by reviewing the firms operational and financial liabilities compared to the interest costs and also taking into account the tax benefit.[18] This assumes a relatively stable debt/equity ratio and this approach may be more appropriate when a longer time period of financial statements may be analyzed.

6.2 Discounted Cash Flow Model (DCF)

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[16] Damodaran (2002:208)
[17] Synthetic rating is found in chapter 5.2.4 page 81
[18] This approach is found in chapter 5.2.4 page 76

The purpose of the discounted cash flow model is to find the firm's intrinsic value by reviewing the firm's fundamentals.[19] The DCF model may be very useful when there is relative certainty of the firm's future development, however, assumptions often need to be made. Due to these assumptions, there may be more uncertainty regarding the results from a DCF analysis, and the results may deviate from the market. Despite this, the market may also make errors. Hence, although, the market value is different from the firm's intrinsic value, the two values are expected to converge over time.[20] The value of a firm is found using the following DCF model:

$$\text{Value of Firm} = \sum_{t=1}^{t=n} \frac{\text{CF to Firm}_t}{(1+\text{WACC})^t}$$, where n is the life of the asset, CF to Firm is Expected cash flow to the firm in period t and WACC is the Weighted Average Cost of Capital.[21] The value of the firm is thus found by discounting the future cash flow to the firm (i.e. cash flow after operational expenses and taxes) with the WACC.[22] This may seem straightforward; however, there are many different types of DCF models. The following approach may be used when selecting the DCF model:

1: Are current earnings normal and positive? If they are, current earnings may be used as a base for the DCF model, if they are not it may be necessary to normalize earnings, e.g. over the last 5 years. In the unlikely case that the firm is not expected to continue operations it may be necessary to calculate the liquidation value.[23]

2. What is the growth rate? If the firm is mature and growing below the growth rate of the economy, a stable growth rate may be used. If the firm is growing at a higher growth rate than the economy, it may be expected that the firm has a competitive advantage. If the competitive advantages are time limited a two-stage model may be used, if the competitive advantages are not time-limited, a multi-stage model may be used. Two-stage DCF model will be explained below.[24]

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[19] Damodaran (2002:12)
[20] Damodaran (2002:12)
[21] Damodaran (2002:13)
[22] Presentation: Discounted Cash Flow Valuation: Basics
[23] Damodaran (2002:955)
[24] Damodaran (2002:955)

3. Can cash flows be estimated? If this is not the case, a dividend discount model may be used. When the cash flows may be estimated it is necessary to consider if the leverage is stable or unstable. If the leverage is unstable Free Cash Flow For the Firm (FCFF) should be used, while if the leverage is stable Free Cash Flow to Equity (FCFE) should be used. These terms will be explained below.[25]

Following these steps should help in selecting the appropriate DCF model.

Two-stage DCF

Two-stage DCF is common when the firm is growing faster than the economy, but when this growth is expected to stabilize. The two-stage DCF model consists of two parts; high growth stage and stable growth stage. The high growth stage is explained

$$DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_n}{(1+r)^n}$$

$$CF = Cash\ Flow$$

as follows: $r = discount\ rate\ (WACC)$, where n is the period of high growth.

The stable growth stage also known as the terminal value, is explained as follows:

$$= \frac{FCF_{10} * (1 + growth)}{WACC - growth}$$. This is an estimate of the value all future cash flows at a specific point in time. To find the current firm value all cash flows need to be discounted.

FCFF

Free Cash Flow For the Firm (FCFF) should be used as a base for calculating cash flows when the debt equity ratio is stable. This is because FCFF is difficult to calculate when debt is large or changing and equity is thus more sensitive to risk and growth assumptions.[26] Notably both FCFE and FCFF should provide the same return to equity. FCFF calculates cash flow to both equity and debt holders. If FCFF is negative, the firm is not meeting its expenses, however if FCFF is positive, the firm has a positive cash flow after all expenses are met. The FCFF model is calculated using the following formula: EBIT (1 – Tax rate) + Depreciation – Capital

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[25] Damodaran (2002:955)
[26] Damodaran (2002:388)

Expenditure – Change in Working Capital[27] A few effects associated with FCFF are: 1: Predebt cash flows may provide a false picture of the performance of the firm as debt costs may be very high. 2: Making assumptions regarding the debt ratio may be unreasonable and create incorrect calculations. E.g. a growing firm may not be able to have an assumed fixed debt ratio and this may lead to incorrect results.[28] Overall the method that is simplest to apply should be chosen, either WACC, Adjusted Present Value (APV) or Flows to Equity (FTE). If target leverage or D/E ratio is constant use WACC, if not use APV. FTE should be used in case of a complex capital structure.

FCFE

Free Cash Flow to Equity (FCFE) should be used as a base for calculating cash flows when the debt equity ratio is unstable. FCFE describes return to equity holders as the residual return after covering financial obligations and the firm's investment needs.[29] The FCFE model is calculated using the following formula: Net Income – (Capital Expenditures – Depreciation) – (Change in noncash working capital) + (New Debt issued – Debt repayments).[30] Compared to the FCFF model, FCFE focuses entirely on the cash flow to equity. Notably, compared to the FCFF model, when assessing cash flow to all claim holders in the firm, the optimal debt equity ratio may actually increase the firm value.[31]

6.3 Relative Valuation

Relative valuation is a relatively simple and common method of assessing if assets are correctly priced. The method compares earning multiples across similar assets to discover any price deviations in the asset of interest.[32] Due to the simplicity of the method, the method can be misused; it is therefore important to select comparable assets in relation to growth, risk and cash flow.[33] This is in order to produce credible

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[27] Damodaran (2002:383
[28] Damodaran (2002:389)
[29] Damodaran (2002:379)
[30] Damodaran (2002:352)
[31] Damodaran (2002:382)
[32] Damodaran (2002:468)
[33] Damodaran (2002:508)

and relevant results. The PE ratio, PB ratio and Enterprise Value to EBITDA ratio are three common earning multiples and will be studied here.

PE Ratio

The Price-Earnings Ratio (P/E Ratio) is found by using the following formula: Market price per share / Earnings per share (EPS).[34] A high PE Ratio indicates a high share price and vice versa. The PE Ratio is compared to PE Ratios of comparable firms. This is to provide a general view of the PE Ratio in the industry. The firm value is found by multiplying the PE Ratio with Net Earnings. To estimate the firm value the average PE Ratio among all the comparable firms will be used. This is done to provide a reasonable estimate of the firm based upon the industry.

PB Ratio

The Price-Book Ratio (P/B Ratio) is found using the following formula: Price per share / Book value of equity per share.[35] A PB Ratio higher than 1 indicates that the firm's assets are more valuable than their historical cost or liquidation value and vice versa. Similarly to the PE ratio; the PB ratio is compared to PB Ratios of comparable firms to provide a general view of the PB Ratio in the industry. The firm value is found by multiplying the PB Ratio with book value of equity per share. To estimate the firm value the average PB Ratio among all the comparable firms will be used in order to provide a reasonable estimate of the firm.

Enterprise Value to EBITDA Ratio

The Enterprise Value to EBITDA Ratio is considered a firm value multiple.[36] Compared to the PE Ratio there are several advantages of using this ratio; 1: more firms may be used in the comparison as fewer firms have a negative EBITDA compared to negative earnings. 2: Differences in deprecation methods will not affect the EV to EBITDA Ratio. 3: The ratio may be compared with more ease as the financial leverage is not taken into account. The EV to EBITDA Ratio is found using the following formula: (Market value of equity + Market value of debt − Cash) /

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[34] Damodaran (2002:468)
[35] Damodaran (2002:512)
[36] Damodaran (2002:501)

EBITDA.[37] Although the EV to EBITDA Ratio may pose as a good ratio; the multiple is affected by growth, reinvestment and risk similar to the PE Ratio.[38] As a result, these variables must be taken into account when selecting comparable firms. The firm value is found by multiplying the EV to EBITDA Ratio with EBITDA – NIBD.[39] To estimate the firm's value, the average EV to EBITDA Ratio among all the comparable firms will be used.

6.4 Asset-Based valuation

Asset-Based Valuation calculates firm value by estimating the value of the firm's individual assets and finds the firm value by aggregating the individual assets' value.[40] There are two main methods of finding the individual assets value. The first method assesses the value of the individual asset by estimating the liquidation value of the asset. I.e. what is the value of the asset if it was sold in its current state. The liquidation method is used by estimating what similar assets are valued in the market and assumes an efficient market. The second method assesses the value of the individual asset by estimating the replacement value of the asset. I.e. what would it cost a firm to replace the asset.[41] There are two important considerations regarding this valuation method. 1: No value is assigned to the firm's future growth. 2: Firm's with differentiated businesses are difficult to value as each business would need to be valued individually.[42] Hence, the method may not be suitable for either conglomerates or firms with large growth potential.

6.5 Primary Valuation Method

The primary valuation method for Farstad Shipping will be the DCF model. This method provides the most detailed assessment of the firm value. Building on the assumptions and expectations previously made regarding firm development and growth; the DCF model incorporates the forecasted financial statements in its

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[37] Damodaran (2002:501)
[38] Damodaran (2002:508)
[39] Net Interest Bearing Debt
[40] Damodaran (2002:21)
[41] Damodaran (2002:21)
[42] Damodaran (2002:595)

calculations to provide a thorough evaluation of the firm value. Despite this, the relative valuation and asset-based valuation methods will also be used. Though these methods have some drawbacks and are more simplified than the DCF model, they do provide more credibility to the overall valuation, by reassuring that the assumptions and expectations from the DCF model are correct. In this valuation, both methods will be used to set the correct share price range for the firm.

7.0 VALUATION OF FARSTAD SHIPPING ASA

In this chapter the valuation of Farstad Shipping will be conducted. The valuation is based upon the valuation framework discussed in the previous chapters. DCF will be the primary valuation method and relative valuation and asset-based valuation will be used for robustness.

7.1 Weighted Average Cost of Capital (WACC)

The Weighted Average Cost of Capital (WACC) for Farstad Shipping is calculated below. The cost of equity and the cost of debt are calculated first, before turning to the WACC.

Cost of Equity – CAPM

There is little indication of the future cost of equity changing greatly compared to the period 2006-2010. Despite the effects of the financial crisis; Farstad Shipping's cost of equity does not seem to have been greatly disrupted. As a result of this; the average CAPM for the firm in the period 2006-2010 will be used as estimated future cost of equity. Certainly, there are peaks in the CAPM in 2007-2008 and lows in 2009-2010, but these deviations will largely even out. A summary of the future CAPM is explained below:

Beta:

The Beta is calculated using regression on the simple monthly returns for Farstad Shipping listed on the Oslo Stock Exchange and its correlating index OSEBX in the period 1997-2005. The average Beta for the firm in this period is 0,42.[43] R-squared is roughly 0,2. However, the low R-squared may be explained by the nature of the OSV industry. Firms in long-term contracts had fluctuations delayed compared to the overall market portfolio. Furthermore, the low R-squared indicated that the firm has low systematic risk compared to the market portfolio. Overall 0,2 R-squared indicates that the there is an average correlation between the firm and the market portfolio. The standard deviation is 8,19%, which is considered acceptable. Moreover, taking into account the last 5 years, an R-squared of 0,85 with a roughly unchanged beta or standard deviation is uncovered. Supporting the use of the beta found here.

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[43] Average of monthly returns in the period 1997-2005

Riskfree Rate:

Considering that Farstad Shipping is traded on the Norwegian Stock Exchange and has its main operations in Norway, the risk free rate will be based upon the current riskfree rate in Norway. The Norwegian Government issues Treasury bonds with a max duration of 10 year. Hence, a 10 year Treasury bond will be used as the riskfree rate as there is no default, liquidity or reinvestment risk with these bonds. The current 10 year Norwegian Treasury bonds are currently yielding 3,78%[44] (2011).

Risk premium:

The risk premium rate for the Norwegian market portfolio in the period 1915-2009 was 5,4%. To have a market neutral view; the current implied equity risk premium could have been used. The current implied equity risk premium in a mature equity market is 4,98%[45] (2011). Although, this rate reflects the current implied risk premium on equity, it does not take into account that the equity risk premium may vary across mature markets. In light of this, an average of the Norwegian historical risk premium and the current implied risk premium will be used. This yields a risk premium on equity of 5,19%.

CAPM:

The cost of equity (CAPM) is calculated using the following formula: riskfree rate + Beta(Expected market return – risk free rate). This yields the following cost of equity for the firm: 3,78% + 0,42 * 5,19% = 5,96%. This is higher than the average cost of equity for the firm in the period 2006-2010 which is 5,47%. However, the difference may mainly be explained as a result of a higher riskfree rate. Certainly, there is a difference between the cost of equity in 2010 which was 4,27% and the cost of equity found here, however, this must be considered transitory as a result of the Financial Crisis.

Cost of Debt:

The total cost of debt is found using a normalized tax rate of 5,95%. Using the synthetic rating results for Farstad Shipping in chapter 5.2.4 page 80; the firm has a synthetic rating of BBB. Using the synthetic rating data from chapter 5.1.4 page 53; the firm has a risk premium of 0,4. The post-tax cost of debt is then calculated using the following formula: ((risk premium * riskfree rate) + riskfree rate) * (1 – tax rate).

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[44] Norwegian Central Bank: Auction results
[45] Musing on Markets: Equity Risk Premiums: The 2011 Edition

This yields the following cost of debt for the firm: ((0,4 * 3,78%) + 3,78%) * (1 – 5,95%) = 4,98%. Notably this is slightly higher than the average cost of debt for the firm in the period 2006-2010 which is 3,83%. However, the cost of debt in this period may have been offset by the financial crisis. The cost of debt for 2010, which may be considered a more stable figure is 4,43%, close to the estimated cost of debt at 4,98%.

Weighted Average Cost of Capital (WACC):

The Weighted Average Cost of Capital (WACC) for Farstad Shipping is found to be 5,39% This is calculated using a cost of equity of 5,96% and a cost of debt of 4,98%. This cost of capital is slightly higher than the average WACC for the firm in the period 2006-2010 which is 4,52%. This is a result of both a slightly higher CAPM and Net Interest Expense. The equity weight has been calculated using the current market value and the debt weight has been calculated using the book value. The calculated equity debt weights are quite similar to the average equity debt weights for the firm in the period 2006-2010 and there is little indication of any significant changes. The following table provides an overview of the WACC calculation for Farstad Shipping.

Farstad Shipping ASA WACC	
Beta	0,42
Riskfree rate	3,78 %
Risk premium	5,19 %
Cost of Equity	**5,96 %**
Tax rate	5,95 %
Risk premium (1)	0,4
Pre-Tax cost of debt	5,29 %
Post-Tax cost of debt	**4,98 %**
Weights	
E/E+D (2)	0,42
D/E+D (3)	0,58
WACC	**5,39 %**

(1) BBB Rating (Standard & Poor's)
(2) Market value of equity: 150 * 39mill. = 5850mill. NOK (30.11.2011)
(3) Book value of debt: 7988,18mill. NOK (31.12.2010)

Figure 4 Farstad Shipping ASA WACC

7.2 Discounted Cash Flow Model (DCF)

The discounted cash flow model is based on the estimated financial statements for the firm in chapter 5 and the valuation framework in chapter 6.

Two-stage DCF

The DCF model for valuating Farstad Shipping is based upon the two-stage DCF model discussed in chapter 6.2 page 92. This model assumes a period of high growth before reaching steady state. A 10 year period of high growth has been assumed. Considering that the OSV industry is relatively mature, a shorter period could have been preferable, also the increased uncertainty operating with financial statements 10 years into the future could have been decreased. However, while the OSV industry relatively stable, increased growth is expected as E&P activities are moved further into more harsher and demanding offshore climates. This again creates increased OSV demand. With the increased demand for oil and gas, it is not an unreasonable assumption that a high growth period of 10 years is used. Operating income (driver variable) is expected to increase 12,58% annually in the high growth period, which is the average growth for the firm in the period 2001-2010. Again, this high growth reflects the firm's previous performance, its strong global position in the industry and also expected industry growth as the effects of the financial crisis stabilize.

The steady-state growth may be considered to be the growth rate of the economy. The U.S. economy grew 2.5% annually in 2011.[46] Being one of the largest economies worldwide, this would be a reasonable estimate. Considering that the Farstad Shipping is traded in Norway; the growth rate for OECD countries may be more relevant. GDP growth in OECD countries was, incidentally, also found to be 2,5% in the beginning of 2011.[47] Therefore a 2,5% rate will be utilized here.

FCFF

Free Cash Flow For the Firm is used as the method for calculating free cash flow to the firm. Although FCFE and FCFF should provide the same results; and FCFE also could have been used; FCFF has been preferred as it provides a return to debt as well as equity, hence a more overall view over the firm's cash flow to equity and debt holders is established. Moreover, as the firm's main operations are within the OSV

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[46] US Economy and Business: GDP Current Statistics
[47] OECD: News Release: GDP Growth – First Quarter of 2011

industry and there are no notable diversifications within other correlating industries; the FCFF calculation will be undertaken of the firm as a whole.

Capital Expenditures (CapEx)

Annual Capital Expenditures in the FCFF calculation are calculated as change in main fixed assets[48] + depreciation. While *contracts newbuilds* is a large post, *vessels etc.* is the largest operating asset by far. In other words the largest capital expenditures are thus in relation to vessels. When assessing fleet growth; the functional relationship is not directly dependent on operating income, which is the driver variable in the estimated financial statements. In 2010 the *vessels etc.* post to operating income was 3,42. It is unreasonable that this ratio will sustain. Furthermore, the ratio has fluctuated from a low 2,38 in 1998 to a high 3,66 in 2003. Considering the size of this post an alternative approach has been used to provide more credible results. The alternative approach considers the actual growth in the fleet annually in the period 1998-2010. By excluding extraordinary growth and the growth directly prior to the financial crisis, the period 1999-2007 is used and provides a fleet growth of 7,17%. Averaging this growth rate with the total growth rate for the period 1999-2010[49] which is 10,34% the resulting growth rate is 8,76%. This growth rate is used for the post "vessels etc." The higher operating income growth rate than fleet growth rate may be explained by increased fleet utilization, higher rates and overall industry profitability.[50]

Change in Net Working Capital (NWC)

Annual Change in Net Working Capital in the FCFF calculation are calculated as change in current assets – current liabilities. Notably, the post *cash and cash equivalent* has been set as a functional relationship of operating income. As a result; overshooting cash and cash equivalents have been set into a second post *cash and cash equivalents*, which acts as the policy variable and is thus a residual. See appendix D for more information on the functional relationship in the estimated financial statements.

DCF Model Results

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[48] Vessels etc. and Contracts Newbuilds
[49] Excluding extraordinary growth
[50] See Appendix E for more details

The following table provides an overview of the FCFF calculation for Farstad
Shipping in the period 2011-2020.

Farstad Shipping ASA FCFF (1000 NOK)	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020e
EBIT * (1 - t)	966 435	1 108 021	1 269 170	1 452 496	1 660 955	1 897 889	2 167 078	2 472 794	2 819 865	3 213 745
Depreciation	564 772	614 491	668 597	727 477	791 555	861 290	937 183	1 019 780	1 109 675	1 207 517
Capital Expenditures	1 648 935	1 725 127	1 877 215	2 042 747	2 222 917	2 419 023	2 632 482	2 864 835	3 117 763	3 393 093
Change in Net Working Capital	-155 594	151 258	170 282	191 697	215 806	242 947	273 502	307 899	346 623	390 216
Free Cash Flow to Firm	37 865	-153 873	-109 729	-54 471	13 787	97 208	198 277	319 839	465 155	637 952

Figure 5 Farstad Shipping ASA FCFF 2011-2020

Free Cash Flow to Firm (FCFF) is low in 2011 and negative in the period 2012-2014.
This may largely be explained by high capital expenditures compared to the
corresponding EBIT $(1 - t)$ in this period. Overall the FCFF is expected to increase
from 37,865 mill. NOK in 2011 to 637,952 mill. NOK in 2020. This positive
development may be attributable to high expected growth and higher expected fleet
utilization and rates compared to the financial crisis.

Farstad Shipping ASA Terminal Value (1000 NOK)	
Long run growth	2,50 %
WACC	5,39 %
Terminal value	22 606 412

Figure 6 Farstad Shipping ASA Terminal Value

The terminal value is estimated to be 22606,412 mill. NOK using a long run growth
rate of 2,5%. The terminal value is added to FCFF in year 2020 to achieve the total
cash flow.

Farstad Shipping ASA Equity (1000 NOK)	2011e	2012e	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020e
Total Cash Flow	37 865	-153 873	-109 729	-54 471	13 787	97 208	198 277	319 839	465 155	23 244 364
Discounted Cash Flow	35 927	-138 530	-93 733	-44 149	10 602	70 932	137 278	210 113	289 940	13 747 342
Enterprise Value	14 225 723									
Net Interest Bearing Debt	7 279 038									
Equity Value	6 946 685									
Equity value per share	178,12									

Figure 7 Farstad Shipping ASA Equity 2011-2020

To find the share price the following method is used: The total cash flow is discounted
with the WACC rate at 5,39%. This establishes an enterprise value of 14225,723 mill.
NOK. Subtracting net interest bearing debt (2010) of 7279,038 mill. NOK, leaves an

equity value of 6946,685 mill NOK. Divided by the 39 mill outstanding shares leaves an equity value per share of 178 NOK.

The current share price is 147 NOK (02.12.2011). This means that the share price calculated in the DCF model indicates a premium of 21,17% at current share price levels. However, considering the many assumptions which have been made in the DCF model, the equity value must be regarded with some uncertainty. In the following chapters, this equity value will be tested with relative valuation and asset-based valuation, to affirm if the equity value found here is credible. Finally, a sensitivity analysis will be carried out on key variables and their effect on the equity value in the DCF model.

7.3 Relative Valuation

The relative valuation is used as the secondary valuation method for Farstad Shipping. The earning multiples used are the PE ratio and the Enterprise Value to EBITDA. Financial data for 2011 will be used when calculating the multiples. The following procedures are used when calculating the firm value using multiples.

PE Ratio

The PE ratio is Price / Earnings. The industry PE is calculated as the average PE of the comparable firms in the industry. The firm price is devised using the following formula: Average industry PE * firm's earnings per share (EPS), where EPS is normalized earnings / total outstanding shares.

It would be considered optimal to use the comparable firms previously discussed when establishing the industry PE. However, due to several of these firms still recovering from the financial crisis, most are reporting a negative EPS and thus a correct PE may not be calculated. To rectify this. The average PE calculated by analysts for the whole industry sector has been used.[51] The table on the following page provides an overview of the firm value calculation for Farstad Shipping using the PE earnings multiple.

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[51] Bloomberg and Reuters have been used as the main analysts

Industry PE Calculation	P/E
Bloomberg	14,0649
Reuters	10,04
Industry Average	12,05
Farstad Shipping	12,08

Farstad Shipping ASA Equity Using PE	
Industry PE	12,05
Firm's Net Results to Equity (2011e) (1000 NOK)	605 544
Outstanding shares	39 000
Equity value per share	187,14

Figure 8 Farstad Shipping ASA Equity Using PE

Using the results attained above a sector PE of 12,05 is achieved. This is also close to the reported firm PE of 12,08. The industry PE provides an equity value per share of 187,14 NOK. This is higher than the equity value attained in the DCF model.

PB Ratio

The PB Ratio is Market value of equity per share / Book value of equity per share. The firm price is found using the following formula: Average industry PB * book value of equity per share. Also when calculating the PB Ratio it could be appropriate to use the comparable firms previously discussed. However, as several of these firms are performing negatively, they would arguably have a low PB Ratios and not correctly represent the industry average. Therefore a sector average provided by Reuters has been used in the following calculations, however, the PB Ratio attained by using the comparable firms may be found in Appendix F.[52] The following table provides an overview of the firm value calculation for Farstad Shipping using the PB earnings multiple.

Industry PB (Reuters)	1,30
Farstad Shipping PB	0,79

Farstad Shipping ASA Equity Using PE	
Industry PE	1,30
Firm's Book Value of Equity (2011e) (1000 NOK)	7 187 912
Outstanding shares	39 000
Equity value per share	239,60

Figure 9 Farstad Shipping ASA Equity Using PB

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[52] Appendix F is not utilized further in the valuation and for illustration only

The industry PB is quite higher than the firm PB. The industry PB provides an equity value per share of 239,60 NOK. This is also higher than the equity value attained in the DCF model.

Enterprise Value to EBITDA

The Enterprise Value to EBITDA is calculated as the average of the comparable firms in the industry. These ratios are attained using the following method. The equity value is devised using the following formula: Average industry EV/EBITDA * firm EBITDA. This yields the enterprise value. By removing debt and adding cash & cash equivalents the equity value is found. The following table provides an overview of the firm value calculation for Farstad Shipping using the EV/EBITDA earnings multiple.

Industry EV/EBITDA Calculation (1000)	Market Cap	EV	EBITDA	EV/EBITDA	
Solstad Offshore (NOK)	3 288 427	12 993 669	980 849	13,25	
DOF (NOK)	2 376 499	20 056 182	1 709 364	11,73	
Siem Offshore (USD)	523 052	1 350 280	76 499	17,65	N/A
Havila Shipping (NOK)	770 764	5 157 652	520 939	9,90	
Eidesvik Offshore (NOK)	913 545	3 897 429	490 166	7,95	
Deep Sea Supply (USD)	161 075	715 847	64 090	11,17	

Industry Average	10,80

Farstad Shipping	7,23

Farstad Shipping ASA Equity Using EV/EBITDA (1000 NOK)	
Industry EV/EBITDA	10,80
Firm EBITDA (2011e)	1 592 347
Enterprise Value	17 197 926
Equity Value	11 346 110
Equity value per share	290,93

Figure 10 Farstad Shipping ASA Equity Using EV/EBITDA[53]

Some of the firms have abnormally high EV/EBITDA due to low performance and high degree of debt. Certainly, this high ratio may be partly be explained by the financial crisis. Using the industry average the firm is supposedly correctly priced at 290,93 NOK. This is not a reliable assessment. The error is due to the comparable firms being selected on a variety of similar variables to that of Farstad Shipping; nevertheless, Farstad Shipping is arguably a much larger and more stable firm than many of its peers. It is therefore not correct that the firm should experience such a high EV/EBITDA. However, it may be considered that the firm value is slightly deflated as the ratio is far below that of its peers.

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[53] Firms with abnormally high EV/EBITDA are not considered in the industry average, i.e. N/A

7.4 Asset-Based Valuation

The asset-based valuation calculates the liquidation value of the firm. i.e. what the total value of the firms assets are if sold in their current state. Due to a well established second-hand market for OSV vessels this valuation method is feasible. The table on the following page provides an overview of total fleet value for Farstad Shipping using market values. The vessel values have been calculated based upon the market price of similar types of vessels (PSV, AHTS, SUBSEA), engine size and build date. A linear depreciation method with a period of 20 years has been used to calculate current market values.[54] Vessels older than 20 years have been estimated on trading prices of 20+ year old vessels of the same type. The following table provides an overview of the firm value calculation for Farstad Shipping using Asset-Based valuation.

Farstad Shipping ASA Equity Using Asset-Based valuation

PSV Fleet	2 832 150,46
AHTS Fleet	7 952 540,66
SUBSEA Fleet	679 700,00
Other Assets	966 632,00
Enterprise Value	12 431 023,12
Net Interest Bearing Debt	7 279 038,00
Equity Value	5 151 985,12
Equity value per share	132,10

Figure 11 Farstad Shipping ASA Equity Using Asset-Based Valuation

While the estimates are largely based upon current market values; there is uncertainty in these numbers. This is due to simplifications which have been necessary to provide the estimates. Also, the SUBSEA market is much smaller than the PSV and AHTS markets and these estimates are exposed to more uncertainty. Nevertheless, the liquidation method reflects that the firm is in a strong position and support the findings from the DCF analysis.

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[54] Maintenance cost on OSV vessels increase greatly after 20 years of use due to necessary upgrades and more downtime.

Farstad Shipping ASA Market Value of Vessels

PSV Vessels	Type	Build Date	BHP	Cost	Depreciation	Current Value
Far Server	PSV	2010	7 500	299 931,44	29 993,14	269 938,30
Far Serenade	PSV	2009	9 465	378 513,48	56 777,02	321 736,46
Far Searcher	PSV	2008	9 465	378 513,48	75 702,70	302 810,79
Far Seeker	PSV	2008	9 465	378 513,48	75 702,70	302 810,79
Far Spirit	PSV	2007	6 530	261 140,31	65 285,08	195 855,23
Far Swan	PSV	2006	5 500	219 949,73	65 984,92	153 964,81
Far Splendour	PSV	2003	7 760	310 329,07	139 648,08	170 680,99
Far Symphony	PSV	2003	9 930	397 109,23	178 699,15	218 410,08
Far Swift	PSV	2003	5 450	217 950,18	98 077,58	119 872,60
Far Star	PSV	1999	9 600	383 912,25	249 542,96	134 369,29
Far Supplier	PSV	1999	6 700	267 938,76	174 160,19	93 778,56
Far Strider	PSV	1999	6 700	267 938,76	174 160,19	93 778,56
Far Supporter	PSV	1996	7 200	287 934,19	230 347,35	57 586,84
Far Service	PSV	1995	7 200	287 934,19	244 744,06	43 190,13
Far Scandia	PSV	1991	6 700	-	-	6 676,33
Far Superior	PSV	1990	6 600	-	-	6 576,69
Far Grimshader	PSV	1983	6 120	-	-	6 098,38
Lady Melinda	PSV	2003	5 450	217 950,18	98 077,58	119 872,60
Lady Grete	PSV	2002	5 454	218 110,15	109 055,07	109 055,07
Lady Grace	PSV	2001	5 454	218 110,15	119 960,58	98 149,57
Lady Kari-Ann	PSV	1982	6 963	-	-	6 938,40
PSV Fleet Value						**2 832 150,46**

AHTS Vessels	Type	Build Date	BHP	Cost	Depreciation	Current Value
Far Saracen	AHTS	2010	24 400	686 250,00	68 625,00	617 625,00
Far Shogun	AHTS	2010	24 400	686 250,00	68 625,00	617 625,00
Far Sagaris	AHTS	2009	23 700	666 562,50	99 984,38	566 578,13
Far Scorpion	AHTS	2009	23 700	666 562,50	99 984,38	566 578,13
Far Scimitar	AHTS	2008	16 000	450 000,00	90 000,00	360 000,00
Far Sabre	AHTS	2008	16 000	450 000,00	90 000,00	360 000,00
Far Sapphire	AHTS	2007	27 500	773 437,50	193 359,38	580 078,13
Far Sound	AHTS	2007	16 000	450 000,00	112 500,00	337 500,00
Far Strait	AHTS	2006	16 000	450 000,00	135 000,00	315 000,00
Far Stream	AHTS	2006	16 000	450 000,00	135 000,00	315 000,00
Far Sword	AHTS	2006	16 000	450 000,00	135 000,00	315 000,00
Far Saltire	AHTS	2002	16 300	458 437,50	229 218,75	229 218,75
Far Scout	AHTS	2001	18 700	525 937,50	289 265,63	236 671,88
Far Santana	AHTS	2000	19 200	540 000,00	324 000,00	216 000,00
Far Sovereign	AHTS	1999	27 400	770 625,00	500 906,25	269 718,75
Far Senior	AHTS	1998	18 900	531 562,50	372 093,75	159 468,75
Far Sailor	AHTS	1997	16 800	472 500,00	354 375,00	118 125,00
Far Fosna	AHTS	1993	14 400	405 000,00	384 750,00	20 250,00
Far Grip	AHTS	1993	14 400	405 000,00	384 750,00	20 250,00
Far Sky	AHTS	1991	13 400	-	-	29 748,00
Far Sea	AHTS	1991	13 200	-	-	29 304,00
Lady Astrid	AHTS	2003	13 500	379 687,50	170 859,38	208 828,13
Lady Caroline	AHTS	2003	13 500	379 687,50	170 859,38	208 828,13
Lady Guro	AHTS	2001	5 450	153 281,25	84 304,69	68 976,56
Lady Sandra	AHTS	1998	17 000	478 125,00	334 687,50	143 437,50
Lady Cynthia	AHTS	1987	9 500	-	-	21 090,00
Lady Gerda	AHTS	1987	8 700	-	-	19 314,00
Lady Audrey	AHTS	1983	12 240	-	-	27 172,80
Lady Valisia	AHTS	1983	12 240	-	-	27 172,80
BOS Turquesa	AHTS	2007	19 000	534 375,00	133 593,75	400 781,25
BOS Turmalina	AHTS	2006	15 500	435 937,50	130 781,25	305 156,25
BOS Topazio	AHTS	2005	13 240	372 375,00	130 331,25	242 043,75
AHTS Fleet Value						**7 952 540,66**

SUBSEA Vessels	Type	Build Date	BHP	Cost	Depreciation	Current Value
Far Samson	SUBSEA	2009	35 900	500 000,00	75 000,00	425 000,00
Far Saga	SUBSEA	2001	10 880	377 033,00	207 368,15	169 664,85
Far Scotia	SUBSEA	2001	5 453	188 967,00	103 931,85	85 035,15
SUBSEA Fleet Value						**679 700,00**

Total Fleet Value						**11 464 391,12**

Figure 12 Farstad Shipping ASA Market Value of Vessels

7.5 Sensitivity Analysis

The DCF model is the primary valuation method for Farstad Shipping. However, due to the complexity of this model several assumptions have been made. While most of these have been discussed in previous chapters; a sensitivity analysis is deemed necessary. This is to ensure how robust the equity value is to changes. While there are several different variables which may be tested; long run growth and WACC are considered the single most important variables to changes in the equity value and therefore tested here. The following table provides an overview of the equity value per share as a result of changes in the long run growth and WACC. The changes are in increments of 0,3%, as the model is quite sensitive to changes in these variables.

Farstad Shipping ASA DCF Sensitivity Analysis

163,01	WACC						
	4,49 %	4,79 %	5,09 %	5,39 %	5,69 %	5,99 %	6,29 %
1,60 %	175,41	143,42	116,94	94,47	75,62	59,2	44,88
1,90 %	215,92	176,41	144,33	117,56	95,41	76,33	59,86
2,20 %	267,06	217,05	177,42	145	118,6	96,18	77,04
2,50 %	333,6	268,32	218,17	178,12	146,15	119,43	96,94
2,80 %	423,78	335,06	269,59	218,91	179,43	147,06	120,26
3,10 %	552,88	425,49	336,52	270,37	220,41	180,43	147,97
3,40 %	753,04	554,96	427,21	337,34	272,13	221,53	181,43

(Long run growth applies to the leftmost column of percentages)

Figure 13 Farstad Shipping ASA DCF Sensitivity Analysis

Changes in both long run growth and WACC are not unreasonable especially in a volatile energy market. Nevertheless, significant changes are arguably not expected in the immediate future.

8.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

The purpose of this thesis is to provide the most accurate estimate of the firm's equity, address any possible deviations to the actual share price and conclude with a recommendation. The following table provides an overview of the results attained from the different valuation methods of Farstad Shipping.

Farstad Shipping ASA Valuation Summary

Valuation Method	Equity Value (1000 NOK)	Equity Value per share	Difference (1)	Recommendation
DCF Model	6 370 182,00	178,12	21,17 %	BUY
Relative Valuation (PE)	7 298 460,00	187,14	27,31 %	BUY
Relative Valuation (PB)	9 344 400,00	239,60	62,99 %	BUY
Asset-Based Valuation	5 151 985,12	132,10	-10,14 %	SELL

(1) Current share price 02.12.2011 is 147 NOK

Figure 14 Farstad Shipping ASA Valuation Summary

According to the DCF model the firm is correctly priced at 178,12 NOK. This is also supported by the relative valuations, which both indicate a positive recommendation. While it may be considered overly optimistic to believe in an upside of 63% as the PB analysis suggests; it should be considered that the share price has been deflated in an turbulent financial market and that it is a good buy at current prices. All valuation methods except the asset-based valuation indicate this. Moreover, the asset-based valuation indicates little downside from current prices, only 10,14%, which must be considered positive.

In an overall assessment of the valuation methods carried out; most emphasis is put on the DCF model due to its complexity and correlation with the strategic analysis. As this method provides a positive recommendation, the thesis has a positive outlook for the share price. However, in light of both the relative and asset-based valuation which have a share price of 187,14 and 132,1 NOK respectively; a trading range of 130-190 is considered appropriate.

A price of 178,12 NOK per share is considered fair, this corresponds to an upside of 21,17% from the current share price of 147 NOK and the firm is given a buy recommendation.

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Figures:

10.0 APPENDIX

APPENDIX A: FARSTAD SHIPPING ASA INCOME STATEMENT

Farstad Shipping ASA Income Statement (1000 NOK)		2006	2007	2008	2009	2010
	Freight Income	1 932 110	2 292 736	2 943 241	3 237 111	3 353 307
+	Other Income	8 800	25 500	15 383	20 468	3 802
=	Total Operating Income	1 940 910	2 318 236	2 958 624	3 257 579	3 357 109
+	Profit on Sale of Fixed Assets	-	196 068	61 050	-	1 114
=	Total Income	1 940 910	2 514 304	3 019 674	3 257 579	3 358 223
-	Crewing Expenses Vessels	584 954	702 938	789 673	926 878	1 161 855
-	Other Operating Expenses Vessels	256 101	305 675	350 428	421 208	582 968
-	Administration	112 748	128 857	150 443	173 333	197 830
=	**EBITDA**	**987 107**	**1 376 834**	**1 729 130**	**1 736 160**	**1 415 570**
-	Depreciation	286 359	336 763	365 438	454 909	516 237
=	**EBIT**	**700 748**	**1 040 071**	**1 363 692**	**1 281 251**	**899 333**
	Financial Income	41 787	70 493	86 200	78 243	74 582
-	Financial Expenses	213 016	250 138	307 942	304 153	395 155
+/-	Realised Agio (Disagio)	22 668	26 197	83 122	18 843	108 521
+/-	Unrealised Agio (Disagio)	22 674	38 584	- 315 804	349 506	- 165 324
=	Net Financial Items	-125 887	-114 864	-454 424	142 439	-377 376
=	**Pre-Tax Profit**	**574 861**	**925 207**	**909 268**	**1 423 690**	**521 957**
-/+	Tax	31 600	1 014 534	+ 316 287	+ 507 813	90 191
-/+	Minority Interests	782	+ 153	+ 158	+ 43	-
=	**Net Income**	**542 479**	**-89 174**	**1 225 713**	**1 931 546**	**431 766**

APPENDIX B: FARSTAD SHIPPING ASA CASH FLOW STATEMENT

Farstad Shipping ASA Cash Flow Statement (1000NOK)	2006	2007	2008	2009	2010
Cash Flow from Operating Activity:					
Pre-Tax Profit	574 861	925 207	909 268	1 423 690	521 957
Interest Income / Dividend Received	-41 787	-70 493	-86 200	-78 243	-74 582
Interest Costs	144 532	220 745	298 223	278 484	376 084
Paid Taxes	-62 181	-43 984	-141 230	-8 119	-88 378
Profit on Sales of Fixed Assets	-	-196 068	-61 050	-	-1 114
Ordinary Depreciations	214 406	230 278	365 438	454 909	516 237
Writedown Long-term Shares	-	-	-	-	1 563
Periodical Maintenance Costs Increase / Decrease	-34 196	-42 565	-		-
Trade Debtors Increase / Decrease	-50 620	-25 484	-192 127	60 197	54 142
Trade Creditors Increase /Decrease	15 661	53 092	39 019	-27 574	
Difference in Pension Cost and Pension Premium Paid	7 275	-789	-540	3 937	1 783
Unrealised Foreign Exchange Loss / Gain	-22 674	-38 584	315 804	-349 506	165 324
Changes in Prepayment and Accruals	-2 744	-46 416	54 780	-136 502	193 738
Net Cash Flow from Operating Activity	**742 533**	**964 939**	**1 501 385**	**1 621 273**	**1 666 754**
Cash Flow from Investment Activity:					
Sale of Fixed Assets (Sales Price)	-	328 941	85 313	-	3 604
Investment in Fixed Assets and Contracts Newbuildings	-1 087 930	-1 036 100	-1 462 727	-2 516 865	-1 621 474
Purchase of Shares	-	-	-	-	-
Changes in Long-term Receivables	-77	-2 743	-4 590	-10 460	-2 847
Interest Income	41 707	70 385	86 112	78 165	73 692
Dividend Received	80	108	88	78	890
Other Investments	2	12	72 258	10 660	54 919
Net Cash Flow from Investment Activity	**-1 046 218**	**-639 397**	**-1 223 546**	**-2 438 422**	**-1 491 216**
Cash Flow from Finance Activity:					
New Long-term Debt	619 504	1 618 476	1 268 000	1 891 827	1 833 686
Repayment of Debt	-288 034	-1 220 370	-764 513	-618 211	-926 031
Dividend Paid	-117 000	-117 000	-156 000	-195 000	-117 000
Interest Costs	-144 532	-220 745	-298 223	-278 484	-376 084
Reduction of Share Capital in Subsidiary	-	-	-	-	
Transactions Posted Direct to Equity	30 275	-21 511	-	-	
Net Cash Flow from Finance Activity	**91 329**	**288 344**	**49 264**	**800 132**	**3 252 801**
Net Changes in Liquidity over the year	-212 356	613 886	327 103	-17 017	590 109
Net Currency Exchange Differences Subsidiaries	4 442	-124 747	27 786	-1 949	20 842
Cash and Cash Equivalents at 01.01	1 180 200	972 286	1 189 490	1 544 379	1 525 413
Cash and Cash Equivalents at 31.12*	**972 286**	**1 461 425**	**1 544 379**	**1 525 413**	**2 136 364**

*From 2008 Shares, Primary Capital Certificates and Bonds are Excluded

APPENDIX C: DRIVER VARIABLE (ESTIMATED FINANCIAL STATEMENTS)

Driver Variable		
Year	Operating Income	Growth
2001	1 240 650	
2002	1 277 405	3 %
2003	1 432 283	12 %
2004	1 561 557	9 %
2005	1 815 714	16 %
2006	1 940 910	19 %
2007	2 318 236	28 %
2008	2 958 624	10 %
2009	3 257 579	3 %
2010	3 357 109	
	Average	12,58 %

APPENDIX D: FUNCTIONAL RELATIONSHIPS (ESTIMATED FINANCIAL STATEMENTS)

Functional Relationships (Income Statement)	
Crewing Expenses/Operating Income	34,61 %
Other Operating Expenses/Operating Income	17,37 %
Administration/Operating Income	5,89 %
Depreciation/Net Fixed Assets	4,48 %
Total Financial Income/Operating Income	2,22 %
Total Financial Expenses/Operating Income	11,77 %
Total Minority Interest	Constant
Total Dividends Paid	Assumed 0
Functional Relationships (Balance Sheet)	
Shares	Constant
Forward Currency and Interest Contracts	Constant
Other Current Financial Assets/Operating Income	3,97 %
Cash and Cash Equivalents (Average last 5 years) (NWC)	55,00 %
Cash and Cash Equivalents	Policy Variable
Goodwill	Constant
Vessels etc.growth average (1999-2007)	8,76 %
Contracts Newbuilds/Operating Income (Average last 2 years)	3,80 %
Deferred Tax Benefit/Operating Income	0,51 %
Other Long-Term Receivables/Operating Income	0,83 %
Receivables from Group Companies	Constant
Account Receivables, Freight Income/Operating Income	14,05 %
Bunkers and other Inventories/Operating Income	1,21 %
Other Short-term Receivables/Operating Income	5,27 %
Pension Liabilities/Crewing Expenses Vessels	5,33 %
Bonds	Constant
Interest-bearing Mortgage Debt/Operating Income	187,28 %
Forward Currency and Interest Contracts	Constant
Current Portion of Interest-bearing Debt/Operating Income	29,54 %
Deferred Tax Liabilities	Constant
Leasing Obligation	Constant
Tax Liabilities and Environment Fund	Constant
Accounts Payable/Operating Income	6,89 %
Taxes Payable/Operating Income	1,38 %
Other Current Liabilities/Operating Income	9,86 %
Minority Interest	Constant

APPENDIX E: FLEET GROWTH CALCULATION

Fleet Growth		
Year	Vessels etc.	Growth
1998	1 830 998	
1999	2 583 487	41,10 %
2000	2 672 266	3,44 %
2001	3 372 043	26,19 %
2002	3 631 586	7,70 %
2003	5 247 723	44,50 %
2004	5 346 290	1,88 %
2005	5 152 272	-3,63 %
2006	5 938 657	15,26 %
2007	6 743 177	13,55 %
2008	7 871 618	16,73 %
2009	10 237 712	30,06 %
2010	11 467 552	12,01 %
Average (1999-2010) (1)		10,35 %
Average (1999-2007) (2)		7,17 %
Average		8,76 %

(1) Excludes extraordinary growth
(2) Excludes extraordinary growth and growth directly directly prior to the financial crisis

APPENDIX F: INDUSTRY PB RATIO USING COMPARABLE FIRMS

Industry PB Calculation (1000)	Market Cap	Book Value of Equity	P/B
Solstad Offshore (NOK	3 288 427	4 989 000	0,66
DOF (NOK)	2 376 499	6 728 000	0,35
Siem Offshore (USD)	523 052	769 070	0,68
Havila Shipping (NOK)	770 764	1 695 038	0,45
Eidesvik Offshore (NOK)	913 545	1 853 662	0,49
Deep Sea Supply (USD)	161 075	161 584	1,00

Industry Average	0,61

Farstad Shipping	0,79

Farstad Shipping ASA Equity Using PB (1000 NOK)	
Industry PB	0,61
Firm's Book Value of Equity (2011e) (1000 NOK)	7 187 912
Outstanding Shares	39 000
Equity value per share	111,72