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TITLE:Valuation of Norwegian Air Shuttle ASA

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Executive Summary

The purpose of this thesis is to do a valuation on Norwegian Air Shuttle ASA, and based upon this objective we have formulated the following problem statement: *"What is the fair value of Norwegian Air Shuttle ASA as per 31.03.2016?"* The purpose of this valuation is to evaluate if the stock price is either over or under priced. Based on the findings in this thesis, we estimated the stock price of Norwegian Air Shuttle ASA to be NOK 283,1. On 31.03.2016 the stock price of Norwegian Air Shuttle ASA was NOK 311,5 and therefore our claim is that the stock is overvalued. Our recommendation is then to sell the stock.

To answer the problem statement, we will do a fundamental valuation of Norwegian Air Shuttle ASA. First we did a strategic analysis, consisting one external analysis and one internal analysis. The external analysis consisted of a Pestle analysis and Porter Five Forces framework. This gave us the foundation for predicting future development and environment of the company. From the external analysis we found that the European market is driven by low margins and fierce competition. For the internal analysis we did a VRIO-analysis evaluating the internal resources. We found that the most valuable resources NAS had was their CEO Bjørn Kjos and their strong brand name.

The financial analysis consisted of a ROIC-analysis based upon the DuPont-Model. This analysis gave us the historical profitability and cost structure of the company. From these analyses we will use the key drivers found and build our forecasted statements based on these key drivers. From this analysis we found that NAS operates with a lower operating margin that Ryanair and easyJet. This is due to parts of NAS following Norwegian labour laws.

Using the information found in the strategic and financial analysis, we estimated the future income statement, balance sheet, and the free cash flows to the firm. The paper also includes the calculations of the WACC with a value of 5,53%. Based upon the findings in this paper we calculated the value per share with the FCFF method. We also tested our findings with a sensitivity analysis to find what factors will have the biggest effect on the estimated value per share. The sensitivity-analysis showed us that our model is highly sensitive to the fuel cost and the currency combined due to high volatility and sensitivity towards the cost of debt. The sensitivity towards the cost of debt is driven by NAS having a high debt to equity ratio.

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Preface

This thesis is written as the end of our specialization in Applied Finance at the University of Stavanger (UiS). Throughout the study period at UiS during the past two years, we had many interesting financial subjects. One of the subjects we really liked was valuation and therefore we chose to write a thesis on valuation. After searching for some companies, we came across Norwegian Air Shuttle ASA. The reason we chose to do a valuation of Norwegian Air Shuttle ASA is because they are an innovative fast growing company that is not afraid to continue to challenge other companies.

When writing this master thesis, we have used theoretical and technical knowledge that we have acquired during the study period at UiS. The preparation of the master thesis has been challenging, especially for a desire to deliver the best possible result. Meanwhile, the process has been instructive and engaging, which has resulted in a good insight into the airline industry.

Finally, we would like to thank our supervisor Marius Sikveland who helped us with good and constructive guidance throughout the process of writing this thesis.

Stavanger, June 2016

Jabbar Raza

Christer B. Nordbø

1 Introduction

1.1 Choice of Subject

Our choice of subject fell on Norwegian Air Shuttle ASA (NAS for short), a Norwegian listed low-cost carrier company. The reason why we wanted to do a valuation on NAS is that the company have had an outstanding growth in the past years, and have plans to continue the growth with large investments. They are continuously renewing their fleet, by placing an order in 2012 of 100 Boeing 737 MAX 8 aircrafts and 100 aircrafts from Airbus of the A320neo. NAS are also awaiting 20 more long haul aircrafts delivery from Boeing of the aircrafts 787-800 Dreamliner and the larger 787-900 Dreamliner. The real growth in the airline industry can be found in the long-haul travel segment. This is where NAS plans their new growth, as the first European low-cost carrier firm flying from Europe to US.

Figure 1. Share Price of NAS

***Source: Own creation and* (Yahoo Finance)**

NAS is an innovative company continuously finding new ways to try to compete with the competitors who are already operating under better circumstances. Ryanair and easyJet follow different salary legislation, and with NAS following the Norwegian high salary legislation they have to search out new innovative ways to circumvent the legislation in Norway to be able to compete on a similar level as the other competitors. One of these solutions has been establishing a European subsidiary in Ireland. By doing this NAS is able to apply for a foreign carrier permit in the US under the European-US open skies legislation. Due to the fact that Ireland operates under different legislation rules, NAS have encountered massive opposition on their US foreign carrier permit. The approval would give NAS a way of employing cheap Asian labour on its flights to the US, threatening the big US aircraft company's monopoly of the transatlantic routes. It is thus interesting to see how NAS will adapt to the competition while operating under Norwegian labour law. With this information we found the following problem statement: ***"What is the fair value of Norwegian Air Shuttle ASA per 31.03.2016?"***

1.2 Methodology

In our paper we will only use publicly available information and secondary data, such as annual and quarterly reports, databases, media reports and theoretical literature. The data used will be both qualitative and quantitative, and information gathered will be used in our strategic and financial analysis. The main data used will be the annual and quarterly reports collected from NAS.

1.3 Thesis Structure

In the second chapter we will give the reader an introduction to NAS and its operations. We will also give the reader a brief overview of the airline industry and the market overview. After getting a general overview of the industry and the company, we will start the strategic analysis in chapter 4 where we will analyse the external factors in a Pestle analysis and the competitive environment in the airline industry with a Porter Five Forces analysis. After analysing the external factors we will analyse the internal factors in a VRIO-analysis. This in turn will be summed up in a SWOT-analysis. In chapter 5 we will do a financial analysis to collect information about the historical profitability of the company and its competition. This will also give us information needed to forecast the free cash flow. In chapter 6 we will start the forecasting and use the information gathered in chapter 4 and 5 to forecast the future financial statements and finally the free cash flow. Then in chapter 7 we will start the valuation. After calculating the enterprise value and share price, we will do a sensitivity analysis in chapter 8. In chapter 9 we will do a valuation based on multiples.

2 Norwegian Air Shuttle ASA

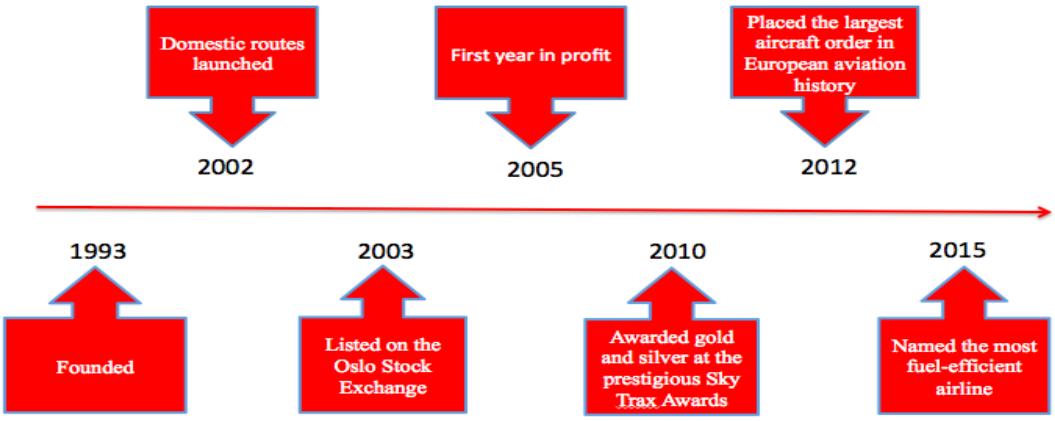
2.1 Historic Overview

Norwegian Air Shuttle ASA (NAS) was founded in January 1993. The company started when a group of stakeholders took over Braathens subsidiary Busy Bee of Norway. The basis for operations was short routes that were under contract from Braathens. After Scandinavian Airlines System (SAS) merged with Braathens in 2001, the deal with Norwegian was terminated, and the owners of NAS then decided to transform the company into a low-cost carrier (LCC).

In 2002 NAS leased seven Boeing 737-300 aircrafts to start up their domestic routes in Norway to challenge SAS Braathens by offering low fares on four domestic routes. (Oslo-Stavanger, Oslo-Bergen, Oslo- Tromsø and Oslo-Trondheim)

In December 2003 NAS became a listed company on the Oslo Stock Exchange. After a good start NAS had its first profitable year in 2005. In 2006 NAS started to build up a base in Poland, and started offering 10 new routes from Warsaw to Europe. In 2007 the company launched Bank Norwegian as an online bank. Since 2007 NAS have expanded their operations to Europe, Asia and the US. The company decided to increase their fleet by ordering 15 new Boeing 737-800 in 2010 and 15 new aircrafts of the same type in 2011. NAS also entered an agreement to buy three Boeing 787-8 Dreamliner for long-haul routes. In 2012 they placed the largest aircraft order in European history, which included 22 Boeing 737-800, 100 Boeing 737-MAX8 and 100 Airbus A320neo. (Norwegian , 2012) Today NAS is the third largest LCC in Europe, and operating over 400 routes to more than 130 destinations in Europe, Africa, Middle East, Asia, the Caribbean and the US. NAS have won many awards, and were named the number one environment friendly airline by the International Council of Clean Transportation (ICCT) in 2015. (Norwegian, 2016)

Figure 2. Timeline of NAS

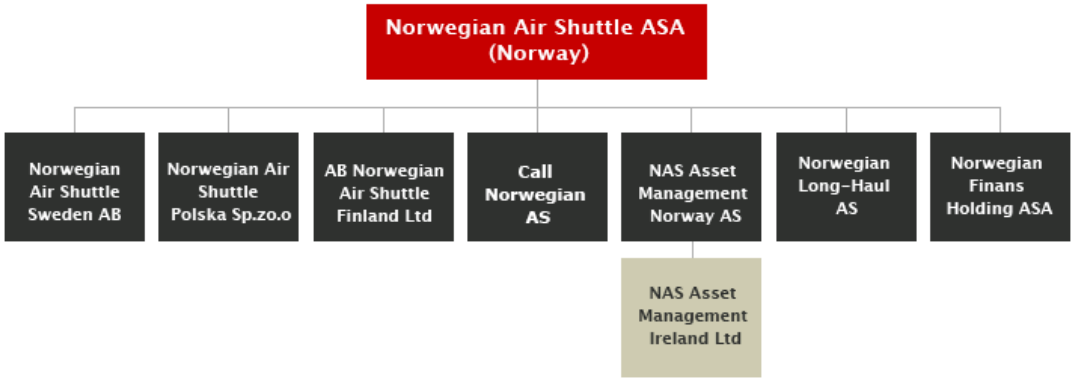


(Source: Own creation and Norwegian)

2.2 Corporate Structure

Norwegian Air Shuttle ASA is the parent company, and it directly or indirectly owns all the subsidiaries Norwegian Air Shuttle Sweden AB, Norwegian Air Shuttle PolskaSp.zo.o, Norwegian Long-Haul AS, Call Norwegian AS, Asset Management Norway AS, and Norwegian Air Shuttle Ireland Ltd. The parent company also holds 20% of shares in Norwegian Finans Holding ASA.

Figure 3. Organization Map of NAS

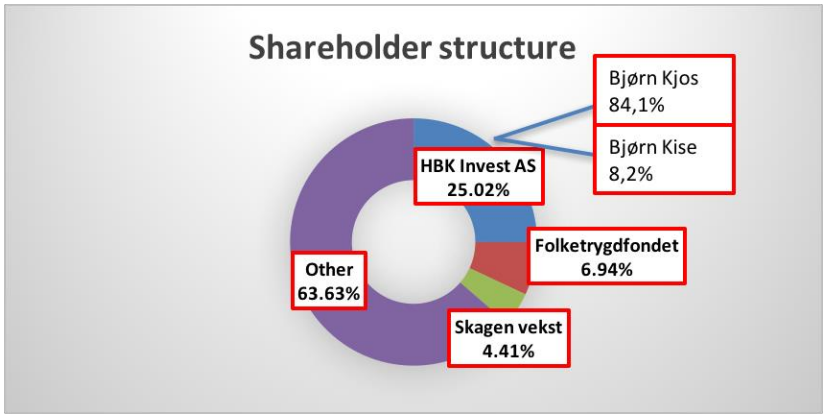


(Source: Norwegian)

2.3 Ownership

The main shareholder for NAS is HBK Invest AS, which has an ownership of 25,02%. The CEO of NAS Bjørn Kjos holds 84,1% in HBK Invest AS, and the Chairman of the Board Bjørn Kise holds 8.2% in HBK Invest AS. Folketrygdefondet owns 6,94% and Skagen Vest owns 4,41% in NAS. The remaining 63,63% is owned by the other shareholders. (Norwegian (a))

Figure 4. Shareholder structure



Source: Own creation and Annual report NAS(a)

2.4 Business model and Strategy

2.4.1 Business model

There are two type of business models in airline industry namely LCCs and full-service airlines. These are two completely different business models which have different focus on customers. LCCs business model is to being as cheap as possible and cost reducing, while full-service airline provides high standard to passengers by offering snacks and drink onboard, connecting flights, extra services at airport etc. Regarding passenger both LCCs and full-service airlines have different views. LCCs focus is on price-sensitive by selling low fare tickets, while full-service airline focuses more on business and time-sensitive passengers. When it comes to NAS business model, they promote high load factors and higher capacity per flight, which makes its operations more environmentally sustainable as emissions per passenger are lower. (Norwegian (a)) Additional to that the business model is also based on

point-to-point flights, high utilization of its fleet and high productivity per employees. NAS work constantly to be the most environmentally friendly company in the world and according to NAS its emission per passenger kilometer is below the industry average. NAS is not as cost efficient as other LCC's, because they offer different types of classes (low fare, flex, premium and premium flex) this because NAS want customers to enjoy most of the flight with the lowest price which is engraved in their strategy.

2.4.2 Strategy

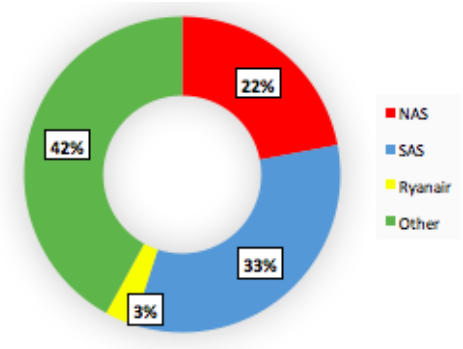
NAS has so far been very successful with its challenger strategy. Their vision is "*affordable fares for all*" and their focus is to be as cheap as possible, so that everyone can have the opportunity to fly. This is reflected in their vision. NAS values is; *Directness, Relevance, Simplicity* and operational priorities; *Safety, Service, Simplicity.* As a goal NAS "*aims to be the preferred airline in select markets and generate profitability and return to its shareholders".* (Norwegian, 2016)

2.5 Competitors

NAS operate both in domestic and international markets. In domestic routes NAS operates on the same routes as SAS, and therefore SAS is the largest and the closest competitor for NAS. In terms of market share in Nordic countries, SAS holds 33 %, while NAS hold 22 %. (CAPA, 2016)

NAS is a LCC and operates in the same market across the world, and competes with other LCC's. It is therefore appropriate to choose other low-cost carriers like Ryanair and easyJet as NAS´s competitors. The reason for choosing Ryanair and easyJet is that they operate under the same business strategy, focusing on cost efficiency and to be as cheap as possible. They also operate from Europe, and are thus the best companies to compare NAS to.

Figure 5. Market Share in Nordic Countries



Source: Own creation & CAPA

2.5.1 SAS

Scandinavian Airlines (SAS) is the flag carrier of Norway, Sweden and Denmark. SAS is the largest airline in Scandinavia. The Danish and Norwegian states own 14,3% and Swedish state own 21,4%. The remaining 64,3% of share is hold by private shareholders. (SAS, 2008) SAS is the biggest challenger for NAS in the domestic market and the Scandinavian market, and is therefore the largest competitor for NAS. In 2015 SAS carried 28,1 million passengers to 280 destinations across the world. (SAS (a))

Source: www.sasgroup.net

2.5.2 Ryanair

Ryanair was founded in 1985, and is an Irish Low-cost carrier (LCC). Ryanair is the second largest LCC in the world and the largest in Europe.Ryanair's base of operations is located in Stansted, London. The airline operates with over 300 Boeing 737-800 and service routes all over the Europe. Based on the number of passengers, the Ryanair is a major competitor for NAS on the European market. In 2015 90,6 million passengers flew by Ryanair, which is three times as many transported by NAS. The Irish company has also made efforts to enter the Norwegian domestic market. Ryanair operates from 76 bases across Europe and North Africa, and more than 1600 routes. (Ryanair (a))

Source: www.ryanair.com

2.5.3 easyJet

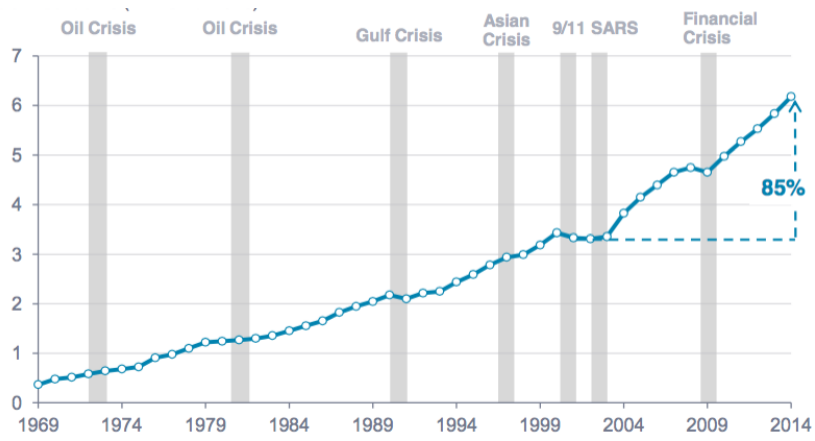
easyJet is British LCC, which has its based located in London Luton Airport. easyJet is the second-largest short-haul airline in Europe, which operates over 600 routes across more than 30 countries. (easyJet (a)) easyJet have a fleet of over 200 aircrafts with a very similar business model to NAS, where the effort lies in keeping unit costs and overall operational costs as low as possible.

Source: www.easyjet.com

2.6 The Airline Industry

The airline industry is one of the fastest growing industry in the world. Since the 1980s, air traffic has grown on average 5% annually. According to Airbus´ Global Market Forecast the passenger air traffic has doubled every 15 years and will continue to double the next 15 years. The world has seen many global crises over the years, and in 2008 the world had a financial crisis, and it has been affecting the global industry around the world. The airline industry has seen some down turn due to the crisis, but it has been able to recover very quickly. Measured in Revenue Passenger Kilometre (RPK), passenger traffic has increased by a third since the 2008 financial crisis, with an average annual growth rate of 5,8% over the last 5 years (Airbus, 2015) Airline passenger traffic grew nearly 6% in 2014, which is above the long-term growth rate. As we can see from figure 6 below the air traffic has growth 85% since the 9/11.

Figure 6. World annual traffic (RPKs trillions)

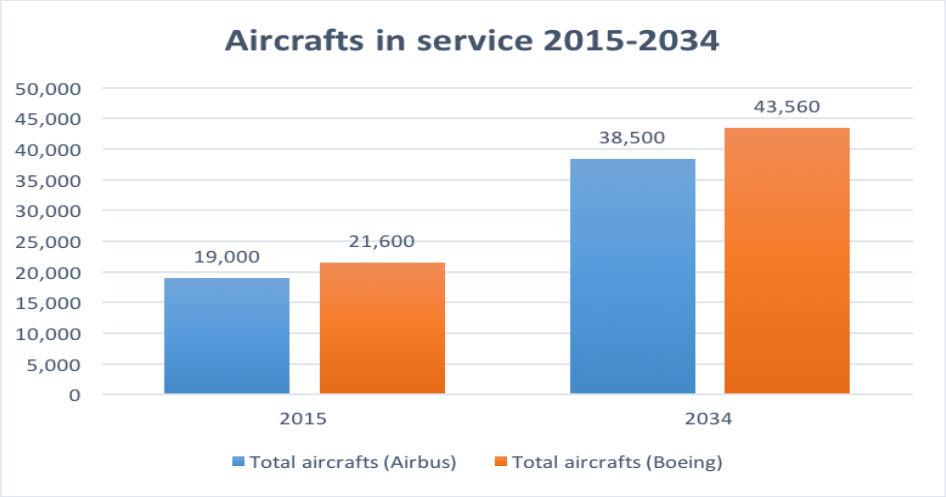


(*Source: Airbus 2015)*

The forecast done by Airbus shows that the air traffic will grow at an annual rate 0f 4,6% over the next 20 years. This number indicates how fast air traffic is growing. LCCs control 25% of the worldwide market share, which mean that much of the growth comes from LCCs. (Pearce, 2015) LCC have had the greatest growth in capacity, growing at 10,3%. Global alliance carriers have had a growth of 6,5% and the rest of the carriers had a growth 2% in 2015. (Boeing, 2015) LCC´s have played a major role in aviation industry over the past years by capturing markets share, and will continue to increase their global short-haul traffic market share. Airbus' Global Market Forecast shows that the LCCs carried out 17% of the world market share of passengers, and this number will increase to 21% in 2034. Asia-Pacific

will be the largest market in the world of air traffic by 2034 and within 10 years China will be the world´s largest aviation market. Aircraft manufacturers will produce and deliver modern aircrafts with latest technology making them more fuel-efficient and more attractive to airlines around the world. As the number of passengers travelling by aircrafts increase year by year, there will be a need for more aircrafts. Boeing and Airbus are the two major aircraft manufacturing companies that produce large number of aircrafts every year. According to Airbus there will be demand for 32600 aircrafts over the next 20 years. Boeing has its own figures on demand for new aircrafts. However, Boeing estimates the demand for 38050 new airplanes in 2034. The figure below shows how many aircrafts will be in service from Airbus and Boeing in 2034.

Figure 7. Aircraft demand 2015-2034



(*Source: Own creation and Airbus 2015& Boeing 2015)*

According to the International Air Transport Association (IATA), the airline revenue has increased from 329 billion USD in 2000 to 727 billion USD in 2015. (Statista, 2016)
The year 2014 was an outstanding year for the aviation industry, with low oil price the industry saved huge amounts only in 2015. Due to low oil prices the airlines in 2014 had a profit of 20 billion USD, and thus was an outstanding year for aircraft manufacturers like Boeing and Airbus. Jet fuel accounts the largest part of operating cost for an airline. The low oil prices have helped stimulate the economy. It gives the consumers more purchasing power and increased activity. Airlines save huge amounts on fuel costs when the price of oil is low. With a lower fuel price in 2015, air traffic expects to grow at above the long-term trend.

According to IATA (Table 1) the jet fuel price was 67,7 USD a barrel in 2015, which is 41% lower than the price of 114,8 USD/barrel the year before. (Pearce, 2015) IATA´s forecast shows that the average jet fuel price will be 64,8 USD/barrel in 2016. The fuel cost in 2015 was 20,5% lower than 2014, even though in 2015 290 billion litres of fuel was consumed, which is 12 billion litres more than the year before. Table 1 shows the worldwide airline industry from year 2014 to 2016.

Table 1. Worldwide Airlines Industry

Worldwide airline Industry	2014	2015	2016
Fuel spend, $billion	226	180	135
% change over year	-1.8%	-20.5%	-24.7%
% operating costs	31.6%	27.4%	20.6%
Fuel use, billion litres	278	290	303
% change over year	4.2%	4.2%	4.6%
Fuel efficiency, litre fuel/100atk	24.3	23.9	23.5
% change over year	-1.1%	-1.5%	-1.8%
CO_2, million tonnes	739	771	806
% change over year	4.2%	4.2%	4.6%
Fuel price, $/barrel	114.8	67.7	63.8
% change over year	-7.8%	-41.0%	-5.8%
% spread over oil price	14.9%	23.1%	25.0%
Upstream oil profits, $billion	26	16	16

(Source: IATA)

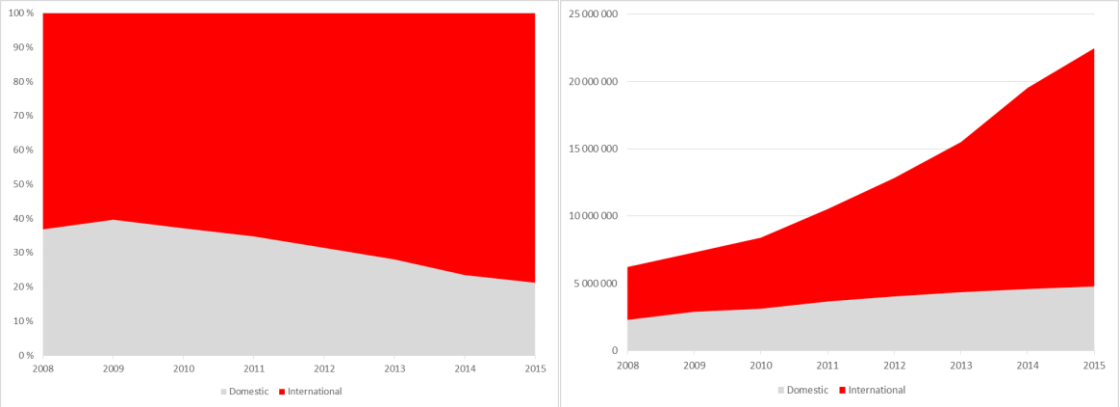
Airlines around the world cooperate via alliance and code-share agreements. An alliance in aviation industry is an agreement between airlines to provide additional value for their passengers. Star Alliance, Sky Team and One World are three major airline alliances. The advantage of alliances for an airline is an increase in revenue as well as cost reduction. Code-share agreement is where two or more airlines share the same flight.

There is a fierce competition in airline industry between LCCs and full service airlines. The difference between these airlines is level of service. Full service airlines provide comfortable service, which includes in-flight entertainment, seat selection, baggage, food and drink and all of these are included in ticket. LCCs is not always as cheap as they should be, they might become more expensive when adding extra charges such as luggage, seat selection, food and drinks.

2.7 Market Overview

NAS in the latest years has seen a considerable growth in their international operations, and a more modest growth in their domestic operations. The international operation stood for 63% of the revenues in 2008 and has continued to grow and stands at 79% of the revenues in 2015. Even though domestic operations have gone from earning 37% of the total revenues in 2008 and fallen to 21% of the total revenues in 2015, the revenues gathered from domestic operations have continued to grow and went from generating 3,9 billion NOK in 2008 to generating 4,8 billion NOK in 2015.

Figure 8. Revenue from International and Domestic flights

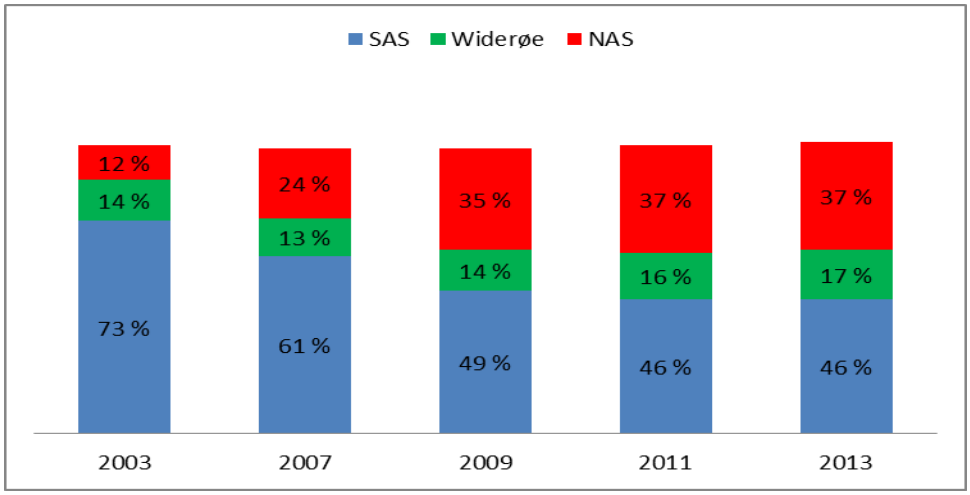


(*Source: Own creation and Annual report Norwegian (a-h)*)

2.7.1 Domestic Market

The domestic market consists mainly of three big companies, SAS, Widerøe and NAS. In 2003 the domestic market was dominated by SAS with a market share of 73%, with their subsidiary at the time Widerøe having a market share of 14% and NAS with 12%. Over the years the market situation has changed drastically. In 2013 SAS only had a market share of 46%, and NAS with a market share of 37%. Widerøe had increased to 16% and was now only 20% owned by SAS. So over the last 10 years the situation in the domestic market has changed, where NAS have increased their market share at the expense of SAS losing a big part of their market share. (Reisevaner på fly 2013)

Figure 9. Market Share Domestic Flights

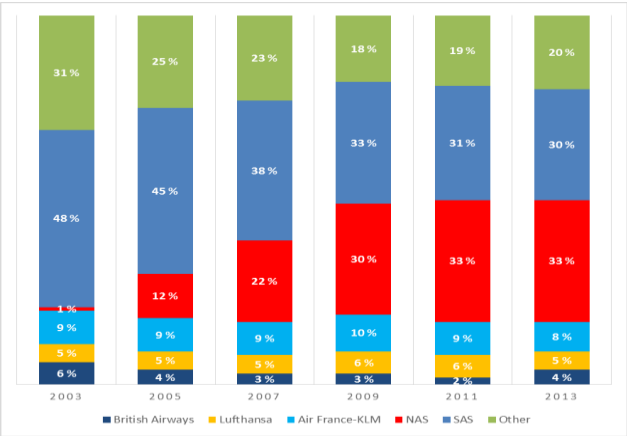


(*Source: Own creation and Annual report TØI)*

2.7.2 Air traffic to and from abroad

As mentioned NAS operates routes to Europe, North Africa, the Middle East, the Caribbean, and the US, and on their international routes from Norway NAS meets more competition than on their domestic routes in Norway. They have to compete with big airlines such as Lufthansa, British Airways and Air France-KLM. NAS have gone from only having 1% market share of the international market in Norway in 2003 to 33% in 2013. This has mainly been at the expense of SAS's market share. SAS went from a market share of 48% in 2003 to 30% in 2013. This development has led NAS to be the leading airline for international flights to and from Norway in 2013. (Reisevaner på fly 2013)

Figure 10. Market Share of International flights to/from Norway



(*Source: Own creation and TØI)*

Over the last 6 years the domestic market has seen an increase in passengers from 42 354 609 to 54 494 903 in 2015. This includes international air traffic to and from Norway. (Statistikk nett) A large part of the increase in passengers over these years was a massive growth in passengers traveling to and from Asia and to and from the US. (Reisevaner på fly 2013)

Figure 11. Total Passengers Travelled from/to Norway

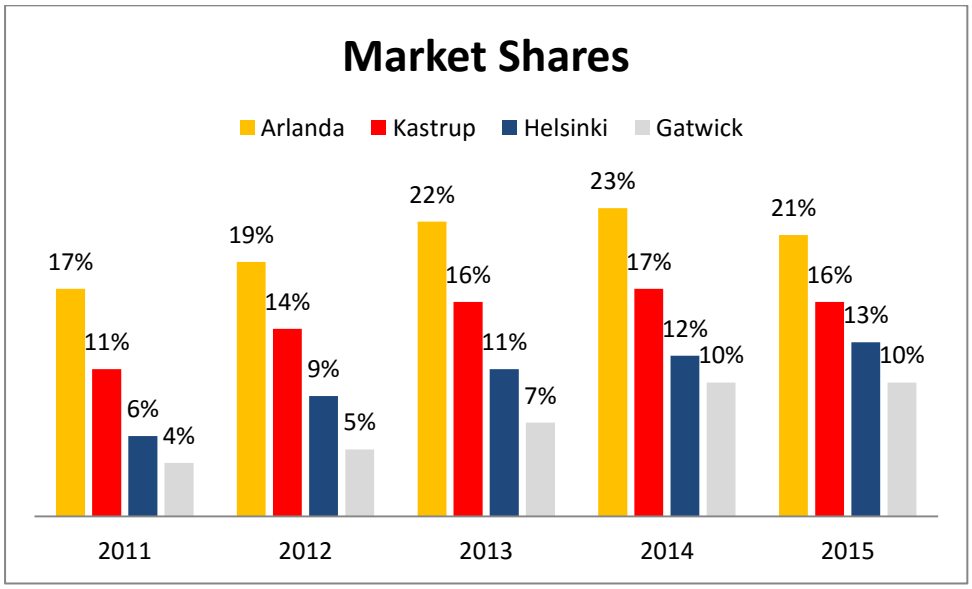
(*Source: Own creation and Statistikknett)*

2.7.3 The International Market

NAS also compete in the International Aviation Market from their bases in Europe and Asia. Their main bases of operations in Europe are based at Arlanda Airport in Stockholm Sweden, Kastrup Airport in Copenhagen Denmark and Gatwick Airport London England. At Arlanda NAS has gone from a market share of 17% of the airports total traffic in 2011 to 21% of the airports total traffic in 2015. Operations at Arlanda resulted in a 3% growth in passengers from the airport in 2015. NAS went from having a market share of 11% at Kastrup airport in 2011 to having a market share of 16% with a passenger growth of 5% in 2015. Over the past two years NAS have had a market share of 10% at Gatwick airport with a passenger growth of 27% in England. (Norwegian (a))

The development of NAS market shares is shown in the figure 12 below.

Figure 12. Airport Market Share



(Source: Own creation and Annual report Norwegian (a-e))

2.7.4 Long term outlook Europe

The European aviation market is expected to grow on average by 3,6% to 3,8% annually under the period of 2015 and 2034. This growth is not limited to the borders of Europe, but also travels to and from Europe. Europe is alone forecasted to grow with 3,3%, and is mostly contributed to the expansion of short haul point to point traffic, targeted by LCC's. The transatlantic travel also expects an increase of 3% each year from Europe to the US. (European Commission, 2016)

IATA expects an annual passengers of 2,7% which is resulting in an increase of 591 million passengers annually, with a growth in the North America region of 3,3%. Routes to, from and within the Asian-Pacific expects to grow with 1,8 billion passengers annually to 2034 making the overall market size 2,9 billion passengers annually. This results in an annual growth of 4,9%. The Middle East with the Asian-Pacific also expects a growth rate of 4,9% and are the two regions that are expected to have the largest growth. (IATA, 2014)

The PWC report also expects that the annual passengers in 2012 will over double in 2032. This growth is mainly due to rapid growth in the Asia-Pacific. (PWC, 2014) The high growth is expected due to emerging markets in both regions affected by a good GDP growth.

3 Valuation model

There are several different ways to do a valuation of a company. In this chapter we will give short explanation of these models and theories. We will also choose the model that we will use to find the value of NAS. There are three approaches to valuation, namely discounted cash flow (DCF), relative valuation (Multiples), and contingent claim valuation. In this paper we chose to disregard the latter method and focus on the first two models.

3.1 The discounted cash flow (DCF) Model

The DCF model assumes that the value of an asset is the present value of the expected future cash flows related to the asset, where the discount rate reflects the risk of the estimated cash flow. This model discounts the free cash flow available to equity and debt holders at the weighted average cost of capital (WACC). There are three pathways of doing a DCF valuation; firm valuation (WACC), equity valuation and adjusted present value. In this paper we choose to disregard adjusted presented value method.

3.1.1 Firm valuation

This method is based on the free cash flow to firm (FCFF) which represents cash flow that is available to both equity and debt holders. The required rate of return must reflect the risk of the entire firm. The FCFF is discounted with the cost of capital (WACC). The table below shows the setup of FCFF.

Table 2. Setup of Free Cash Flow to Firm

EBIT (1-tax)
+ Depreciation
+/- Working capital
- Capital expenditure (Capex)
= Free Cash Flow to Firm (FCFF)

After the FCFF is founded, then we can put this in the equation below to estimate the value of the firm.

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

Where:

$FCFF_t$= Free cash flow to firm in year t

WACC = Weighted average cost of capital

n = Life of the asset

3.1.2 Equity Valuation

The equity valuation is based on how much cash a firm can afford to return to its equity holders. To find the value of equity we have to calculate the free cash flow to equity (FCFE), which we can calculate after the adjusting of capital expenditures, changes in working capital, and the changes in debt on equity. The table below shows the setup of the FCFE.

Table 3. Setup of the Free Cash Flow to Equity

Net income
+ Depreciation
+/- Working capital
- Capital expenditure (Capex)
+ New debt issued
- Debt repayments
= Free Cash Flow to Equity (FCFE)

The FCFE is then discounted by the cost of equity, often based on CAPM.

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

Where:

$FCFE_t$= Free cash flow to equity in year t

n = Life of the asset

K_e = Cost of equity

3.1.3 Adjusted Present Value (APV)

This approach separates the value of the operating business into two parts where one starts with the valuation of operations and add effects on the value of debt and other claims. APV and DCF have the same characteristics and the difference is that it allows the analyst to discount the tax shield at a rate different from the rate used on operations. (Petersen & Plenborg, p.225) When capital structure changes over time, the APV approach is the best model, while DCF is used when capital structure remains stable. APV gives the same value as DCF.

3.2 Multiple Approaches

The second approach for valuation is multiple approaches. In this approach the objective is to value the assets based on how similar assets are priced in the market. This method is easy to use and easy to understand. It also requires less time than other methods. Many analysts use this approach to value a company, because this approach can be done without many assumptions and is quicker to do than other approaches. When using multiple approaches, one can look at how other companies are priced. This approach also has its weaknesses; variables such as risk, growth and cash flows are ignored. Estimated value of the asset can be too high, when the market is over or undervalued. (Damodaran, 2012, p. 454) To conduct comparative valuation, it is important to point out that no companies are 100 percent identical to each other. We must therefore be careful when selecting the companies from same industry, because these companies can have different risk, growth, capital structure and whether they are over or underestimated. Although multiple has its weaknesses, it gives us valuable information on how the company's value relative to comparable companies

Damodaran distinguishes between four multiples, Earnings Multiples, Book Value Multiples, Revenue Multiples and Sector-Specific Multiples. (Damodaran, 2012, p. 454) The most

commonly used multiples by analysts are earnings multiples such as P/E ratio and EV/EBITDA.

3.2.1 Earnings Multiples

3.2.1.1 Price-earnings Ratio

When buying a stock, it is common to look at the price paid as a multiple of the earnings per share (EPS) generated by the company. (Damodaran, 2012, p. 454)The P/E ratio shows whether a stock is reasonably priced or not. The P/E ratio compares forecasted future earnings to current earnings. P/E ratio can be high or low, if the future earnings are higher than current earnings the P/E ratio will be high, and vice versa. A High P/E ratio indicates how much investors are willing for pay a penny of the company´s profits and the investors also believes that there is growth in future, while the low P/E ratio indicates lower expected growth in future. However, as this multiple depend on company´s capital structure and it can be complicated when comparing with different companies. Therefore, it is common to use another multiple, EV/EBITDA.

3.2.1.2 Enterprise Value to EBITDA

The value of entire company is called Enterprise Value (EV). Enterprise value is defined as market value of equity + net interest bearing debt. (Penman, 2013, s. 79) Earnings before interest, taxes, depreciation, and amortization (EBITDA) are a cash flow that goes to both equity- and debt holder. EV/EBITDA is a multiple that values the company's equity, and thus equity indirectly. The EV to EBITDA is often better than P/E to evaluate companies with different debt, because the EBITDA is before interest while the EPS is after interest. Companies with different depreciation and amortization will affect the operating income but not EBITDA. There are fewer firms with negative EBITDA than there are firms with negative EPS. (Damodaran, 2012, p. 500) The formula for EV/EBITDA can be stated as follows:

$$EV/EBITDA = \ (Market\ value\ of\ equity\ +\ net\ interest\ bearing\ debt)/EBITDA$$

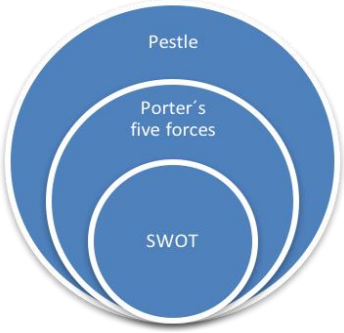
3.3 Choice of Valuation model

After reviewing the various valuation methods, we have determined that we want to take an earnings-based approach. The methods we have chosen to use is the discounted cash flow to firm (DCF), multiple approach and sensitivity analysis. DCF will be selected because the model has more focus on the value creation and lays a good foundation for the assessment of future developments. We will then test the DCF-valuation with a sensitivity analysis which will help us to see how changes in key drivers will affect the value of NAS. Finally we will do a multiple approach. This is a beneficial approach in order to compare the value of NAS with the value of other companies in the industry.

4 Strategic Analysis

To value NAS we need an internal and external analysis of the company. We are going to use a Pestle analysis to map our macro-environment and Porter's Five Forces to identify the industry structure in terms of five competitive forces. Furthermore, we analyse the internal resources of the NAS by using VRIO-analysis. In the end of this chapter we will use a SWOT-analysis to summarize the finding from external and internal analysis.

Figure 8. Strategic Analysis



(Source: Own creation)

4.1 Pestle Analysis

Pestle stands for Political, economic, sociocultural, technological, environmental and legal, and is an environment analysis focusing on macroeconomic factors that the business have no control over. The Pestle analysis will give us a better overview of how each factor will affect NAS in the future. (Roos et al., p.67)

4.1.1 Political

Under the political factors we will look for sanctions and incentives granted by the government that is affecting NAS. This could be an extra cost or benefit granted by the governments of the operating market.

4.1.1.1 Avinor

Avinor is a 100% owned Government Company, and manages the domestic aviation infrastructure under the Ministry of Transport. Avinor's duty is to operate and develop a countrywide network airfield for the civil sector and an overall air navigation service for civilian and military sectors. (Regjeringen) According to Avinor 50 million passengers used Avinors airports. (Avinor, 2016) Safety is very important for Avinor, and is their number one priority. According to Avinor there was no rapported any aviation accident with injuries in Norwegian Airport where Avinor has control in last two years. Avinor focus also on reducing the CO2 emmison, and they have aslo startet a project where Oslo Airport Gardermoen has delivered biofuel to aircraft since January 2016, and is thefirst international airport in the world to deliver biofuel.

4.1.1.2 Single European Sky

Single European Sky (SES) is an initiative from the European Commission in 1999. The SES is a design where the goal is to move away from the national borders, and use functional airspace blocks instead. The reasoning behind SES is to organize airspace uniformly with air traffic control areas based on operational efficiency, and safety controlled by the European Union. (Single European Sky, 2016) and (Eurocontrol)

Single European Sky (SES 1)

SES 1 was in 2007 approved by the Norwegian court system. Due to an increase in air traffic in the European airspace, the European Union wanted a common European rule of the European airspace. The basis for this initiative is to facilitate a European airspace to increase capacity witch is less fragmented divided into blocks and not borders. The goal is to have an efficient air traffic management, with closer cooperation across borders leading to a more cost-efficient service with an increase in security. The primary goal of the SES 1 legislation package is to increase security, half the cost of air navigation services, reduce the environmental impact and double the traffic capacity while reducing the delays of flights. (Lufthavntilsynet, 2014)

Single European Sky 2 (SES 2)

In 2009 the European Union adopted the SES 2. The SES 2 introduced performance management. The changes of the SES 2 will take place over time. The EU/EEA countries in cooperation shall prepare the goals of the process. Joint solutions and closer cooperation on air traffic management and air navigation are central.

The SES 2 rest on four pillars:

- The introduction of performance management for air aviation services
- Extension to EASA to include air navigation operations and airports.
- Implementing SESAR (EU development program)
- An active involvement of trade unions in the process of change, relevant structure of professional skills.

Over all these pillars constitute a total system approach in its effort to improve performance levels in air navigation services offered in Europe. January 1st 2015 got approved by the Norwegian court. (Europalov, 2015)Due to an overlap in legislation, the EU released the Single European Sky 2+ initiative to fix the overlap in legislation. (European Commison, 2013) The SES 2+ is still not approved in Norwegian court but the continuation of the European Union to improve the SES initiative to increase the efficiency of the aviation in Europe is an advantage for Norwegian a can lead to a decrease in cost.

4.1.1.3 EU-US Open Skies

Due to a very high wage economy in Norway, followed by a Norwegian law making Norwegian companies pay Norwegian salary to their employees, NAS have started moving parts of their company abroad. (Dagbladet, 2013)

On the 31st December, NAS established two fully owned subsidiaries. Norwegian Long haul a subsidiary located in Norway operating Norwegians long haul routes to the US. NAI is primary for future long haul flights. The subsidiary gives them flexibility in terms of traffic rights and the right to employ staff from other countries. This is done to avoid the Norwegian labour law reducing the cost of crew wages and make NAS more competitive in the international market. NAI applied to the US Department of Transportation (DoT) for a foreign air carrier permit to access traffic rights in accordance with the EU-US open skies agreement. (CAPA, 2014)

On 29th of October 2015 NAS received a UK Air Operator Certificate and Operating License for its fully owned subsidiary Norwegian Air UK (NAUK). NAUK then applied for a foreign carrier permit using the EU-US Single Sky agreement. (CAPA, 2016)

Under the EU-US open skies agreement NAS can fly from EU countries, Norway and Island. The application for Dot's approval has been unanswered ever since they applied. Several labour unions and big airlines in the US have been putting pressure on DoT to decline the application due to operating under an Irish subsidiary and circumventing Norwegian and American Law. (Schaal, 2015)

NAS's opponents uses Article 17 bis of the EU-US Open Skies: "The opportunities created by the arrangement are not intended to undermine labour standards or the labour-related rights and principle contained in the parties' laws". The claim from the opposition is that NAS uses labour from low wage economies outside the EU goes against Article 17 bis. However, the two officials that led the EU-US Open Skies arrangement John Byerly from the US and Daniel Calleja from the EU supports that the Article 17 bis does not provide legal basis for a US foreign carrier permit and that the opposition goes against the spirit of the Open Skies Arrangement. Without a US Foreign Carrier Permit for NAI or NAUK, NAS is forced to continue to operate long-haul routes from its subsidiary Norwegian Long Haul based in Norway. This is not competitive on an international level due to much higher wages in Norway compared to its American rivals. (CAPA, 2015)

Norwegian has started to put pressure on DoT by applying from two different European countries to get their foreign carrier permit approved in the US. To reject these applications is going against the EU-US Single Sky agreement between The US and the EU. On the other hand, large airlines like Delta, United, American and labour parties in the US have put pressure on DoT to reject the application for the US foreign carrier permit. An approval will give NAS a big cut in wage costs, and they will be able to compete with market wages, but a rejection will force NAS to continue operate with higher wages than their opposition.

Since the Norwegian labour law is so high, NAS has started moving parts of their company abroad. This is noticed by the Norwegian government who has invested part of the Norwegian Oil Fund in NAS. This has led to the government consider to change the legislation on labour for NAS making them able to use foreign labour outside the EU on their

flights from Norway where NAS already have a foreign carrier permit to the US. This will then solve NAS's problem with using cheaper crew from Asia on their flight to the US. (Trumpy, 2016)

4.1.1.4 Air Seat Tax

Last year the Parliament passed a new air seat tax. The new air seat tax amounts to 80 kroner plus value added tax per seat for every passenger from Norwegian airports. The last time Norway used an air seat tax they were criticized for being in conflict with the EEA-legislation, and removed in 2001. The Ministry of Finance proposes that journeys should take place from the same company or in cooperation between different companies. (NTB (a), 2016)

The European Free Trade Association (EFTA) surveillance authority (ESA) send the Norwegian parliament a letter saying that if the new air seat tax got approved, they would treat it as an illegal stat aid. The reasoning behind the state aid is that SAS who is owned by the Norwegian, Swedish and Danish government also owns 20% of Widerøe AS, which is a subsidiary of SAS and is currently operating with SAS on their domestic routes in Norway. The new air seat tax will give them an advantage over Norwegian since transfer passengers flying with SAS and transferring to Widerøe will only need to pay the air seat tax once due to cooperation between the companies, while transfer passengers traveling with NAS will have to pay twice if they are using another company since NAS does not have any agreements among other operators within the domestic market in Norway, and thus is more likely to fly with SAS since they arrangements for only paying the air seat tax once. (NTB (b), 2016)

4.1.2 Economic Factor

The main economic factors affecting the airline industry is economic growth (GDP) and fuel prices.

4.1.2.1 GDP

Economic health: economic health is driven by the GDP. If a Person have a higher salary, he has more founds to use, and can afford a vacation. The increase in salary will reflect growth in business, and growth in business, and this leads to more business trips. Having a strong economy reflects a healthy growth in the GDP. (PWC, 2014)

GDP is the standard measure of the value of final goods and services produced by a country during a period minus the value of imports. (OCED)We can use GDP as a growth rate to see how the economy develops in the future. According to IATA the global GDP is expected to improve 2,7% in 2016. (IATA, 2015) Air transport and economic activity are interdependent. Airlines provide employment and enable the choices of economic activity that's dependent on air transportation. The economy drives the demand for air transportation service. (Hansman, 2009)

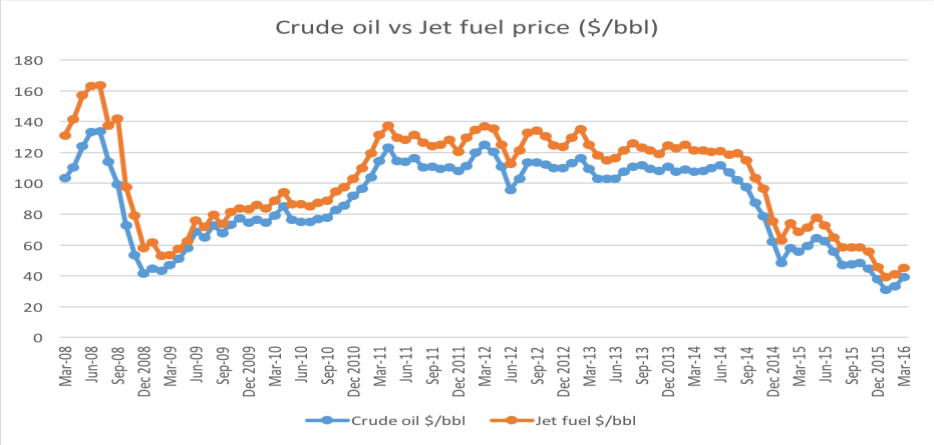
The GDP can then be used as an indicator of economic growth, and will thus affect the economic growth of NAS. Boeing have forecasted an average GDP growth of 1,8% in Europe, with the world forecasted GDP growth of 3,1% and the US with a forecasted GDP growth of 2,4%. (Boeing, 2015)

4.1.2.2 Fuel price

The airline industry is affected by economic development in the world. Oil price are the single factor that has the greatest impact for aviation industry. Marginal changes in price can have a major impact for industry.

The historical oil prices have been characterized by large fluctuations and it is on this basis problematic to make reasonable estimates of future price trends. Before the financial crisis hit, the oil price was above $ 100 per barrel, but after the crisis in 2008 dropped the price of oil below $ 60 per barrel. (See figure below) The measures implemented by OPEC to counteract the decline in prices were to reduce production. This resulted in a drop in the supply curve and the price began after been approaching the level before the crisis occurred. According to IMF, world oil demand will expect to grow by 1.2 million barrels a day in 2017. (IMF, 2016) The price of jet fuel (Jet A1) move similar with oil price on daily basis, as shown in figure 13 that the price of jet fuel was around 120 $/bbl before financial crisis hit in 2008. The price of jet fuel began to rise after the crisis, but in 2014 the downturn in oil market again led the price of jet fuel down, and today the price of jet fuel is under 60 USD/bbl. The graph below is created by prices that are sourced from Indexmundi. (Indexmundi, 2016)

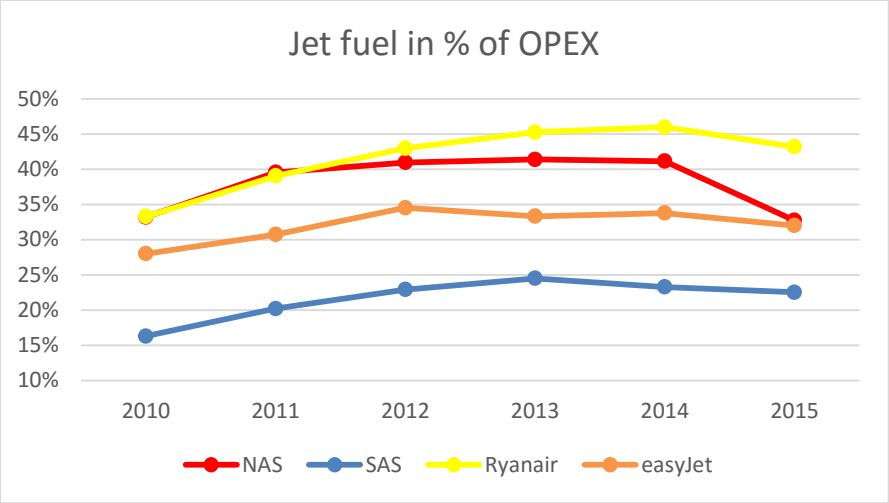
Figure 13. Price of Crude oil and Jet fuel since March 2008



(Source: Own creation and Indexmundi 2016)

Jet fuel is the largest expense for NAS. In 2015 jet fuel stood alone for the 33 % of NAS total operating expenses (figure 14 below). NAS use hedging strategy to reduce volatility in earnings. The management of NAS has a mandate to hedge up to 100% of its expected consumption over the next 24 months with forward commodity contracts. (Norwegian (a)) At the end of 2015, NAS held forward contracts of 752 000 tons of jet fuel, which equalling approximately 50% of fuel consumption in 2016 with a price of 35 USD per barrel and 20% of fuel consumption in 2017. In 2015 NAS saved 1,3 billion NOK in cost related to jet fuel by gambling on oil price. Figure 14 below shows that the jet fuel accounts for between 20 and 50 percent on the LCC´s operating expenses (OPEX). NAS and Ryanair are the two LCC airlines that have very high jet fuel cost. The figure also shows that the full-service airline SAS jet fuel as a small part of their OPEX. Since 2010 SAS has held the jet fuel cost below 30%. As mentioned in section 3 the jet fuel price in 2015 was 67,7 USD/bbl. May 5, 2016 was jet fuel price 52,43 USD/bbl. (Platts, 2016) According to World Bank the price of crude oil will be 82.6 USD/bbl in 2025. (World Bank, 2016)

Figure 14. Jet fuel in percent of operating expenses



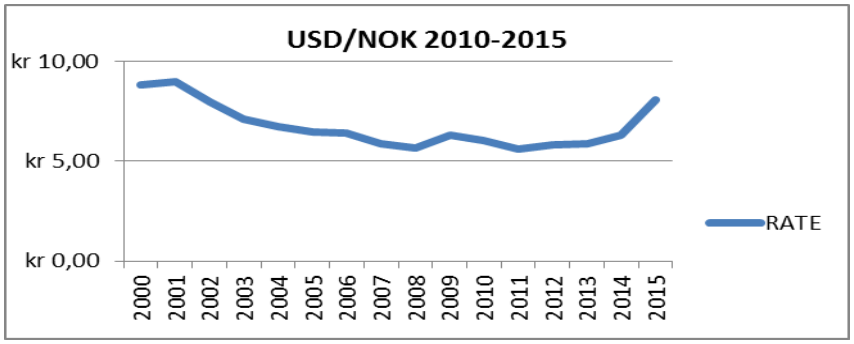
(Source: Own creation & Annual reports (a-f))

4.1.2.3 Exchange rates

The trade for oil and gas are traded in US dollar (USD). For companies that are located in Norway and where the accounts are listed in Norwegian Krone (NOK), a major change in USD has a major impact on companies' earnings.

During the last period, the NOK has been weakened compared to the USD, and has contributed to a sharp rise in prices of imported goods in Norway. For NAS, which has both costs and revenues in foreign currency, the volatility in the currency leads to a higher risk taken by NAS

Figure 15. Historical exchange rate USD/NOK

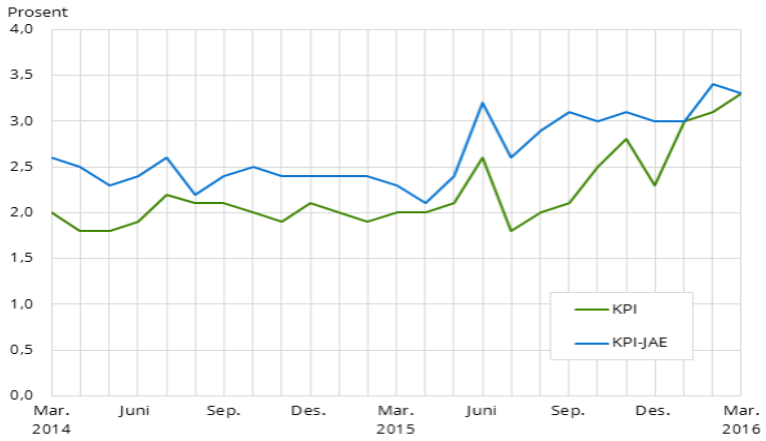


(Source: Own creation and Norges Bank 2016)

4.1.2.4 Inflation

Inflation is a measure of the growth in the general price level. The Government has set an inflation target for monetary policy in Norway. The operational target of monetary policy is low and stable inflation, with annual consumer price inflation of approximately 2,5% over time. (Norges Bank) The twelve-month change in CPI was 3,3% in March 2016 see chart below. Fuel and the airline ticket are the main reason for an increase in CPI. The price level of both fuel and airline tickets has increased. (SSB, 2016)

Figure 16. Consumer Price Index (CPI)



(Source: SSB 2016)

4.1.3 Sociocultural

Each society will affect its own market in its own way. This includes ratios like standard of living, class differences, population development, and how this will affect the market. Here we will take a closer look and see how the sociocultural factors will affect NAS in the future and the development of these markets in the future.

The strongest passenger growth will occur in Asia, the Middle East and Latin-America. As mentioned in section 3 in the paper we mentioned the Asian-Pacific as the world leader in 2034. The Asian aviation trend shows Asia having 100 million passengers annually. Also the low cost carrier business model has proven successful in Asia and the low cost carriers have generated an average growth rate of 24,5%, compared to Europe's low cost carriers only grew 13,4%. The evolution in Asia is mainly due to regional economic growth, liberalisation and deregulation, and new business models. The Asian market is expected to be the largest travel market in the world, growing at 6,1% annually. (Boeing, 2015)

The European aviation market will remain strong despite the significant economic uncertainty. In 2014 the European GDP grew by 1,4% and is estimated to grow by 1,8% annually as mentioned under the economic factors. The LCC's reported a 9,4% increase in passengers over 2013. The Aviation market is expected to grow over the next 20 years, but the European aviation market will have a lower growth than emerging markets. The LCC's is providing 42% of the intra-Europe capacity. Europe's network carriers have shifted their long-haul capacity to the more profitable North Atlantic where the capacity has grown over 16% since 2009. (Boeing, 2015)

The US airlines had in 2014 a net income of $12 billion, a fully two third of the projected net income for the entire global airline industry. The US is mainly controlled by four major airlines, which hold 85% of the fleet capacity of all available seat miles in the US. In 2015 12 598 860 tourist travel to Europe compared to 11 892 216 in 2014. This is an increase in 706 644 passengers, an increase in about 6%. (Travel trade)

4.1.4 Technological and Environmental

The industry is always changing due to technological enhancement/evolution/innovation. So staying ahead of time can give the firm a competitive advantage. Internet has given the airline industry more flexibility. Passengers can easily use Internet to compare prices and destinations. They can also use Internet to find cheapest flights and book additional services. The use of Internet has given NAS more cost effective than the traditional ways. The development in technology has made it much easier for travellers and the airlines. NAS use latest technology to make travel easier for their passengers. The use of airline´s own mobile application traveller can book tickets, luggage, select their seat and even check-in 24 hours before the flight. This can save a lot of unnecessary time at the airport. NAS has also installed check-in kiosk and self-service bag drop both in Norwegian airports and abroad. NAS has also upgraded its fleets with WIFI.

The environmental factor takes into account the moral and values of a firm and how this will affect their own market. In these times there is a big focus on "going green". This will then affect your customers and your reputation as a firm. Here we will take a closer look to see what NAS is doing for the environment and how this affects the firm now, and in the future.

Natural disaster has major impact on airlines. In 2010, Iceland was hit by volcano eruption and ash cloud, which led the airspace over Iceland and several part of European airspace was shut down. This led also to delays and cancellations of flights, and many airlines experienced enormous losses. NAS lost 100 million at the closed airspace. (Ravnaas, 2010)

The global aviation industry produces around 2% of all human-induced carbon dioxide (CO2) emission. In 2015 the Worldwide, flights produced 770 million tonnes of CO2. (ATAG, 2016) NAS operate with greenest and most fuel-efficient fleets in the world. NAS reduced total emissions by 9,3% from 2014-2015. Their goal is to help make aviation carbon natural by 2050. (Norwegian (a)) NAS has worked hard to reduce CO2 emission per seat kilometre. They have invested large sums in new modern aircraft with latest innovations in engine technology. These aircraft will help to reduce CO2 emission, noise and fuel expenses. Today NAS are operating with B738 and B787 Dreamliner. The fuselage of B787 Dreamliner is made by 50% advance composite material (carbon-fiber), which gives weight savings on average of 20% compared to more conventional aluminium designs. (Hale, 2006) This aircraft will help NAS to reduce the carbon emissions.

The B737-8 NAS are operating with winglets installed on the wings. The reason for winglets are that it gives aircraft better performance as it gives more aerodynamic lift to the wing, and reduce fuel consumptions by 3-5%. In 2014, NAS conducted its first ever biofuel flight, reducing emission by 40% compared to an average flight with traditional fuel. (Norwegian (a)) As mentioned before The International Council on Clean Transportation (ICCT) named NAS as the most environmental friendly in 2015. The European Union (EU) introduced quotas for all flights to or from airports located in the European Economic Area (EØS) in order to reduce CO2 emission.

4.1.5 Legal

The legal factor is usually laws and sanctions in the market of operations. This means laws and sanctions that affect NAS when operating in their markets. Here we will take a closer look at what laws affect NAS now, and are this will change in the future.

Norway is a member of the EEA (EØS), but is greatly affected by the European Union (EU) policies and legal regulations. The EU has very strict laws and requirements for aviation safety.

4.1.5.1 European Aviation Safety Agency (EASA)

The EASA is the bureau responsible for the aviation safety in the European Union. Their objective is to ensure a high and uniform level of aviation safety in Europe, and to contribute to competitive conditions and economic savings in the European aviation industry. EASA has gradually extended their area of responsibility through new regulations of aviation safety, with an end goal of EASA having full control of the aviation safety of the European Union. In addition, the EASA shall monitor and conduct inspection in the countries that's a part of the European Union and the other membership countries like Norway to ensure that the regulations given by the EASA is followed. (Luftfartillsynet, 2014)

NAS has aviation safety as their number one priority. They have non-registered serious accidents reported involved passengers and crew. They work proactive to promote the safety precautions taken by the company. The civil Aviation Authority has to approve each requirement for applications, examinations and qualifications. NAS airplanes undergo a strict maintenance program carried out in accordance with the manufactures and the EASA.

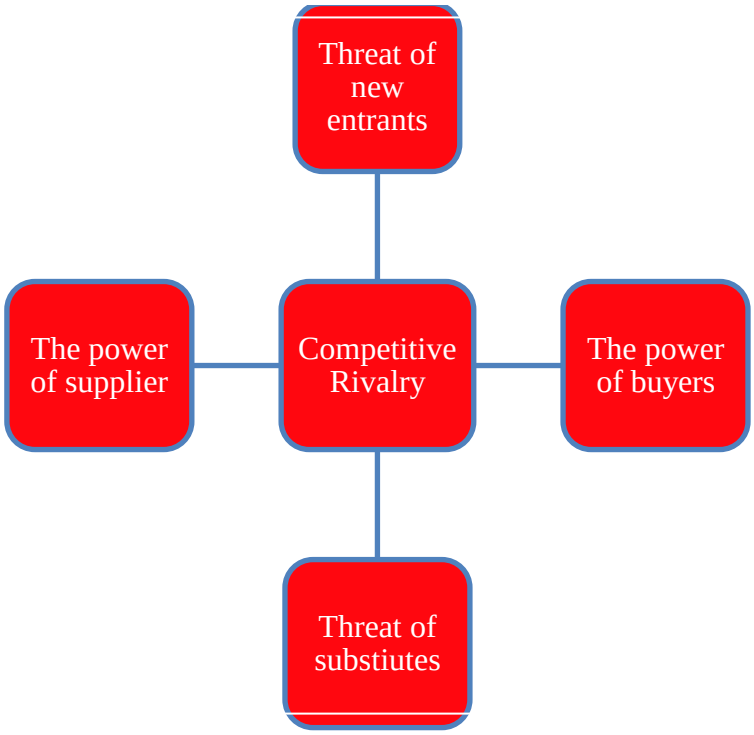
4.2 Porters Five Forces

The Porters five forces framework will help us identify the industry structure in terms of five competitive forces. This framework helps to analyse the new entrants in the market, customer bargaining power, suppliers' bargaining power, influence of substitute and rivalry among industry exist competitors. (Porter, 1979)

1. Threat of a new entry: This refers to how easy it will be for new firms to enter the industry and challenge the competition.
2. Threat of Substitutes: Product and services that offers an alternative to the industry's product or service.
3. The Power of Buyers: The buyers power to demand cheaper services, this does not need to be the ultimate consumer of the product.

4. The Power of Suppliers: The supplier's power to demand more payment for the supplies they sell.
5. Competitive Rivalry: The four first forces all affect the direct competitive rivalry.

Figure 17. Porters 5 forces



(Source: Own creation and Porter 1979)

4.2.1 Threat of a new entry

When a new company enters the industry, the market shares for those companies who already are in the market will decline, as the new company captures shares from other companies. Establishment threat in an industry will largely depend on the barriers that exist in this industry. Aviation industry has various entry barriers that lead to difficulties for new airlines to enter the market. Government of Norway has quota regulated this industry and EU regulations have made it clear that it is not possible for foreign companies to fly on domestic routes in (Roos et al., p.70). To establish a new airline, it requires large capital investment and there are high development costs related to running the airline. For a new entrant, this is a

costly affair. Government can limit entry to industries with various control, they can set the entry barrier high, which may make it difficult for new companies to enter the market.

Strong brand name of existing companies can make entry barrier high. NAS and SAS are two airlines with strong brand name in Norway. Not only does it make the entry barrier high, but a strong brand name also has its loyal customers.

Frequent flyer program can be another potential factor for new entries. With a frequent flyer program passenger can earn points each time they travel with the airline. In case of NAS, passengers can earn cash points every time they travel by NAS, and use these cash points to purchase ticket. This can make it difficult for new entrants to capture passengers from existing airlines.

We believe that the threat from new entrants is low, since the capital threshold to enter the market is high and the operators in the market already have a very strong brand name.

4.2.2 Threat of substitutes

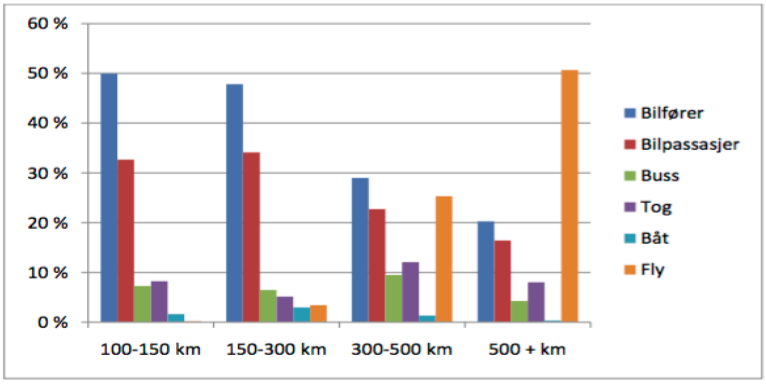
To identify substitutes means to look after other products that can meet the same function and needs. Common substitutes for airlines are such as train, bus, car and boat. Customers have different preferences when it comes to choice of transport. For some customer's price, time and distance is important. Car can be effective on shorter routes to close by cities, rather than aircraft, but due to poor infrastructure and geographical distance it often makes this type of transport very slow and costly. Car is therefore not a big threat for airline on long distance. This condition also applies to bus services even though it's cheaper, but time consuming than car.

On the other hand, high-speed train is large substitute for airlines because it's often cheaper which connect major cities are not available in Norway yet.

In 2011 Transportøkonomisk Institutt (TØI) established various lists of distribution of transport and travel purposes in passenger transport, which shows how different transport changes when the distance become greater. (Konkurranseflater i persontransport, 2011)

The figure below illustrates which transport people choose relative to distance. As we can see that the transport of car decrease when distance increase in km, while air travel increases as the distance increase over 500 km. The distance between Stavanger – Oslo is around 500 km and the figure clearly shows that people will choose plane over other alternatives.

Figure 18. Transport distribution in different distance interval



(Source: Transportøkonomisk Institutt (TØI))

The development of video conference technology is yet another threat for airliners, which has reduced the demand for business travellers. Traveling costs and time consumption is reduced through use of telecommunications, since business travellers do not need to travel far to meet their clients, as they can use virtual face-to-face conversation with clients around the world. Many business travellers from same companies travel with airlines early in the morning to meet their clients, and fly back in the evening. This is costly for companies, and use of videoconference has reduced these costs.

We consider development of new technologies as a coming threat for NAS, but on the other hand business travellers choose to travel for very important decisions. The technology of video conference has been around for a time but hasn't yet affected the airline industry so we determine the threat as low, but this might change in the future.

4.2.3 The power of buyers

Customers bargaining powers is expressed by demand and supply in the market. When demand is low, the customer´s purchasing power is great. Price-sensitivity and relative bargaining power are two factors that determine customers bargaining power.
We can categorize passengers in leisure and business travellers. Passengers, especially those traveling for leisure purposes are highly price-sensitive, if the price increases the customer choose other alternatives.

Low-cost carriers provide low-fare options for travel, and for leisure travellers price is more important than service. Business travellers are opposite of leisure travellers. It's certain that they are less price-sensitive and require higher standard, comfort and are time sensitive. NAS has an agreement with many of the largest companies in Norway as well as small and medium companies. (Norwegian , 2016) On business routes NAS offer high-frequency schedules. They provide bonus agreement (cashpoint) which a company can earn by travel with NAS, and they also provide a direct discount deal, which gives companies discount on travels.

Technology has given customers higher bargaining power. Internet is one of the most important communication channels, where customer can easily search for various airlines and compare their prices, destinations, availability and services. Airlines have their own homepages where customers can easily book tickets and select seat, food and any special assistance.

We conclude that the bargaining power of buyers depend whether it´s leisure travellers or business travellers. This is expressed through different options airliners give their customers. It can be lower price yet time consuming for leisure travellers or a bit expensive with better offers in comfort and service as well as time saving for business travellers.

We can summarize that the bargaining power of leisure travellers is higher than business travellers. Overall we set the bargaining power of customers as high.

4.2.4 The power of suppliers

Suppliers bargaining power is strong because they can increase the cost of a company. To ensure that all products are assembled to the best possible product, it requires good communication, clear agreements and good relations between the company and its suppliers. Aircraft manufactures and labour are factors that can cause threat from suppliers on airline industry.

4.2.4.1 Aircraft manufactures

Boeing and Airbus are world´s largest manufacturer companies that produce commercial aircrafts and control the market as well. Boeing and Airbus have duopoly on the market on the narrow-body and wide-body aircraft. There are also other aircraft manufacturers companies like Bombardier, Embraer and Comec, but they are not as large as Boeing and Airbus and offer small single-aisle type of aircrafts. In the case of NAS, its current fleet consists of more than 100 Boeing aircrafts, and making Boeing its primary supplier.

In 2012 NAS placed the largest aircraft order in European history, which includes aircraft from both Boeing and Airbus. Large orders of goods give customers substantial discount on goods and it also gives customers a higher bargaining power. Today NAS operate only with aircraft from Boeing and have ordered even more from Boeing. Therefore, it is not useful for Boeing to sell aircrafts to NAS with high price. NAS partnership with Boeing is therefore very important.

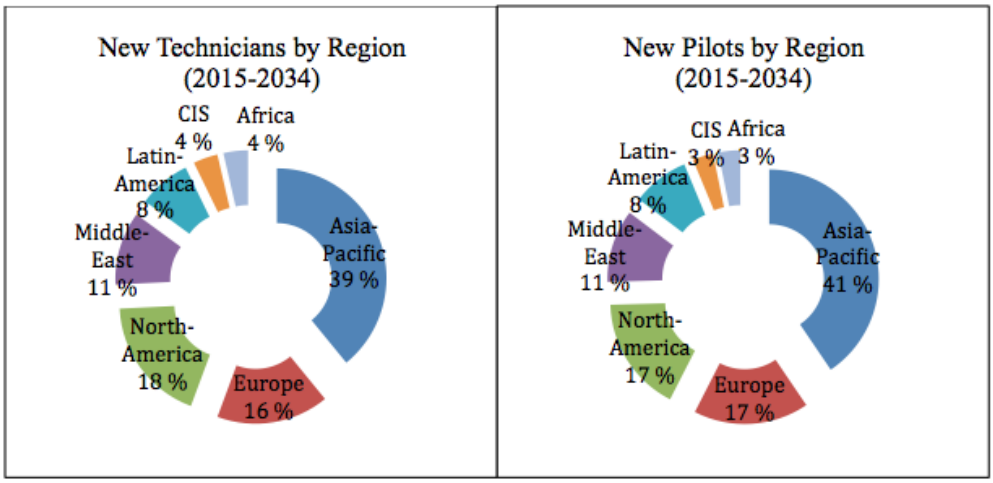
As NAS has ordered large quantum of aircrafts from Boeing and Airbus, we believe that the aircraft supplier has high bargaining power.

4.2.4.2 Labour

Most of airlines workers belong to major unions. These unions play a critical role in airline industry. The aviation industry is experiencing a shortage of pilots and engineers. According to Boeing the airline industry may lead to lack of pilots. Boeing forecast that there would be a need as many as 1 million pilots and aircraft technicians in 2034. (Boeing, 2015) In 2012 NAS had to cancel 24 flights, due to lack of pilots and cabin-crew. Pilots and engineers require years of education, and therefore not easy to replace like cabin-crew and ground personnel.

As NAS is expanding its fleet, there will be demand for more pilots and cabin crews. Boeing has forecasted that, there will be need for 558,000 new commercial airlines pilots and 609,000 maintenance technicians over the next 20 years. (Boeing, 2015)As shown in figure 14, Asia-Pacific will require high demand for pilots and technicians in future.

Figure 19. Demand of Technicians and Pilots by Region (2015-2034)



(Source: Own Creation & Boeing 2015)

Strike can be a great threat for airlines with unions, as they have bargaining power. A strike by airlines pilots, cabin crew, technicians and other personnel can shutdown airlines entire flight operations, which gives airlines major financial losses. In 2015 NAS lost 350 million NOK on strike, and around 200 000 passengers were affected by the pilot strike in NAS. (Norwegian, 2015)

On the basis of strong unions, we believe that the bargaining power of labour is high.

4.2.5 Competitive Rivalry

The competition among existing airlines is high and there are several factors which contribute to rivalry between companies. Airlines are always looking for passengers and to attract passengers, airlines must offer cheaper tickets, which will lead to price competition between other airlines. The airlines also try to capture the market share by challenging other airlines by offering new routes, which may lead to competition between airlines. With the opening of new routes, NAS will have to encounter new challenges against other airlines on the same routes, which in turn leads to a price war between the airlines.

In addition to that there are high exit barriers, which may press the unprofitable airlines to stay in market and compete. This in turn can lead to a price war among the competitors which may continue for a longer period than necessary and result in withdrawing from the market rather than surviving. The airline industry relies on capital and require huge investments in aircrafts. There are high costs maintaining the aircrafts, so grounding an aircraft is not an option as it results in huge losses. Higher exit barriers may lead to bankruptcy, and in contrast to that it can cost an airline more since many of the employees have contract based jobs. SAS is an example of an airline that was about to go bankrupt but the government stepped in to save the national carrier from going bankrupt.

4.3 Summary of Porters Five-force

The table below concludes the five-forces.

Table 4. Threat level

	Arguments	Threat level
New entrants	Requires high capital and existing airlines have strong brand names, which make it difficult for new entrants to enter the market. EU regulations is also a challenge for new entrants.	Low
Buyers	We can argue that customers have more flexibility to choose airlines whether it´s leisure or business travellers. We can also argue that video conferencing in relation to business travellers could be a possible threat to NAS.	High
Substitutes	There is low threat from substitutes as it depends on distance and time travelled.	Low
Suppliers	Boeing and Airbus have duopoly on the market. Powerful unions which has major power against airlines.	High
Competitive Rivalry	There will always be a completion between NAS and other airlines in market. High exit barrier will make difficult for existing airlines to quit from industry.	High

Source: Own Creation

4.4 VRIO-analysis

In the external analysis, we analyzed the external factors affecting the airline industry as a whole. We will in the internal analysis, analyze the internal factors and to see if these factors will add value or competitive advantage to the company. VRIO is a four question framework used to determine the competitive potential of the firm's resources.

- Value: *"is the firm able to exploit an opportunity or neutralize external threat with the resource?"*
- Rarity: *"Is control of the resource in the hands of a relative few?"*
- Imitability: *"Is it difficult to imitate, and will there be significant cost disadvantage to a firm to obtain, develop, or duplicate the resource?"*
- Organization: *"is the firm organized, ready, and able to exploit the resource?"*

Aircraft Fleet

NAS is currently operating with a uniform fleet of Boeing 737-800 on their short-haul routes and Boeing 787 -800 and -900 on their long-haul routes. We know that NAS are currently changing their short-haul fleet with Boeing 737 MAX8 and Airbus A320neo. These are more fuel efficient and require less maintenance than their old Boeing 737-800. As mentioned earlier, NAS was also named the number one environmental friendly airline in 2015 by ICCT.

If we compare the fleet of NAS with the fleet of the Ryanair, easyJet and SAS we find that the LCC's follow the same strategy by flying with a uniform fleet such as NAS. Ryanair operates only with Boeing 737-800 and easyJet operating only with Airbus A320 and A319. Since SAS is a full service airline they follow a different strategy then the LCC's and operates with multiple aircrafts. NAS are currently operating with the smallest fleet with 99 aircraft compared to Ryanair with 319 aircrafts. This is a disadvantage for NAS, since the competition have a larger fleet they will be able to keep larger part of the market share in Europe. We believe that this will be partially countered by the big investment done by NAS.

Financing

For NAS to continue their growth it is vital that they secure financing for new aircraft. As mentioned earlier in the paper NAS secured financing for their massive order of 200 new aircrafts and should thus be looked at as a valuable resource. We can't say that it is rare or

difficult to imitate, since the competition have also been able to secure financing for large aircraft orders.

Brand Name

NAS have enjoyed for the most part a positive reputation since they started back in 2002. In the winter of 2015 there was a massive strike within NAS. NAS went from having well above average reputation to under the average reputation. (NTB (c), 2015) After things have gone back normal, and was awarded with being the 3rd best low cost carrier in the world, and the best in Europe. (Skytrax, 2015) Even though NAS have received their part of negative reputation as all the low cost carriers, though this is mainly in Norway, they have continued to build up their good name on the international arena receiving awards for their good work building up their brand name. Compared to the competition easyJet have also been awarded as the 4th best low cost carrier in the world, while Ryanair didn't receive a place in the awards. Ryanair have on the other hand received a lot of negative PR compared to NAS and easyJet. It is more likely that customers will choose an airline with a good reputation and a strong brand name over an airline with a bad reputation. This leads us to believe that NAS brand name and reputation is valuable and rare. We believe that it will be hard and costly to imitate since the brand name and reputation is built up by the strategy and value of a company.

Management

Since NAS started in 2002 Bjorn Kjos have been their CEO and largest shareholder. As CEO of NAS, Kjos have made NAS the second largest airline in Norway, and the 3rd best LCC in the world, ranking number one in Europe. Kjos also received manpower's "leader of the year" award and Ernst & Young's "Entrepreneur Of The Year" in 2009. In 2014 he earned himself the Rockford Award "Recognized for Outstanding Contribution to Regional Work Force" on November 2014. Ryanair is another company with a strong and charismatic leader, Michael O'Leary, but can't say the same for SAS and easyJet. Based on this we find that the management in NAS is a valuable resource, which is rare and hard to imitate.
The VRIO-analysis is summarized in the table below:

Table 5. Summarizing VRIO analysis

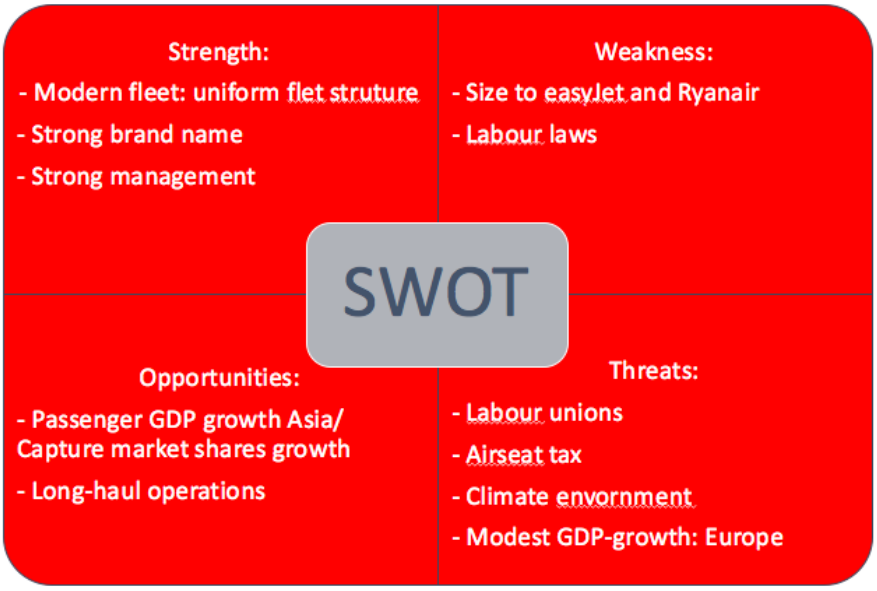
Resources	Valuable?	Hard To Imitate	Rare?	Exployted by the organization	Competetive Implication
Aircraft Fleet	Yes	No	No	Yes	Temporary Advantage
Financing	Yes	No	No	Yes	Temporary Advantage
Brand Name	Yes	Yes	Yes	Yes	Sustainable Advantage
Management	Yes	Yes	Yes	Yes	Sustainable Advantage

Source: Own creation

4.5 SWOT-analysis

We will now use SWOT-analysis to summarize the main finding of the internal and external analysis. SWOT is a business tool that looks at the company´s internal and external environment, and stand for strength, weakness, opportunities and threat. The analysis will be helpful for NAS to take a deeper look at strategic opportunities and evaluating company´s future plan. In figure 20, we have summarized the strategic analysis of strengths and weaknesses (internal analysis) and opportunities and threats (external analysis).

Figure 20. SWOT-analysis



Source: Own creation

5 Financial Analysis

In this chapter we will reformulate the income statement and balance sheet for analytical purposes. By reformulating income statement and balance sheet, we will be able to get an overview of which post are financial or operational items.

5.1 Reformulation of Income Statement

The aim of reformulation of income statement is to separate operating and financing items. The reformulated Income Statement can be found in appendix 2.

Revenue: NAS´s revenue is split between passenger revenues, ancillary revenues and other revenues. Passengers revenues are generated from air transport, ancillary revenue is revenue that comes from other service e.g. baggage, inflight meals and seat selection. Other revenue includes all other revenue which is not related to ticket. These revenues are generating from cargo, wet lease etc. and revenue from business activities in subsidiaries which are not airlines. (Norwegian (a)) Both passenger and ancillary revenues are directly related to the operational activities. According to Petersen and Plenborg other income includes activities that are indirectly part of a firm´s core business. (Petersen & Plenborg, s. 75) Income from subsidiary Bank Norwegian and other subsidiaries are seen as other income.

Share of profit (losses) from associated companies: this item contains the groups share of Bank Norwegian´s net profit (loss) in the consolidated financial statements. This item belongs operational.

***Other losses (gains)-net*:** This item includes losses (gains) from fair value movements in financial assets and liabilities. NAS state in their annual report that gains or losses arising from changes in the 'held at fair value through profit and loss'. In reformulated income statement we include this other losses (gains)-net as special items and remove it from operating expenses.

Operational lease: A large part of NAS's fleet is consisting of leased planes. A problem with the leasing is that it is a source of balance financing. The leased asset and the debt equivalent will not be listed in the balance sheet. The only listing you have of the leasing is the lease payment itself. The main focus is on the capitalized lease. The effect on capitalized lease is

that the firm is allowed to claim depreciation on the asset and an imputed interest payment on the lease as tax deduction rather than the lease payment itself (Damodaran 2012 p.38).
The problem with the of balance recording of asset value and borrowings will lead to biases in almost all financial ratio including return on invested capital. (Koller et al p.575-576)
There are different ways to deal with the problem. There are several different ways to estimate the capitalized lease. One of these ways are given in the "Measuring and managing the values of companies" by Koller et al. as a formula taking the rental expense and divide it with the cost of secure debt plus one divided by the asset life. A problem with this is that it uses secure debt, and can be estimated using an AA-rated yield. This is under the assumption that leases are a secured by the underlying asset. This contradicts with Damodaran writings saying that the operating or capitalized lease imposes substantial risk for the lease. (Damodaran online)

Another way is computing the present value of required lease payments. Even if it is the most used method, it systematically undervalues the asset. A second method is to compute the asset value of operating leases with the perpetuity method, but this systematically overvalues the asset. (koller et. al. p.584)

"Measuring and managing the values of companies" and Moody's recommend using an industry rent multiplier calculating the value of the asset. The airline industry has a multiplier of 8. By using this multiplier with the lease rent we can calculate the capitalized lease, the depreciation and rent of the capitalized lease. Now we have the information needed to reformulate the income statement adjusted for leasing. Calculations of the capitalized lease can be found in Appendix 10.

5.2 Reformulation of Balance Sheet

The reason why we reformulate the balance sheet is to distinguish between operational and financing activities from each other. We must separate operating activities from financial activities as these contain excess cash. The reformulated Balance Sheet can be found in Appendix 3.

5.2.1 Non-current assets and liabilities:

- **Intangible assets** are associated with computer software and goodwill. These post belong to operational side.
- **Deferred tax asset (liabilities)** arises from tax loss carry forwards or assets (liabilities) that are recognised at a lower/higher value in the balance sheet than tax purposes. (Petersen & Plenborg, p.88) NAS state in its annual report 2015, that the tax loss carried forward is expected to be utilized by future taxable profits. (Norwegian (a), 2016) According to Petersen and Plenborg this item is classified as operational.
- **Buildings** consist the purpose of housing crew, and trainees outside Norway. This post is including in operating assets.
- **Financial lease assets/liability** this post consist lease agreements of de-icing and electronic flight bag equipment. Financial lease assets are classified as non-current operational assets, while financial lease liability are classified as financial interest-bearing debt.
- **Prepayment to aircraft manufactures** payment that is made to Boeing and Airbus about the aircraft NAS has ordered. We categorize prepayment as operational related.
- **Financial assets available for sale** these item have nothing to do with operations and therefore they are considered to be financial assets.
- **Investments in associates** Based on NAS´s annual report 2015, it owns 20% of the shares in Norwegian FinansHoldning ASA. We classified this as a part of operational side.
- **Other receivables**"Trade and other receivable" and "Prepayment "are items that includes in other receivable and assuming that they are due within one fiscal year. We categorized therefore other receivables as operating assets.
- **Borrowing and financial lease** will be categorized under financial liabilities.
- **Provisions for periodic maintenance** are classified as operational.
- **Pension obligations** is a collection from previous years' earned pensions. This means that pension obligations are not a part of operational and is classified as financial assets.

5.2.2 Current assets and liabilities

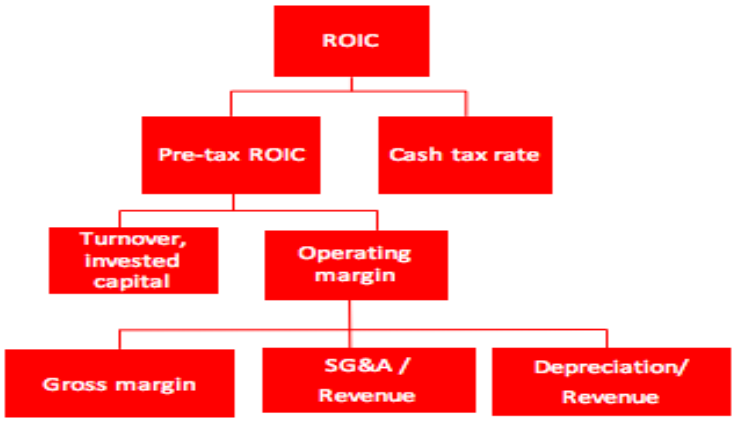
- ***Inventory and trade receivable*** are operating assets.
- ***Air traffic settlement liabilities and trade and other payable*** are items that includes in operating activities.

- ***Tax payable*** are related to operating activities

5.3 Profitability analysis

In this section we will use information collected from reformulated income statement and balance sheet to analysis how NAS is performing among its competitors. We will use DU Pont- model as shown in figure 21.

Figure 21. DU Pont - model



Source: Own creation & Petersen and Plenborg

5.3.1 Decomposition of Return On Invested Capital (ROIC)

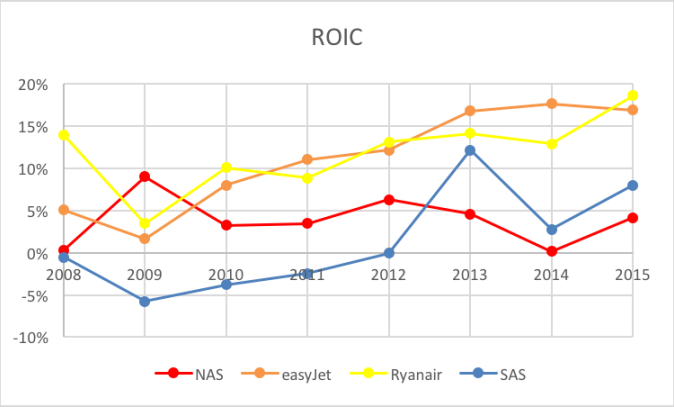
5.3.1.1 ROIC

ROIC is a measure of financial performance of a company. To find out which elements of a company's business is driving the company´s ROIC, we split apart the ratio as following. (Koller et al p.169)

$$ROIC = (1 - Operating\ Cash\ Tax\ Rate) * \frac{EBITA}{Revenues} * \frac{Revenues}{Invested\ Capital}$$

Since profit is measured over an entire year, whereas capital is measured only at one point in time, the author recommends us to use average invested capital. (Koller et al p.166) Figure 21 shows ROIC of NAS and its competitors. In 2015 NAS´s ROIC was 4,2%, and this indicates that in 2015 NAS was able to generate 4,2 øre for each NOK invested in operations. We can also see that the competition has a higher ROIC than NAS. The reason for that is the NAS had a low NOPAT due to high operating cost. Ryanair and easyJet had a high ROIC in 2015, 18,6% for Ryanair, which means that they was able to generate 18,6 cent for each euro invested while easyJet generate 16,9 pence per GBP invested. Looking at full service airline SAS generate 8 øre per SEK.

Figure 22. ROIC



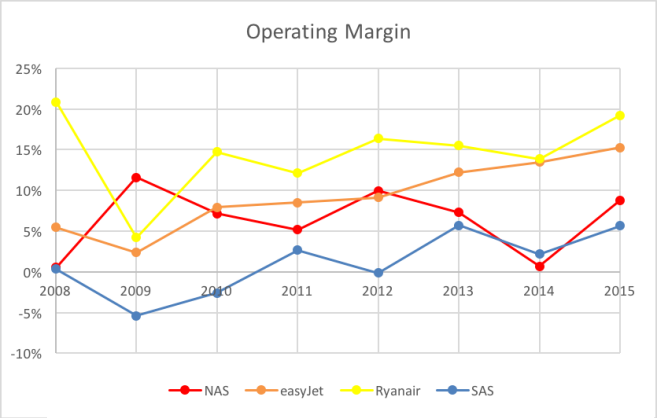
Source: Own creation & Annual reports (a-h)

5.3.1.2 Pre-tax Return On Invested Capital (ROIC)

Pre-tax ROIC is EBIT divided by invested capital. The force behind the pre-tax ROIC is the operating margin and turnover, invested capital. Operating margin is further driven by the gross margin and depreciation. Revenues divided by invested capital shows how much revenue the firm get per invested capital, and is driven by the operating working capital and fixed assets.

5.3.1.3 Operating Margin

Figure 23. Operating Margin



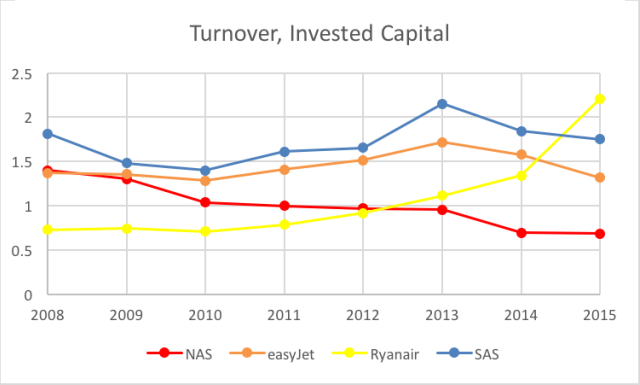
Source: Own creation & Annual reports (a-h)

As we mentioned in pre-tax ROIC, the operating margin is a component which will take us deeper into pre-tax ROIC. The operating margin of NAS was 0,51% in 2008 and it has increased to 8,77% in 2015. The reason for the increase in operating margin from 2014 to 2015 was because of a significant low jet fuel price in 2015. Looking at the operating margin of the competitors it clearly shows that Ryanair has higher operating margin 19,2 % in 2015, this is due to their ultra-low cost strategy. easyJet had an operating margin of 15,27 % in 2015. The operating margin of SAS fall dramatically in 2009 to -5,39 %. The year 2009 was a poor year for the company. There was a sharp decrease in business travel that led to a historically steep yield decline and huge revenue shortfalls for the entire airline industry. (SAS (h)) SAS is also a full service airline which focuses more on business travellers.

5.3.1.4 Turnover rate of invested capital

The other component that play an important role in pre-tax ROIC is turnover rate of invested capital. The turnover rate expresses a company´s ability to utilise invested capital. (Petersen & Plenborg, p.108) High turnover indicates that the companies are more efficient. NAS has the lowest turnover rate among the competition in 2015 which result 0,68. The low turnover is driven by major investment in new aircrafts. Ryanair had low turnover from period 2008 to 2012, the reason for that was investment in new aircrafts. In 2015, Ryanair had a turnover of 2,2 which is slightly higher than SAS, which has 2,0. easyJet had a turnover of 1,3 in 2015.

Figure 24. Turnover rate of invested capital

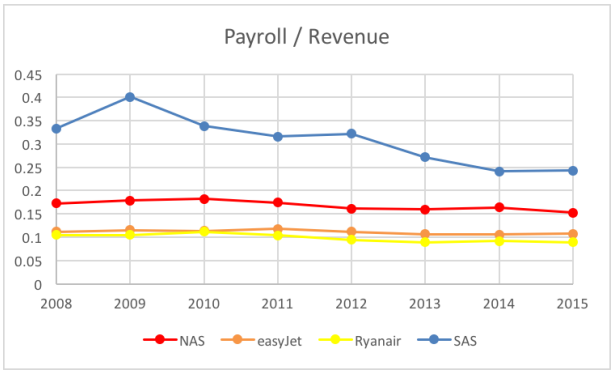


(Source: Own creation & Annual reports (a-h))

5.3.1.5 Payroll/Revenue

Payroll is the amount company pays out for labour. Figure 24 shows the payroll/revenue, which is a measure of how much salary amounts from revenue. As we can see from the table, SAS employees had the highest salary, and the Ryanair has the lowest salary. The main reason for why SAS has such high salary cost is because SAS is a full-service airline compared to the LCC competitors. NAS operates under Norwegian law as mentioned in our Pestle analyse, and thus need to Norwegian salary. Ryanair and easyJet operates under other legislations with a cheaper salary.

Figure 25. Payroll/ Revenue

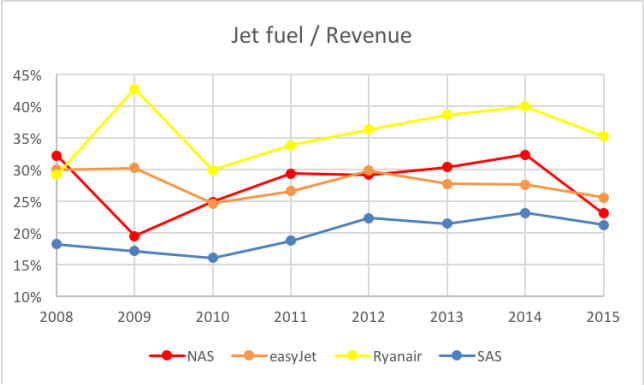


(Source: Own creation & Annual reports (a-h))

5.3.1.6 Jet fuel/ Revenue

As mentioned in Pestle analysis, the jet fuel is the largest expense for all airlines. In 2015 jet fuel stood alone for the 33 % of NAS total operating expenses see figure 14. LCC´s has a larger percentage of jet fuel cost compared to the full service airlines due to lower other operating cost. For the LCC's the portion of jet fuel cost will be a larger part of the operating cost. NAS have the lowest percentage among the LCC´s which reflects that NAS have the newest and most fuel efficient fleet among the LCC´s, but it also have a higher operating cost than Ryanair and easyJet. Figure 25 shows the jet fuel to revenue ratio. We have also investigated how much fuel cost per ASK and RPK poses in NAS and their competitors. Table 6 below, give us an indication of how much fuel cost per ASK and RPK constitutes a young or older fleet. It is clear that NAS use less fuel per ASK and RPK. This is because their planes are more environmentally friendly, and have one of the world's youngest fleet. NAS have replaced their old aircraft with new and modern aircrafts, changing every plane after 8 years. The average age of NAS fleets are 3.6 years, which clearly shows that they have the youngest aircrafts in their fleets. The fuel cost per ASK and RPK are calculated from the year 2015. NAS pays 0.11 NOK in fuel per ASK while Ryanair and easyJet pays 0.16 and 0.14. SAS

Figure 26. Jet fuel / Revenue



(Source: Own creation & Annual reports (a-h))

pays 0.19 which is more than 70 % of what NAS pays. NAS pays also lower in fuel per RPK than its competitors. SAS which is full service airline has an average fleet age of 11.6 years, which clearly shows that their fleet uses more fuel than the LCC´s.

Table 6. Fleet age & fuel cost

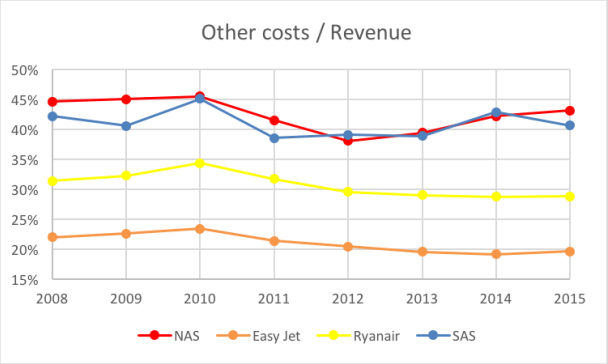
	NAS	Ryanair	easyJet	SAS
Fleet age of airlines	3.6	5.5	4	11.6
Fuel cost per ASK	0.11	0.16	0.14	0.19
Fuel cost per RPK	0.12	0.18	0.15	0.25

(Source: Own creation & Annual reports (a))

5.3.1.7 Other costs/Revenue

Other costs are related to sales and administration cost, airport charges, maintenance expenses, handling charges and other costs that are not directly linked to flight operations. As shown in the figure 26 NAS and SAS have the highest other operating costs compared to Ryanair and easyJet. This shows that NAS are at the moment operating on same terms in other costs as a full service airline as SAS.

Figure 27. Other costs / Revenue

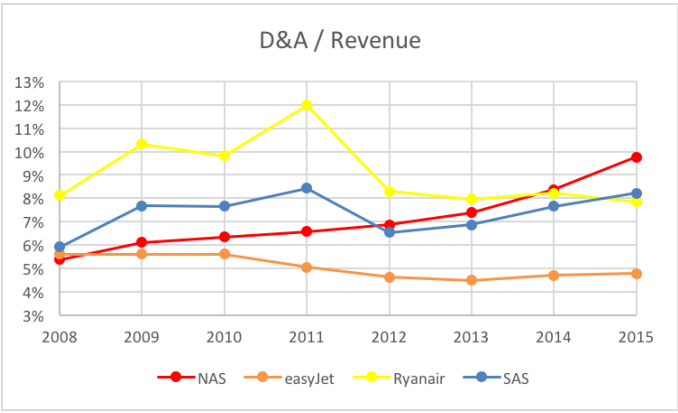


(Source: Own creation & Annual reports (a-h))

5.3.1.8 Depreciation and Amortization/ Revenue

This is the final post of operating margin, and measures how well the companies utilise their fleet. A higher ratio will mean that they have more tangible assets per revenue. This is an indication that EasyJet utilises its fleet in the best possible way, and NAS as the worst in the market. Ryan air were worst but have improved compared to NAS and SAS who have increased their depreciation and amortization as a percentage of revenue.

Figure 28. Depreciation and amortization



(Source: Own creation & Annual reports (a-h))

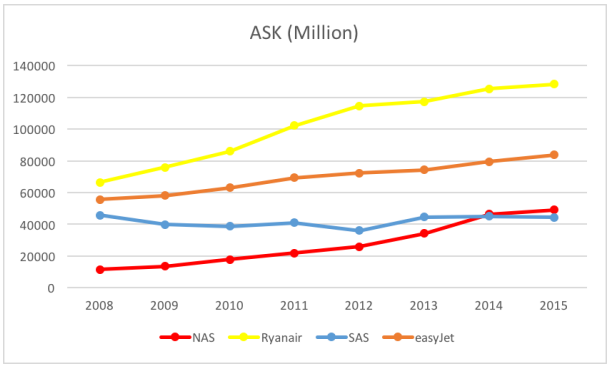
5.4 Operational drivers

5.4.1 Available Seat Kilometers (ASK)

ASK measure an airlines passengers carry capacity. The definition of ASK is number of available seats multiplied by the distance flown. (Norwegian (a))

Figure 28 illustrated the performance of ASK for NAS and its competitors. The numbers we have used are the basis of annual reports for all companies in which from 2008-2015. Based on the figure, we can see that the company has experienced huge growth in ASK in period and growth due to increasing demand, new routes and especially the purchase of new aircrafts. In 2015 NAS had an ASK of 49 028 million and this is an increase of 5 % from last year. (Norwegian (a)) Based on the graph we can clearly see that the Ryanair and easyJet stand out in terms of ASK, both airlines have an increasing trend in ASK compared with NAS and SAS. In 2015 Ryanair had a capacity at 128 249 million ASK and easyJet had a capacity of 83 848 million ASK. In 2015 NAS established 37 new routes, which will increase the capacity in future.

Figure 29. Available Seat Kilometers

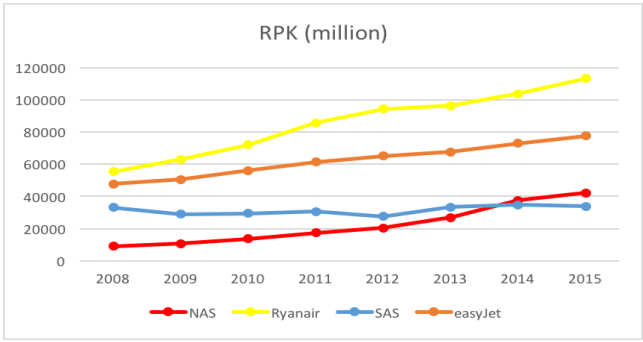


(Source: Own creation & Annual reports (a-h))

5.4.2 Revenue Passenger Kilometer (RPK)

RPK is a measure of the volume of passengers carried by an airline. The definition of RPK is number of occupied seats multiplied by the distance flown. (Norwegian (a)) Figure 29 shows the development in the number of RPK from 2008 to 2015. As we can see NAS, Ryanair and easyJet has an increasing RPK. Their RPK increase at the same levels as ASK. In 2015 NAS had a RPK of 42 284 million kilometers, which is an increase of 12.41% from year before. When looking at RPK, Ryanair is far the biggest airline.

Figure 30. Revenue Passenger Kilometer

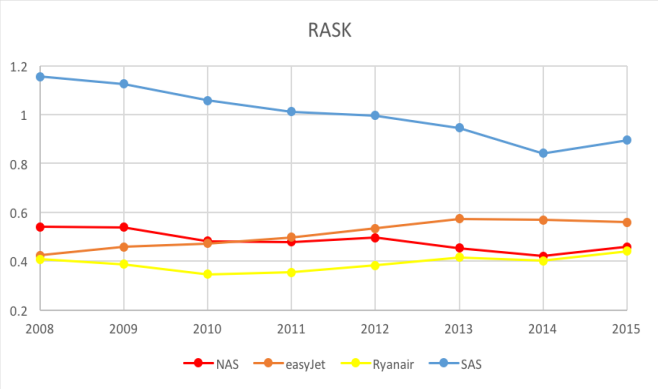


(Source: Own creation & Annual reports (a-h))

5.4.3 *Revenue Available Seat Kilometer (RASK)*

RASK is a measure of how much ticket revenue one single seat generates on average per kilometer flown. (Norwegian (a)) The definition of RASK is revenue divided by ASK. As the figure 30 shows, RASK has increased by 9% from year 2014 to 2015. Looking at its competitors both Ryanair and easyJet have a RASK which is in same level of NAS.

Figure 31. Revenue Available Seat Kilometer

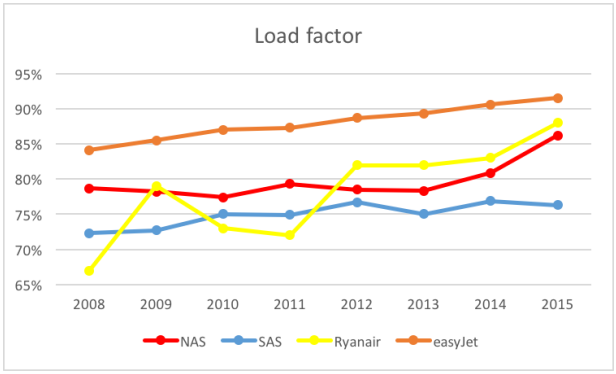


(Source: Own creation & Annual reports (a-h))

5.4.4 Load factor

Load factor describes the utilization of the available seats and can be calculated by RPK divided by ASK. (Norwegian (a)) Load factor is an important parameter for assessing the performance of the airline, because it shows how full the plane an airline are flying per flights. If load factor is 100% it means that all the plane is fully filled. As seen in the figure 31 LCC´s has more filled seats than the full service airline SAS. This is mainly because SAS has the largest fleet and therefore it is natural that they would have a higher ASK, this will give SAS a lower load factor per plane. The outcome is then that SAS would have more unused seats on their average flight than the competition. If we compare NAS with the other LCC's Ryanair and easyJet, we can clearly see that the NAS have a low load factor compared to them. easyJet scores higher on load factor than NAS and Ryanair. In 2015 easyJet had a load factor of 91,5% i.e. nearly full aircraft. NAS had a load factor of 86,2% while Ryanair had a load factor of 88%.

Figure 32. Load factor

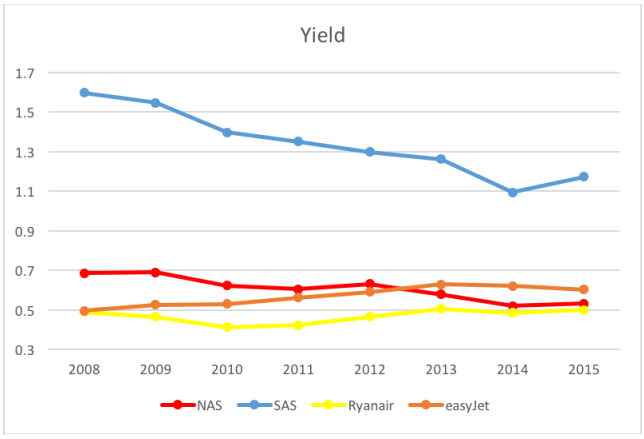


(Source: Own creation & Annual reports (a-h))

5.4.5 Yield

Yield is passenger revenue in relation to RPK. (SAS (a)). As seen in figure 32, the yield fell from 0.69 øre in 2008 down to 0.53 øre in 2015. This corresponds a fall of 30 percent in 7 years. Increasing in passenger numbers ensures however that the total revenue form ticket has increased. The reason for low yield is the long-haul routes NAS offer, because a longer distance gives low yield. Compare with its competitors Ryanair and easyJet seems to move in same direction in terms of yield. As we can see SAS has the highest yield per km, and in 2015 it was 1.17 SEK probably because of their business strategy.

Figure 33. Yield



(Source: Own creation & Annual reports (a-h))

6 Forecasting

In this chapter we are going to use the key drivers, and information found in the strategic analysis (chapter 4) and financial analysis (chapter 5) to estimate the future free cash flow to NAS for our valuation. We will first estimate the development in the key drivers ASK, Yield and Load Factor. These key factors will be used to calculate the future revenues and operating cost of NAS.

Before we start our estimation it is important to set a forecast period before calculating the forecasted financial statements.

6.1 Income statement

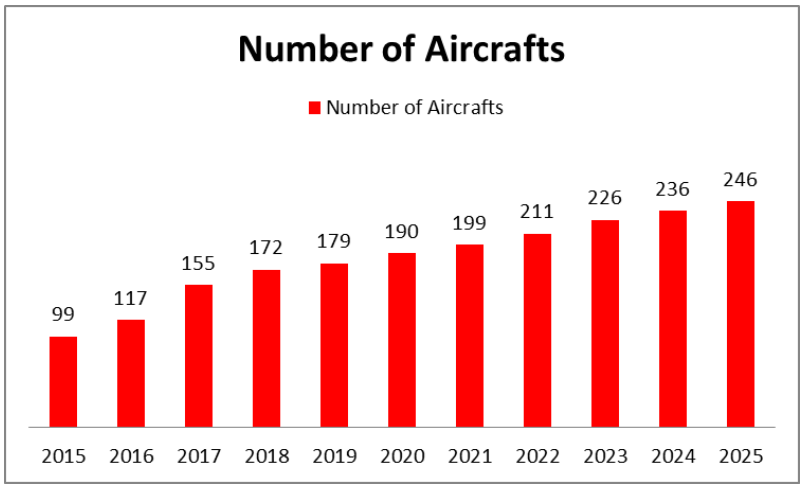
6.1.1 Revenues

To forecast future revenue for NAS, it is natural to look at the key drivers behind the growth in revenues. Revenue is affected by the capacity and the efficiency of NAS. The capacity is measured in ASK as mentioned in the strategic analysis, and the efficiency is measured by the yield and load factor. The forecasted income statement can be found in Appendix 18.

6.1.1.1 The Fleet

NAS are continuously expanding and renewing its fleet, and this leads us to our first step, to calculate the average number of aircrafts NAS has in each year in the forecast period. To estimate our fleet, we have used the current committed fleet plan reported in NAS annual report 2015, their order of 100 A320neo from Airbus and their order of 100 737 MAX 8 from Boeing. This was done under the assumption that the remaining planes not yet delivered by Airbus and Boeing is delivered over our forecast period. NAS also replaces each plane after every seven years, which means every eight years they will sell the old and replace it with a new. This led us to that the order of 200 aircrafts from Airbus and Boeing were to replace the old 737 800 and continue the expansion of NAS's fleet. This estimation will be the base where we will calculate the estimated ASK.

Figure 34. Number of aircrafts



(Source: Own creation & Annual reports NAS (a-h))

6.1.1.2 ASK

ASK is the total number of seats multiplied by the total distance of kilometer flown. NAS is dependent on their fleet capacity to generate revenue. This capacity is measured in ASK. To estimate the ASK per aircraft it is necessary to look at the historical ASK. The problem by doing this is that NAS operates with short-haul aircrafts and long-haul aircrafts. So what we have done is dividing the annual ASK into seats, given that planes bought in the operating year only yields half the seats as a estimation since we don't know when it started operating its routes. Then we calculate the contribution given by short-haul aircrafts by their seat

numbers, and long-haul by their seat numbers. The long-haul operations utilize two aircrafts, the Boeing B787-800 Dreamliner and the Boeing B787-900 Dreamliner. The two aircrafts have a different number of seats, and the B787-900 with 54 more seats will not be delivered until the year 2016. To estimate the contribution of the B787-900 Dreamliner in ASK we have looked on the percentage difference in seats between the two aircrafts. The B787-900 has an increase in seats of 18%, so calculating the contribution given by the B787-900 is 18% more than the B787-800. NAS is also changing their short haul fleet by replacing the old B737 800 with the airbus A320 and the Boeing 737 Max 8. Since we don't have any historical information on the new short haul planes, we will assume that the planes will on average be the same as the old B737 800 aircrafts. By calculating the average ASK contribution for long-haul and short haul using the historical information from the annual reports of NAS we could calculate an ASK per short-haul aircraft and ASK per long-haul aircraft. We expect no growth in ASK per plane due to the heavy investment in new aircrafts. With this information and the estimated fleet, we could estimate future annual ASK.

Table 7. ASK Forecasting

Year	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Short Haul	105	134	144	151	162	171	183	198	208	218
Long Haul B789 Aircrats	4	7	9	9	9	9	9	9	9	9
Long Haul B788 Aircrafts	8	14	19	19	19	19	19	19	19	19
Number of Aircrafts	117	155	172	179	190	199	211	226	236	246
ASK Per Short Haul	442 068	442 068	442 068	442 068	442 068	442 068	442 068	442 068	442 068	442 068
ASK Per Long Haul	781 383	781 383	781 383	781 383	781 383	781 383	781 383	781 383	781 383	781 383
Short Haul Contribution	46 417 153	59 237 129	63 657 810	66 752 287	71 615 037	75 593 650	80 898 467	87 529 489	91 950 171	96 370 852
Long Haul Contribution	9 945 848	17 405 234	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540
ASK Estimated	**56 363 001**	**76 642 363**	**86 817 351**	**89 911 827**	**94 774 577**	**98 753 190**	**104 058 008**	**110 689 030**	**115 109 711**	**119 530 392**
Growth	*21 %*	*36 %*	*13 %*	*4 %*	*5 %*	*4 %*	*5 %*	*6 %*	*4 %*	*4 %*

(Source: Own creation & Annual report NAS (a))

The model is based upon the given information on the fleet from the annual report 2015 for the years 2016-2018 and the remaining years are based upon our knowledge of their orders assuming that the aircrafts will be delivered linear across the remaining forecast period. The fact that they will replace every plane after 8 years and the knowledge given by historical information given by the annual reports will give us an overview when a plane will be phased out. As mentioned in the strategic analysis, there is a big increase in demand for long-haul flights, which is in accordance with NAS strategy of increasing their long-haul fleet. Calculations done to find the forecasted ASK can be found in Appendix 21.

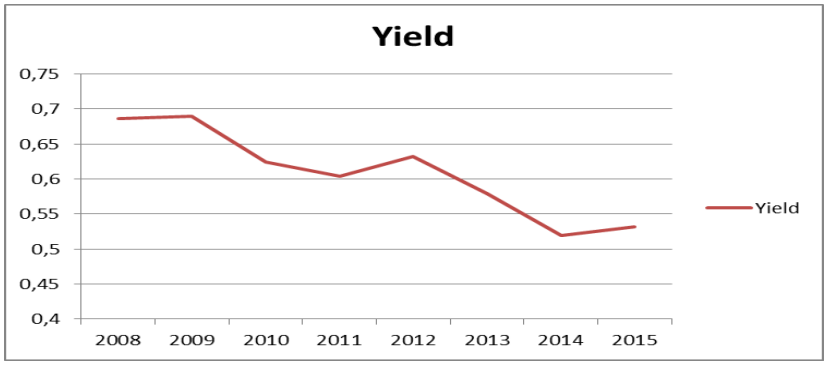
6.1.1.3 Load Factor

Since ASK measures the capacity, we also need to measure how much of the capacity is used. This is measured in load factor as mentioned in the financial analysis in the previous chapter. The load factor measures how much of the available seats are sold. In 2015 NAS had a growth factor of 86,2% compared to 80,9% in 2014. We calculated NAS to have an average load factor of 79,7% with an average growth of 1,34%. Since NAS never had a load factor of 86% before and given their big investments, we don't think that 86,2% is a good anchorage for the estimation of future load factor. This leads us to rather use the average load factor times the average growth to find future estimated load factor for each aircraft. This will give us a much more realistic estimation, by removing the anomaly. Given the fact that NAS will mainly have their growth on their new transatlantic routes, and in the market they already operate we believe they may be able to improve their load factor. This is supported by their historical growth in load factor, and being the first low-cost carrier company to start with transatlantic routes among the low-cost carrier companies in Europe backed up by one of Europe's newest fleet. The increase in efficiency of load factor is also supported by the findings in the strategic analysis. It can be linked back to the open skies agreement referred to in chapter 4.

6.1.1.4 Yield

The average ticket price paid per passenger per kilometer flown. As stated in our Porter Five Forces analysis chapter 4.2.5 we mention that the rivalry between the competition is highly driven by prices. As a low-cost carrier company will compete with low prices reducing the margins of the company, and thus reducing the yield.

Figure 35. Yield



(Source: Own creation & Annual reports NAS (a-h))

The yield is from 2008 to 2015 falling on average by 2,2% each year. Due to the fact that NAS is a low-cost carrier they compete on lower prices, and thus needs to take precautions for a declining yield. One of these is the continuous modernization of their fleet. The new aircrafts will be more fuel efficient and reduce the cost of fuel. As shown in our financial analysis we know that NAS have a lower operating margin than both EasyJet and Ryanair, this is due to higher operating cost and offering lower prices to keep up with the competition. The reduction in fuel cost will lead to NAS competing on lower prices lowering the yield. The operating margin is further driven by the development of fuel cost as mentioned and labour cost. Since NAS is under Norwegian law and has to offer their employees Norwegian salaries, they score worse as well as Ryanair and EasyJet. This is being counter measured with moving parts of the company abroad to compete on more competitive prices as mentioned in the strategic analysis chapter 4 under the EU-US Open Sky agreement. We believe that NAS will continue to improve their operating margin and thus offering lower prices driving the yield down due to the competition in the market.
Based on the strategic analysis and the negative growth in yield we foresee a stable negative growth of the historical 2,2% reduction in the yield, giving us the forecast in table 8.

6.1.1.5 RASK

Since we already have forecasted the yield and the load factor, it is easy to find the future RASK. RASK is the revenue per available seat kilometer. To find the RASK we just have to multiply the yield with the load factor. The table below shows our estimates of future load factor and yield multiplied to give us the Passenger Revenue.

Table 8. Revenue calculation

Revenue Calculations	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Load Factor	80,76 %	81,84 %	82,94 %	84,06 %	85,19 %	86,33 %	87,49 %	88,67 %	89,86 %	91,06 %
Yield	51,61 %	50,07 %	48,58 %	47,13 %	45,73 %	44,37 %	43,05 %	41,77 %	40,53 %	39,32 %
RASK	41,68 %	40,98 %	40,29 %	39,62 %	38,96 %	38,31 %	37,66 %	37,03 %	36,42 %	35,81 %
ASK	56 363 001	76 642 363	86 817 351	89 911 827	94 774 577	98 753 190	104 058 008	110 689 030	115 109 711	119 530 392
Passenger Revenue	23 490 523	31 408 002	34 982 496	35 623 283	36 921 710	37 828 048	39 193 238	40 993 317	41 917 299	42 798 891

(Source: Own creation & Annual report NAS (a))

Even though the load factor is quite high and the yield is quite low we still get a good estimate of the RASK since a lower load factor would be a result of higher prices leading to a lower reduction in the yield.

6.1.2 Ancillary Revenue

The Ancillary Revenue is calculated as a percentage of the passenger revenue due to the fact that it is based on the sale from the flights. We calculated a of ancillary revenues to be on average 15% of passenger revenue.

6.1.3 Operating expenses

Operating historical and forecasted analysis of operating expenses can be found in Appendix 20.

6.1.3.1 Sales and distribution expenses

These costs have NAS kept below 3 % past the seven years, this is due to the evolution of purchasing tickets on-line. As we mentioned in our strategical analysis, the development of the Internet has made it easier for passengers to book tickets online. It clearly shows that more than 80 % of passengers travelling with NAS book their tickets via website. The average for the past 7 years 2008-2015 is at 2.15 % of total revenues. We estimate the sales and distribution cost to stay stable at 2 % of the revenue until 2025.

6.1.3.2 Jet fuel

Fuel cost was estimated using the correlation between crude oil and jet fuel prices. Since crude oil is valued in barrels we needed to convert our historical annual consumption from tons as listed in the annual reports from NAS to barrels. We ran a regression on jet fuel to crude oil giving us a formula to calculate the future price of jet fuel per barrel. Further we used World Banks future estimates of the crude oil prices from 2016 to 2025 to calculate the future annual jet fuel price per barrel in the forecast period. (World Bank, 2016)

The fuel cost per barrel was estimated using the annual consumption of jet fuel in tons and converting it from tons to liter, liter to gallons and gallons to barrels. The conversion was done using the fuel density l/kg of 0,804 for jet fuel and converted it to kg/l of 119,24. Since one barrel equals 42 gallons, we converted the historical annual consumption per year in liters to gallons, and from gallons to barrels. This gave us the yearly consumption in barrels instead of tons. Since the fuel cost is based upon jet fuel consumed when operating the aircrafts, it would be logical that fuel is one of the main drivers behind ASK. Based upon this assumption we calculated how many barrels was used to generate one ASK. This was done by dividing the barrels used divided by ASK generated in each year.

Table 9. Calculation of Barrels/ASK

Year	2010	2011	2012	2013	2014	2015	Average
Consumed Fuel Per Tonn	423683	497909	569631	735006	981243	1015337	703801,5
Fuel Density L/KG	0,804	0,804	0,804	0,804	0,804	0,804	0,804
Kg/L	119,2404712	119,2404712	119,2404712	119,2404712	119,2404712	119,24047	119,24047
Consumed Fuel Liter	526968,9055	526968,9055	526968,9055	526968,9055	526968,9055	526968,91	526968,91
Liter to Gallons	0,264172	0,264172	0,264172	0,264172	0,264172	0,264172	0,264172
Consumed Gallons	139210,4297	163599,0253	187164,8763	241502,4938	322409,1117	333611,45	231249,56
Gallons to Barrels	42	42	42	42	42	42	42
Consumed Barrels Annual	3314,53404	3895,214888	4456,306578	5750,059377	7676,407421	7943,1298	5505,942
ASK	17804000	21958000	25920000	34318000	46479000	49028000	32584500
Barrels/ASK	**0,000186168**	**0,000177394**	**0,000171925**	**0,000167552**	**0,000165159**	**0,000162**	**0,0001717**

(Source: Own creation & Annual report NAS (a-f))

Using this information, we calculated an average growth of approximately -2%. This was then used to calculate the development between Barrels and ASK. This was used to capture the improvement in fuel consumption generated by continuously renewing their fleet as mentioned in our strategic analysis. Since NAS haven't received the new aircraft's A320neo and B737 MAX 8 there is no actual information available on what kind of impact it will have on the jet fuel consumption we used the historical improvement and not the given improvement from Boeing and Airbus since they might be biased. Also since we don't know exactly when the new planes will be delivered and is based upon our assumptions, we felt that the historical annual growth would be a better measure off the growth in Barrels/ASK.

Jet Fuel Price per Barrel

The regression gave us the formula:

$$Jet\ fuel\ price = 4.5497 + 1.1106 * oil\ price$$

We used the regressed formula for jet fuel price and used the forecasted crude oil prices per barrels to calculate the future jet fuel prices. The problem is that crude oil barrels are priced in dollars, and due to high volatility in the currency market. Due to this the current currency was used to do the calculations. The Regression can be found in Appendix 15.

Table 10. Forecasted Jet fuel NOK/Barrel

Year	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Crude oil, avg, spot $/bbl	41	50	53,3	56,7	60,4	64,4	68,6	73,1	77,9	82,6
USD/NOK	8,2692	8,2692	8,2692	8,2692	8,2692	8,2692	8,2692	8,2692	8,2692	8,2692
intercept	4,54968958	4,54968958	4,54968958	4,54968958	4,54968958	4,54968958	4,54968958	4,54968958	4,54968958	4,54968958
X-variable	1,11059885	1,11059885	1,11059885	1,11059885	1,11059885	1,11059885	1,11059885	1,11059885	1,11059885	1,11059885
Jet fuel USD/Barrel	50,08	60,08	63,74	67,52	71,63	76,07	80,74	85,73	91,07	96,29
Jet fuel NOK/Barrel	**414,16**	**496,81**	**527,12**	**558,34**	**592,32**	**629,06**	**667,63**	**708,96**	**753,04**	**796,20**

(Source: Own creation & World Bank)

With the forecast of generated ASK per Barrel we can use the forecast of ASK and multiply it to find how many barrels will be used in the forecast period. Multiplying the forecasted barrels with the number of barrels used each year will give us the total fuel cost each year.

Table 11. Fuel cost

Year	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Barrels/ASK Estimation	0,000162012	0,000159314	0,000157059	0,00015517	0,000153583	0,000152248	0,000151123	0,000150174	0,000149372	0,000148694
ASK	56 363 001,19	76 642 362,70	86 817 350,58	89 911 827,48	94 774 576,89	98 753 190,05	104 058 007,59	110 689 029,51	115 109 710,79	119 530 392,08
Barrels used	9 131,49	12 210,22	13 635,46	13 951,57	14 555,73	15 034,93	15 725,52	16 622,56	17 194,15	17 773,46
Cost Per Barrel	414,16	496,81	527,12	558,34	592,32	629,06	667,63	708,96	753,04	796,20
Fuel Cost	**3 781 866**	**6 066 164**	**7 187 482**	**7 789 746**	**8 621 673**	**9 457 826**	**10 498 806**	**11 784 655**	**12 947 838**	**14 151 247**

(Source: Own creation & World Bank)

Jet fuels calculations can be found in Appendix 14, 15 and 16.

6.1.3.3 Airport charges

Airlines must pay fees to use the facilities on the airports. The fee includes landing, use of runway, terminal, security and other cost that are related to use of the airport. As NAS is increasing its routes, airport charges will also increase due to the use of airport facilities. The development of airport charges has been correlated with the airport activity with an average of 14.07 %. Since the airport costs have been between 13 and 14 percent, we choose to keep it at 14% in our estimation on airport charges.

6.1.3.4 Handling charges

Handling charges are cost related to activity on airport such as ground crew, baggage handling, refuelling etc. This cost has been somewhat stable in the past seven years with an average of 9.54 % and is estimated to be 10 % of revenue in the forecast period.

6.1.3.5 Technical maintenance expenses

The technical maintenance expenses are related to repairing/ inspection of the aircrafts. As we can see that the technical maintenance expenses have been declining from 2008 to 2013 where it went up again. Since NAS started using the Boeing B787-800 Dreamliner for the first time in 2013 it is natural to assume these cost is due to the new type of planes and need to figure out how to improve the maintenance cost. In our forecast income statement, we estimate these cost to stay stable at 7 % until 2025. We believe that with the new planes the fleet will become more uniform. With a more uniform fleet we assume that the technical expense will stabilize and remain at a given level. Based on this we believe that the ratio in 2015 will be the best estimate. This estimate is also approximately the same as the historical average.

6.1.3.6 Other operating and aircraft expenses.

Other operating expenses are related to the operating of systems, marketing, back office and other costs not directly attributable to the operating of the aircraft fleet and related airline specific costs. (Norwegian (a)) As we can see this item has been fluctuating over the past 8 years between approximately 6% and 4 % with an average of 4.95%. In our forecast statement we assume this cost to stay stable at 5 % during the forecasting period.
Other aircraft has been declining over the last 7 years and total amounted to 4.26 percent in average. We assume therefore that this item should not constitute more than 4% in our forecast calculations, therefore it is set equal to 4% during the coming years.

6.1.3.7 Payroll

Other than improving their fleet, NAS is also trying to cut the labour cost. NAS follow Norwegian law, and have to pay Norwegian salaries. To compete with the competition from Ryanair and EasyJet they have moved some of the company to other countries, they have established two subsidiaries one in Ireland and one in England as mentioned in the strategic analysis. The benefit of having these subsidiaries is that NAS can offer more competitive salaries on their international flights from the subsidiaries circumventing the Norwegian legislation. From the strategic analysis we found that the subsidiaries are dependent on the approval of the US foreign carrier permit. We believe that NAS will get their approval for their English subsidiary and not their Irish subsidiary, since an Irish approval will give NAS the chance to use Asian labor instead of European or American. So going forward we believe

that NAS will reduce their salaries, but not at the level they would get from their Irish subsidiary NAI.

We also found that the bargaining power of employees was strong in the Porters Five Forces model in chapter 4.2.4.2. NAS still has to pay their pilots operating from the parent company NAS Norwegian salary, and with strong bargaining power from the labor unions will prevent some of the salary reduction. NAS have also state that they will not use Asian labor on their long-haul routes between the EU and the US. They will operate with crew from Europe and the US.

Due to so much uncertainty we believe that the best estimation would be last years ratio in 2015. The ratio was approximately 15% of revenues. The historical average would give us an inflated percentage since it doesn't include the reduction on salary like the ratio in 2015.

6.1.3.8 Depritiation and Amortisation

We forecast depreciation as a percentage of tangible assets. Koller et al. recomends that depritiation should be calculated from tangible assets if the depritiation is not smooth, and if it is smooth you could use revenues to calculate the percentage ratio. When calculating the rartio between revenues and depriciation we found that the best way was to use tangible assets. The revenue showed high volatility in the ratio from year to year, while the tangible assets ratio were close to the average with little volatility. This gave us a ratio of 4,3% for depriciation of revenues.

Amortisation was calculated on a similar basis. We used a ratio of amortisation divided by intangible assets. The average equaled the ratio from 2015 and gave us a amortization/intangible assets ratio of 22 percent.

6.1.3.9 Operating Lease

Since the effect of leasing an asset will substitute lease payments as a tax deduction rather if you owned the asset, you would only get the depreciation on the asset. The asset is not listed in the balance sheet, so it is a form off-balance sheet financing. This makes it necessary to adjust the estimated cash flow for the operating lease.

We start with estimating the financial lease cost as a percentage of revenues. We find that the ratio averages at around 9% of revenues. We further use this estimation with the forecasted revenues to estimate future lease cost. We find that this is a good estimate since part of the fleet is leased, and we don't have good information telling us what part of the fleet is leased and what is owned. We then know revenue is driven by ASK and leased plane will drive the ASK so it feels natural to make the connection that the leasing cost will follow the growth in revenues, since the leased aircrafts will drive the ASK which in turn will drive the revenues. Now that we have an estimate for the future lease cost we can calculate the value of the capitalized operational lease commitment. This is done by using Moody's multiplier. We used the same multiplier when calculating the reformulated statements in chapter 5. From this we calculated the lease interest by multiplying the cost of debt with the lease commitment, and the lease depreciation by subtracting the lease interest cost from the lease cost. This gives us the following information:

Table 12. Calculation of Operating lease cost

Year	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Operational Lease Cost	2 473 552	3 307 263	3 683 657	3 751 132	3 887 856	3 983 293	4 127 048	4 316 596	4 413 892	4 506 723
Multiplier	8	8	8	8	8	8	8	8	8	8
Capitalized Lease	19 788 417	26 458 101	29 469 255	30 009 053	31 102 849	31 866 348	33 016 384	34 532 771	35 311 133	36 053 786
Intrest Capitalized Lease	1 286 247	1 719 777	1 915 502	1 950 588	2 021 685	2 071 313	2 146 065	2 244 630	2 295 224	2 343 496
Depritiation Capitalized Lease	1 187 305	1 587 486	1 768 155	1 800 543	1 866 171	1 911 981	1 980 983	2 071 966	2 118 668	2 163 227

(Source: Own creation)

6.2 Balance Sheet

The Forecasted Balance Sheet can be found in Appendix 18.

6.2.1 Net Working Capital

Operating working capital consists of current operating assets and current operating liabilities. Operating current assets consist of inventory and trade receivables. Operating current liabilities consist of trade and other payables and air traffic settlement liabilities. The change in operating working capital affects the cash flow. We looked at the historical relationship between the operating current assets and the operating current liability towards the revenue in percentage.

6.2.2 Current Operating Assets

We calculated the relationship between the historical operating current assets found in the reformulated balance sheet found in Appendix 18 and the historical revenues found in the reformulated income statement in Appendix 2. We found that the historical average would be a good estimation for future inventory and trade receivables.

Table 13. Historical precentage of current operating assets

Year	2008	2009	2010	2011	2012	2013	2014	2015	Average
Inventory	0,5 %	0,6 %	0,8 %	0,8 %	0,5 %	0,5 %	0,4 %	0,5 %	0,6 %
Trade recivables	15 %	11 %	10 %	10 %	9 %	10 %	11 %	11 %	11 %

(Source: Own creation & Annual reports NAS (a-h))

6.2.3 Current Operating Liabilities

We calculated the relationship between current operating liabilities the same as we did the current operating assets.

Table 14. Historical Percentage of current operating liablilities

Year	2008	2009	2010	2011	2012	2013	2014	2015	Average
Trade and other payables	11 %	10 %	13 %	12 %	12 %	13 %	14 %	13 %	12 %
Air traffic settlement liabilities	10 %	11 %	11 %	11 %	14 %	17 %	15 %	18 %	15 %

(Source: Own creation & Annual reports NAS(a-h))

Note that in the air traffic settlement liabilities we only used a 5-year average, since the first years have a relative low ratio compared to the ratio of the last years.
By looking at the changes in the net working capital from year to year we get the cash flow effect of the operating working capital.

Table 15. Forecasted changes in net working capital

Year	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
ΔNWC	406 512	-1 296 883	-585 502	-104 961	-212 682	-148 458	-223 618	-294 853	-151 348	-144 405

(Source: Own creation)

6.2.4 Non-Current Operating Assets

To forecast the net investment and get the forecasted invested capital we need to calculate the non-current operating assets.

Tangible Assets

The tangible assets consist of aircraft parts and installation, equipment and fixtures, buildings, prepayment to manufactures, financial lease asset and other receivables. All tangible assets where calculated using the percentage of revenues to forecast future estimations.

Aircraft parts and installation were based upon a measure between the average estimation and the last year ratio. The two previous years were considerably large, and the prior years to 2014 was considerably low we choose to use the prior five years instead of the prior eight years to calculate the average. We believe this was the best estimation since it captures the recent increase, and it's not too much influenced by the prior low years of 2014. This leads to an average percentage of revenues of 55%.

Equipment and fixtures have a stable percentage of revenues, so we expect the equipment and fixtures will follow the historical average percentage of 0,4%. The aircraft fleet will be expanded which lead us to believe that equipment and fixtures should follow a proportional growth with the revenues, since the revenues are driven by ASK, and ASK is further driven by the air fleet.

Buildings follow a historical average percentage of revenues. We can see an increase the latest year. It increased from 0,1% to 1,27%. The increase is mainly driven by the increase in investment and employees. Since they are increasing their capacity in their air fleet they need more employees. This leads to an increase in buildings. We expect buildings to follow a 2-year average percentage of revenues of 1,28%. Buildings consist the purpose of housing crew, and trainees outside Norway.

Financial Lease Asset is equipment used for de-icing and we believe this will follow the historical average percentage of revenues of the last four years of 15%. As the fleet increases we believe that the need for de-icing equipment will increase with it.

Prepayment to manufactures is payment made to the manufacturer before the delivery of the aircraft. We believe that this will follow the historical average as a percentage of revenues of 20%.

Intangible assets, non-operating current assets and the non-operating non-current assets were calculated using the historical average percentage of revenues. The fully forecasted balance sheet drivers can be found in Appendix 17 and the forecasted balance sheet can be found in Appendix 18.

7 Valuation

In the following section we will discuss the cost of equity, cost of the debt which we will use to calculate the WACC. After that we will use WACC to discount the free cash flow to obtain a share price of NAS.

7.1 Weighted Average Cost of Capital (WACC)

The value of the firm is obtained by discounting the free cash flow to the firm at the weighted average cost of capital (WACC). The WACC is a calculation of a firm´s required return on the total assets. The cost of capital is the total return required on both debt and equity holders. There are two components of WACC; cost of equity and cost of debt. We can calculate the weighted cost of capital (WACC) by following formula:

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

Where:

$\frac{E}{v}$ = Target level of equity to enterprise value

$\frac{D}{V}$= Target level of debt to enterprise value

r_e = Cost of equity

r_d = Cost of debt

t = Corporate tax rate

In the following section we will discuss the cost of equity, cost of the debt and financing.

7.1.1 Cost of Equity

The cost of equity is a part of a company´s capital structure. This represents required rate of return by the shareholders. The most common way to calculate the cost of equity is based on the Capital Asset Pricing Model (CAPM). CAPM is a model that addresses the relationship between risk and expected return. (Fama & French, 2004) We use CAPM to find the required return for investment that contains risks. The CAPM can be expressed as the following equation:

$$E(R_e) = R_f + \beta_e\left[E(R_m) - R_f\right]$$

Where:

$E(R_e)$ = Expected return on equity

R_f = Risk-free rate

β_e= Equity beta

$\left[E(R_m) - R_f\right]$ = Market risk premium (MRP)

7.1.2 Risk-free rate

The risk-free rate is an interest rate that an investor would expect from a risk-free investment. In our task we will use the government bonds as the risk-free rate. The time horizon of a project will determine whether one should use government bonds with long-and short-term. It is common to use 10-years government bonds for long-term projects. A survey done by (PWC, 2015) shows that 33 percent of the respondents answering that 10-years government bond should be used as a risk-free rate of required on equity for Norwegian companies. Based on this survey we will choose to estimate risk-free rate with the Norwegian 10-years government bond, which was 1.57 percent in the end of 2015. (Norges Bank, 2016)

7.1.3 Beta estimation

In CAPM, the beta of an investment is the risk that the investment adds to a market portfolio. This is the market systematic risk, which cannot be diversified away. Beta measures the correlation between the market and the stock. Beta cannot be observed directly, and must

therefore be estimated. Beta greater than 1indicates that the stock has a larger systematic risk than the market portfolio as whole. The systematic risk will be lower than the overall index for a stock with a beta lower than 1. The higher the beta, the higher sensitivity. A stock´s beta should be estimated by regressing the firm´s excess stock returns on the excess returns of a market portfolio. (Sheridan & Johan, 2014) We estimate raw beta by using regression model.

$$R_j = \alpha + \beta * R_m + \varepsilon$$

Where:

R_j = Stock´s return

α = Intercept from the regression

β = Slope of the regression

R_m = Market´s return

ε = Error term

The slope of the regression is represented by the beta, and measures the volatility of the stock.

There are three estimation decisions that must be made in setting up the regression. (Damodaran, p. 188) The first concerns the choice of estimated period. Usually we use a time horizon of 5 years. The reasoning behind this is that a firm will change significantly over time, and will therefore give a misleading picture of risk for the future. The second concerns the issue related to the return interval whether annually, monthly, weekly or daily returns that can be used to estimate the regression. In our regression, we will use monthly returns in our task, because it tends to be less volatility in these returns compared with applying the daily rates of one year. The third issue is related to the choice of a market index. Damodaran recommends to use Morgan Stanley Capital International (MSCI) World index or the Standard & Poor´s 500 (S&P 500) index because these indicate well diversified index. (Damodaran, p. 188) Damodaran have calculated beta value of 20 airlines and found that the unlevered beta of air transport is 0.81. (Damodaran online, 2016) We can use the formula below to calculate the levered beta.

$$\beta_L = \beta_U \left[1 + (1 - t)(\frac{D}{E})\right]$$

Where:

β_L = Levered beta for equity in the firm

β_U = Unlevered beta of the firm (beta without any debt)

t = Tax rate

D/E = Debt-to-equity ratio (Market value)

$$\beta_L = 0.81 * [1 + (1 - 0.25) * 0.7708] = \mathbf{1,28}$$

Some countries are only weighted with few numbers of industries therefore it is important to avoid domestic market index. This is because the domestic market index will often be based on specific industry instead of the whole market. Oslo Stock Exchange (OSEBX) is heavily represented by the oil industry, and jet fuel constitutes a large part of the cost of NAS, and if we assume everything else equal an increase in oil price will reduce the share price of NAS. Therefore, we should not use OSEBX when measuring NAS´s beta. In our task we will use MSCI World index and S&P 500 index to analyse NAS. The regression is based on the monthly returns over a period from March 2010 to March 2016 (73 observations) See Appendix 1 for all calculation. The table below shows the estimated raw beta.

Table 16. Estimating of raw beta

	NAS/S&P 500	NAS/MSCI World
Raw Beta NAS	0,86	1,12

(Source: Own creation& Yahoo Finance)

The result from regression shows that the beta obtained from the regression of NAS return against MSCI World is almost same industry beta, also MSCI World is a better measurement for the overall market that SP500. A beta of 1,12 will therefore be used for estimated the CAPM model.

7.1.4 Market risk premium

The market risk premium is equal to the expected return on an investment minus the risk-free rate. The difference between the expected return on an investment and the risk-free rate

reflects the yield an investor demand for taking risk. This is based on the assumption that all individuals are rational and risk averse. In general, there are three concepts that are a part of market risk premium; historical market risk premium, required market risk premium and expected market risk premium. One way to estimating the expected market risk premium is to base it on the historical data. The historical market risk premium compares the historical return of the stock relative to the U.S. Treasury Bonds. There are many different studies of how risk premiums have been over time. A Study done by (Fama & French, 1989) shows that the risk is related to the business cycle. In good times, the risk premium is low, while it is high in bad times. Over the past years the Norwegian market faced large fluctuations and high volatility due to very low oil prices, even though the market has been affected by these large fluctuations the market risk premium has been unchanged for the past years. Damodaran has done several risk premium calculations for many countries around the world. In 2016 the Norwegian equity risk premium was 6%. (Damodaran online, 2016)

Another way to estimate the market risk premium is required market risk premium. A survey done by (PWC, 2015) shows that the market risk premium in Norway was 5% in 2015. The results from this survey show that the median of 5% for market risk premium has been unchanged from period 2011 to 2015. Based on the arguments we will use a market risk premium of 5.5 % in our calculations.

We have reviewed the preceding chapters that have acquired the necessary data in order to estimate cost of equity (CAPM).

$$r_e = 0{,}0157 + (1{,}12 * 0{,}055) = 0{,}0773 = \mathbf{7{,}73}\%$$

7.1.5 Cost of debt

The cost of debt measures the current cost to the firm of borrowing funds to finance projects. Damodaran developed a method to estimate the cost of debt by looking at the “credit rating spread”. Credit spread also known as risk premium on debt is the different between corporate bonds and credit risk-free bonds. According to annual report 2015 NAS have an effective interest rate of 6,5% on the bond issue. We also calculated the average cost of debt from all debt giving us a cost of debt pretax of 3,92 % and using a credit rating we got a cost of debt pretax of 10,57%. The average between the credit rating and the average gave us a cost of

debt equal to 7,9%. From this information we feel that the best estimation for the cost of debt should be the bond issued. There was a big spread between the average cost of debt and the credit rating cost of debt. The average between these two is close to the bond issue, and with a low interest rate in Norway, we feel the average cost of debt is biased based on NAS operating on an international level, and the bond issue interest will capture all non-current interest. Appendix 11.

In the previous section, we mentioned that the risk-free rate was estimated on the basis of Norwegian 10-years government bonds, which is 1,57%. The Norwegian Ministry of Finance has changed the corporate tax rate from 27 percent in 2015 to 25 percent in 2016. For this task we will use 25 percent tax rate, because the forecast is done with the new 25% firm tax rate.

The cost of debt after tax is calculated as:

$$r_d = (r_f + r_s)*(1 - t)$$

Where:

r_d = required rate of return on net interest-bearing debt.

r_f = risk-free rate

r_s = credit spread (risk premium on debt)

t = corporate tax rate

. The cost of debt after tax for NAS is estimated as:

$$r_d = (0{,}0157 + (0.065 - 0{,}0157)) * (1 - 0{,}25) = 0.0487 = \mathbf{4,87}\%$$

7.1.6 Capital Structure

To calculate the WACC, we must first figure out how the company is financed. We must find out what proportion of the company consists of equity and debt. The market value of equity is founded by multiplying the number of outstanding shares at current share price. Per 31.12.2015 NAS had total 35 591 045 outstanding shares. (Norwegian (a)) The data collected from Oslo Stock Exchange (OBEX) shows that the share price per 31.03.2016 was 311.5 NOK.

$$Market\ Value\ of\ Equity = Share\ price * number\ of\ shares\ outstanding$$

In our task, we will use market value of interest-bearing liabilities to estimate the WACC. The items interest-bearing liabilities include are both long- and short-term financial liabilities. NAS stated interest-bearing liabilities of NOK 19 594 million in their annual report 2015. To get the market value of interest-bearing liabilities we add together interest-bearing liabilities from annual report 2015 and the operational leasing liabilities. The table below illustrates the market value of NAS.

Table 17. Calculation of market value of NAS

		Ratio	%
Market Value of Equity	(311.5*35 591 045) = 11 086 610 518	$\left(\frac{11,086,610,518}{48\ 377\ 010\ 518}\right)$	= 22.92 %
Market Value of Debt	(17 706 400 000+ 19 584 000 000) = 37 290 400 000	$\left(\frac{37\ 290\ 400\ 000}{48\ 377\ 010\ 518}\right)$	= 77.08 %
Total Market Value	48 377 010 518		100 %

(Source: Own creation& Annual report NAS (a))

All numbers included in WACC formula is now calculated, and we can estimate the weighted cost of capital as:

$$WACC = (0{,}2292 * 0{,}0773) + (0{,}7708 * 0{,}0487) = 0{,}0553 = \mathbf{5,53}\%$$

7.2 Firm value

The objective with the forecasted statements is to estimate the free cash flow to the firm. The forecasted cash flow can be seen in table 18.

Table 18. Calculation of FCFF

Year	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
NOPAT	4 203 280	5 043 272	5 294 035	5 038 051	4 810 682	4 460 389	4 096 622	3 682 030	3 091 853	2 458 560
Depritiation	1 083 482	1 208 014	1 345 497	1 370 143	1 420 083	1 454 942	1 507 450	1 576 685	1 612 223	1 646 131
Lease Depritiation	1 187 305	1 587 486	1 768 155	1 800 543	1 866 171	1 911 981	1 980 983	2 071 966	2 118 668	2 163 227
Amortization	78 604	105 097	117 058	119 203	123 547	126 580	131 148	137 172	140 264	143 214
ΔNWC	406 512	-1 296 883	-585 502	-104 961	-212 682	-148 458	-223 618	-294 853	-151 348	-144 405
Net Investment:										
Δ Non-Current Assets	2 694 509	10 019 701	6 413 340	1 149 696	2 329 632	1 626 147	2 449 417	3 229 693	1 657 803	1 581 748
Depritiation And Amortization	2 349 391	2 900 598	3 230 710	3 289 888	3 409 801	3 493 503	3 619 582	3 785 823	3 871 155	3 952 572
CAPEX	5 043 899	12 920 299	9 644 050	4 439 584	5 739 433	5 119 650	6 068 999	7 015 516	5 528 958	5 534 319
Free Cash Flow To The Firm (FCFF)	1 102 259	-3 679 546	-533 803	3 993 317	2 693 733	2 982 701	1 870 822	747 190	1 585 398	1 021 217

(Source: Own creation)

The second and third year have a negative cash flow, and this is due to a big order of aircrafts delivered in the year, which again leads to big capital expenditures before it falls down to a normal level the rest of the cash flow.

7.3 Terminal Value

Now that we have the cash flow for our forecast period, we need to calculate the Terminal value.

Cash flows cannot be estimated forever, you generally impose closure in discounted cash flow valuation by stopping the cash flow sometime in the future and calculate a terminal value that reflect the value of the firm at that point. (Damodaran 2012 p 304)

$$Terminal\ Value\ (TV) = \frac{FCFF * (1 + g)}{(WACC - g)}$$

where:

g = Growth rate

Our assumption follow's one of the three ways mentioned in Damodaran 2012 p 30-304 and assume that the cash flow generated by the firm will grow at a constant rate forever, with a

stable growth rate. We assume a long term growth rate of 2% since the inflation goal of Norway is 2% and the GDP should at least equal the inflation goal.

Table 19. Calculation of share price

Year	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
FCFF	1 102 259	-3 679 546	-533 803	3 993 317	2 693 733	2 982 701	1 870 822	747 190	1 585 398	1 021 217
Discount Rate	1,0553	1,1136	1,1752	1,2402	1,3088	1,3811	1,4575	1,5381	1,6232	1,7129
PV	1 044 505	-3 304 057	-454 214	3 219 885	2 058 201	2 159 582	1 283 569	485 785	976 738	596 190
TV	27 876 012									
PV FCFF	8 066 184									
PV TV	16 274 114									
Enterprise Value	24 340 299									
Net Debt	17 131 000									
BV Net Financial Assets	2 864 976									
Value Equity	10 074 275									
Shares Outstandings	35 591									
Value Per Share	**283,1**									

(Source: Own creation)

The enterprise value was calculating using the present value of the cash flow and summing it with the present value of the terminal value. Then we subtract the net interest-bearing debt and add the book value of net financial assets giving us the value of equity. Then we divided the value of equity giving us a value per share of **283,1 kr**. per share.

8 Sensitivity analysis

The valuation model is based upon our underlying assumptions about the future, and the sensitivity analysis will test the sensitivity of changes in the underlying assumptions. Our analysis will focus on some of the most important assumptions ASK, Rask, Jet Fuel, Payroll, the equity beta and the cost of debt and how changes in these assumptions will affect our valuation model.

8.1 ASK

As we mentioned earlier ASK is a measure of capacity and is one of the two factors used when estimating the future revenues. ASK is not the most sensitive factor, but with a 5% change in ASK will lead to a decrease in the estimated share price to 264,82 and with a decrease of 5% ASK the estimated share price goes up to 301,29.

Table 20. Sensitivity of ASK

Sensitivity of ASK	-5,00 %	-4 %	-3,00 %	-2 %	-1,00 %	0 %	1,00 %	2 %	3,00 %	4 %	5,00 %
Share Price	301,29	297,64	294	290,35	286,7	283,06	279,41	275,76	272,12	268,47	264,82

(Source: Own creation)

8.2 RASK

The reason behind the outcome of the sensitivity in ASK is due to the negative growth in RASK. RASK is one of the most important factors due to the fact that it generates the passenger revenues. Table 21 shows us how sensitive the share price is to changes in RASK. With a negative change of 1% the estimated share price will fall with NOK 57,68.

Table 21. Sensitivity of RASK

Sensitivety of RASK	-3,00 %	-2,00 %	-1,00 %	0,00 %	1,00 %	2,00 %	3,00 %
Share Price	109,73	167,5	225,38	283,06	340,83	398	456,38

(Source: Own creation)

8.3 Jet Fuel

The cost associated with jet fuel is NAS larges operating expense, and is thus important to include in our sensitivity analysis. This cost is highly dependent on the oil price and the currency between the Norwegian kroner and the American dollar. A change in these components would have a huge impact on the estimated share price. A 1% change in the oil price will decrease the estimated share price from NOK 283,06 to NOK 209,35. If both the components changes increases with 1% each the share price value changes from NOK 283,06 to NOK 134,66. The volatility in the oil price and the currency leads to uncertainty in the forecast. This uncertainty is shown in the table below, and this uncertainty is the main reason for airline companies are hedging the fuel cost.

Table 22. Senitivity of Crude oil/ Currency

Crude Oil/Currency	-5 %	-4 %	-3 %	-2 %	-1 %	0 %	1 %	2 %	3 %	4 %	5 %
-5 %	988,93	921,17	853,19	784,99	716,57	647,93	579,07	510	440,7	371,18	301,44
-4 %	921,17	852,47	783,55	714,41	645,04	575,44	505,62	435,58	365,32	294,83	224,11
-3 %	853,19	783,55	713,68	643,59	573,26	502,71	431,93	360,92	289,68	218,21	146,51
-2 %	784,99	714,41	643,59	572,54	501,25	429,74	357,98	286	213,78	141,33	68,64
-1 %	716,57	645,04	573,26	501,25	429	356,52	283,79	210,83	137,63	64,19	-9,49
0 %	647,93	575,44	502,71	429,74	356,52	283,06	209,35	135,4	61,21	-13,22	-87,9
1 %	579,07	505,62	431,93	357,98	283,79	209,35	134,66	59,72	-15,46	-90,89	-166,57
2 %	509,99	435,58	360,92	286	210,83	135,4	59,73	-16,2	-92,39	-168,8	-245,51
3 %	440,7	365,32	289,68	213,78	137,62	61,21	-15,46	-92,39	-169,57	-247	-324,72
4 %	371,18	294,83	218,21	141,33	64,19	-13,22	90,89	-168,82	-247,02	-325,5	-404,2
5 %	301,44	224,11	146,51	68,64	-9,5	-87,9	-166,57	-245,51	-324,72	404,2	-483,94

(Source: Own creation)

8.4 Payroll

As shown in the financial analysis NAS had a higher salary level than both Ryanair and EasyJet, and to compete on similar terms as their opposition NAS have started to move much of the company abroad. Since we didn't manage to capture this effect in the forecasted cash flow, it is important to see how sensitive the estimated share price is to changes in the payroll. The table below shows how changes in the payroll affect the estimated share price.

Table 23. Sensitivity of Payroll

Sensitivety of Payroll	-1,50 %	-1 %	-0,50 %	0 %	0,50 %	1 %	1,50 %
Payroll	230,3	247,89	265,47	283,06	300,64	318,225	335,81

(Source: Own creation)

8.5 WACC & GDP Growth

The present value of the forecasted cash flow and terminal value are dependent on the WACC and GDP growth. The WACC is calculated taking the weighted average of cost of debt after tax and weighted average cost of equity, so it is important to check both the cost of debt and cost of equity for its sensitivity towards the estimated share price.

The Cost of equity will have a smaller impact due to the fact that NAS is highly debt financed. So it will be natural that changes in cost of equity will affect the estimated share price less than the cost of debt as shown in the two tables below. (Changes in cost of equity is done using changes to the equity beta)

Table 24. Sensitivity of Equity Beta

Sensitivity of Equity Beta	-0,3	-0,2	-0,1	0	0,1	0,2	0,3
Beta	0,82	0,92	1,02	1,12	1,22	1,23	1,24
Share Price	359	331,93	306,66	283,06	260,96	240,22	220,73

(Source: Own creation)

Table 25. Sensitivity of Cost of Debt

Sensitivety of Cost of Debt	-3,00 %	-2,00 %	-1,00 %	0,00 %	1,00 %	2,00 %	3,00 %
Cost of debt	3,50 %	4,50 %	5,50 %	6,50 %	7,50 %	8,50 %	9,50 %
Share Price	862,65	583,98	406,44	283,06	192,08	122,06	66,37

(Source: Own creation)

The terminal value is highly dependent on the growth rate, so a change in the growth rate will lead to a high change in the estimate share price.

Table 26. Sensitivity of Growth

Growth Sensitivity	1,20 %	1,40 %	1,60 %	1,80 %	2 %	2,20 %	2,40 %
Share Price	217,4	237,1	258,9	283,06	309,92	340	373,94

(Source: Own creation)

8.6 Sensitivity Summary

The sensitivity analysis shows that small changes in the assumptions could lead to changes in the estimated share price. Of all the factors in the sensitivity analysis it was cost of debt alone which had the greatest impact, followed by changes in RASK. Combined the crude oil price and jet fuel price had the greatest impact, but only at the most extreme levels in the analysis. The sensitivity analysis shows us that a small change in one of the factors will give us a completely different estimate of the share price than the one we estimated in this paper and is the reason we do a sensitivity analysis.

9 Multiple approach

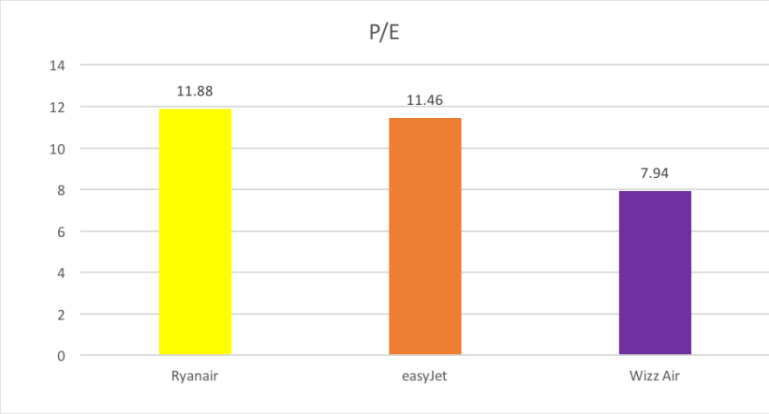
We will now use the multiple approach to get a value estimate for NAS shares per 31.03.16. As mentioned in section 5 we will only use P/E end EV/EBITDA approach to estimate the value of NAS. The multiple approach requires less time and resources than fundamental valuation. The airlines used in the valuation are all LCC's competing in the same market as NAS. We chose Ryanair and easyJet and Wizz air. We substituted Wizz Air with SAS since SAS is not a LCC and would not be a good comparable firm.The calculations of multiples can be found in Appendix 22.

9.1 P/E

As shown in figure 36, we can clearly see that the Ryanair has the highest P/E ratio, suggesting that the company is relatively highly priced compared to the competitions. We see that Wizz Air has the lowest P/E ratio than the other two LCCs, and easyJet have almost similar P/E as Ryanair. The average P/E for these airlines is 10,4 and with NAS´s EPS of

6,93 the company´s share price is calculated to be 72,26 NOK. This share price is very low compared to our estimated share price of 283,1 NOK.

Figure 36. Comparable companies P/E-ratio 2015

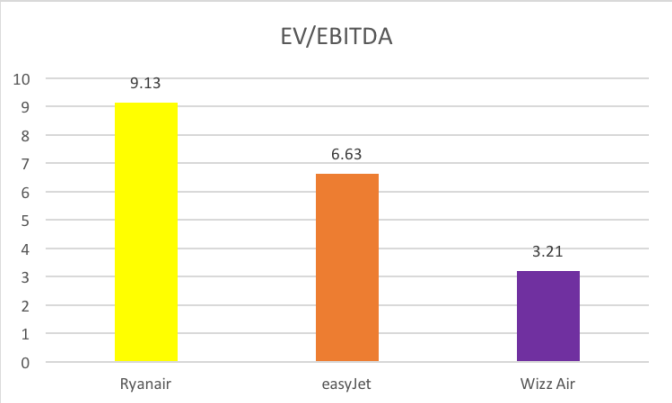


(Source: Own creation & Annual report Ryanair, easyJet and Wizz Air)

9.2 EV/EBITDA

As mentioned in chapter 3, the EV/EBITDA is better than P/E to evaluate companies with different debt, because the EBITDA is before interest while the EPS is after interest. Figure 37 shows the EV/EBITDA value of the comparable LCCs. These values are more consistent thanthe P/E. With an EV/EBITDA average of 6,32, the NAS priced 260 which is slightly lower than we had estimated at 283,1NOK.

Figure 37. Comparable CompaniesEV/EBITDA



(Source: Own creation & Annual report Ryanair, easyJet and Wizz Air)

The P/E gave a value estimate that was much lower than the fundamental value, while EV/EBITDA gave a value that was slightly lower. As we have mentioned above, these multiples have various strengths and weaknesses. However, we believe that EV/EBITDA is the better multiple because it is only marginally affected by accounting rules.

10 Conclusion

The goal with our master thesis is to answer our problem statement: *"what is the fair value of Norwegian Air Shuttle ASA on 31.03.2016"?* and based upon the result we can make a recommendation of either buying or selling the stock.

The European aviation market has over the past two decades gone from a market dominated by legacy airlines to a market where LCC's experiencing the biggest growth. With the entrant of the LCC's the European aviation market have seen a decrease in margins driven by fierce competition, increasing the risk for bankruptcy. NAS have since 2002 have developed from a small domestic airline to one of the biggest low-cost carriers operating in Europe. Their expansion to long-haul travels to the US and Asia makes NAS the first LCC in Europe to offer long-haul routes.

In our strategic analysis we found that the airline industry correlates highly with the GDP. With a moderate GDP growth forecasted in Europe and a high growth forecasted in Asia and the Middle East NAS have positioned itself to counter the low GDP growth in Europe with a high growth in long-haul travel. With a European market dominated by fierce competition and low margins, competitive advantage and cost control is vital to survive in the industry. In our reformulation and financial analysis we found that NAS is a profitable firm, but Ryanair and easyJet where both preforming better. Much of this is due to the difference in the labor cost. NAS still follow Norwegian labor laws when operating to and from Norway. NAS is dependent on an US foreign carrier permit from Ireland or England to operate on similar levels as the competition.

The financial analysis with the strategic analysis has shown NAS as a profitable airline even though they are not competing on the same level as the competition. NAS is well positioned in the market and with their strong brand name, skilled management, innovative thinking and

a growing uniform fleet. Based upon this information we believe they will start to increase their market share in Europe and challenge the big airlines that have been dominating the transatlantic routes to the US. By modernizing their fleet NAS is lowering their fuel consumption and emissions using more fuel efficient aircrafts. From the key information found in the strategic and financial analysis we forecasted the income statement, balance sheet and the cash flow to the firm.

To answer the problem statement, we used fundamental valuation to estimate a value per share of NOK 283,1. This estimate was based upon publicly information until 31.03.16, and at this point the NAS share was traded/valued at NOK 311,5. In the sensitivity analysis we also found that a -1% change in the labor cost would increase estimated stock value by NOK 18. The model is also incredibly sensitive to changes in the WACC, or rather changes to the cost of debt. NAS have a big debt to equity ratio, and this makes the WACC highly dependent on the cost of debt. A 1% change in cost of debt changed the estimated value per share by NOK -90,98. This gave us share price of NOK 192,5. Based upon these uncertainties and the estimated value per share of NOK 283,1 we recommend to sell the stock.

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Appendix

Appendix 1: Beta regression

Date	Excess Return NAS	Excess Return S&P 500	Excess Return MSCI World
Mar 31, 2016			
Feb 1, 2016	0.08061811	0.062605973	0.010882038
Jan 4, 2016	0.088313147	-0.005435913	-0.041171403
Dec 1, 2015	-0.211246116	-0.053366653	-0.048285879
Nov 2, 2015	0.102106871	-0.018984684	0.012421266
Oct 1, 2015	-0.068851999	-0.000794177	0.017292521
Sep 1, 2015	-0.065477238	0.078420331	0.053770083
Aug 3, 2015	-0.112050376	-0.028097731	-0.023232545
Jul 1, 2015	0.053963667	-0.065923729	-0.062193843
Jun 1, 2015	0.078814721	0.018250681	0.061639765
May 1, 2015	0.072122594	-0.022534674	-0.023805968
Apr 1, 2015	-0.046945389	0.009137773	0.034078134
Mar 2, 2015	0.273804278	0.007185654	-0.026117991
Feb 2, 2015	0.027443457	-0.018848158	-0.005082596
Jan 2, 2015	-0.266430259	0.052139859	0.039292227
Dec 1, 2014	0.094603448	-0.032831834	0.066776608
Nov 3, 2014	0.04122912	-0.005496321	-0.00045667
Oct 1, 2014	0.194639582	0.022938457	0.028928553
Sep 2, 2014	-0.030732878	0.021637382	0.015046944
Aug 1, 2014	0.085347335	-0.01693447	0.003125121
Jul 1, 2014	0.071873594	0.035664657	0.016896866
Jun 2, 2014	-0.054318564	-0.016493733	0.00262197
May 1, 2014	-0.211851211	0.017579967	-0.00099676
Apr 1, 2014	0.050714362	0.019513186	0.007506267
Mar 3, 2014	-0.071251875	0.004882639	-7.83834E-05
Feb 3, 2014	-0.02047393	0.005609228	0.001452862
Jan 2, 2014	0.234030895	0.04091437	0.039956838
Dec 2, 2013	0.078825438	-0.037530409	0.004461004
Nov 1, 2013	-0.201873094	0.021990503	0.020109525
Oct 1, 2013	-0.064069667	0.026364267	0.033054875
Sep 3, 2013	0.118272065	0.042330966	0.053088737
Aug 1, 2013	-0.01000468	0.028016532	0.022999554
Jul 1, 2013	-0.183468489	-0.033097274	-0.002766364
Jun 3, 2013	-0.049545846	0.046978746	0.025825073
May 1, 2013	-0.07260804	-0.016411965	-0.010297948
Apr 1, 2013	0.066393375	0.019251163	0.02940266
Mar 1, 2013	0.264247205	0.01662515	0.020885202
Feb 1, 2013	-0.052686464	0.034056355	0.007396695
Jan 2, 2013	0.29356442	0.00970087	0.031384954
Dec 3, 2012	0.144577683	0.047898749	0.05871054
Nov 1, 2012	0.058847961	0.005744435	0.011412095
Oct 1, 2012	0.095488273	0.001543647	0.005339649
Sep 4, 2012	0.133394496	-0.021286848	0.00627847
Aug 1, 2012	-0.005939392	0.022648045	0.025453887
Jul 2, 2012	-0.005917958	0.01827159	0.005618239
Jun 1, 2012	0.199627732	0.011219937	-0.006836636
May 1, 2012	-0.197606811	0.037493649	0.033825179
Apr 2, 2012	0.292575031	-0.065998262	-0.044672563
Mar 1, 2012	-0.295173055	-0.008824757	-0.022970289
Feb 1, 2012	0.292575031	0.029552524	0.022656936
Jan 3, 2012	0.030249346	0.038488319	0.029358289
Dec 1, 2011	0.343541474	0.041360987	0.030327965
Nov 1, 2011	-0.171480814	0.007197541	0.00016262
Oct 3, 2011	-0.109708311	-0.006370496	-0.011968367
Sep 1, 2011	0.170123254	0.10100758	0.05373346
Aug 1, 2011	-0.404050414	-0.07576614	-0.023477341
Jul 1, 2011	-0.133470785	-0.059766504	-0.047093667
Jun 1, 2011	0.052503694	-0.02300738	-0.036390332
May 2, 2011	-0.064580462	-0.019725245	-0.015451268
Apr 1, 2011	0.027411094	-0.014891906	-0.004015175
Mar 1, 2011	-0.044060871	0.026797904	0.014650289
Feb 1, 2011	-0.077398356	-0.002346863	-0.013625121
Jan 3, 2011	-0.072014537	0.030157583	0.004616819
Dec 1, 2010	0.05656837	0.021093973	0.021786039
Nov 1, 2010	-0.022352421	0.061957505	0.03921165
Oct 29, 2010	0.28638306	-0.003591922	-0.013865635
Oct 1, 2010	-0.031397043	-0.001299012	0.026954207
Sep 1, 2010	-0.001299012	0.034893989	-0.001299012
Aug 2, 2010	0.034370064	0.082629463	0.05353706
Jul 1, 2010	-0.127119185	-0.049910815	-0.009097336
Jun 1, 2010	-0.039951167	0.065216771	0.041553352
May 3, 2010	-0.104761994	-0.056687392	-0.021631441
Apr 1, 2010	-0.140689276	-0.086830666	-0.066896295
Mar 1, 2010	-0.076468556	0.013352456	-0.000306456

Source: Yahoo Finance and Norges Bank

Date	Excess Return NAS	Excess Return S&P 500	Excess Return MSCI World
Mar 31, 2016			
Feb 1, 2016	0.08061811	0.062605973	0.010882038
Jan 4, 2016	0.088313147	-0.005435913	-0.041171403
Dec 1, 2015	-0.211246116	-0.053366653	-0.048285879
Nov 2, 2015	0.102106871	-0.018984684	0.012421266
Oct 1, 2015	-0.068851999	-0.000794177	0.017292521
Sep 1, 2015	-0.065477238	0.078420331	0.053770083
Aug 3, 2015	-0.112050376	-0.028097731	-0.023232545
Jul 1, 2015	0.053963667	-0.065923729	-0.062193843
Jun 1, 2015	0.078814721	0.018250681	0.061639765
May 1, 2015	0.072122594	-0.022534674	-0.023805968
Apr 1, 2015	-0.046945389	0.009137773	0.034078134
Mar 2, 2015	0.273804278	0.007185654	-0.026117991
Feb 2, 2015	0.027443457	-0.018848158	-0.005082596
Jan 2, 2015	-0.266430259	0.052139859	0.039292227
Dec 1, 2014	0.094603448	-0.032831834	0.066776608
Nov 3, 2014	0.04122912	-0.005496321	-0.00045667
Oct 1, 2014	0.194639582	0.022938457	0.028928553
Sep 2, 2014	-0.030732878	0.021637382	0.015046944
Aug 1, 2014	0.085347335	-0.01693447	0.003125121
Jul 1, 2014	0.071873594	0.035664657	0.016896866
Jun 2, 2014	-0.054318564	-0.016493733	0.00262197
May 1, 2014	-0.211851211	0.017579967	-0.00099676
Apr 1, 2014	0.050714362	0.019513186	0.007506267
Mar 3, 2014	-0.071251875	0.004882639	-7.83834E-05
Feb 3, 2014	-0.02047393	0.005609228	0.001452862
Jan 2, 2014	0.234030895	0.04091437	0.039956838
Dec 2, 2013	0.078825438	-0.037530409	0.004461004
Nov 1, 2013	-0.201873094	0.021990503	0.020109525
Oct 1, 2013	-0.064069667	0.026364267	0.033054875
Sep 3, 2013	0.118272065	0.042330966	0.053088737
Aug 1, 2013	-0.01000468	0.028016532	0.022999554
Jul 1, 2013	-0.183468489	-0.033097274	-0.002766364
Jun 3, 2013	-0.049545846	0.046978746	0.025825073
May 1, 2013	-0.07260804	-0.016411965	-0.010297948
Apr 1, 2013	0.066393375	0.019251163	0.02940266
Mar 1, 2013	0.264247205	0.01662515	0.020885202
Feb 1, 2013	-0.052686464	0.034056355	0.007396695
Jan 2, 2013	0.29356442	0.00970087	0.031384954
Dec 3, 2012	0.144577683	0.047898749	0.05871054
Nov 1, 2012	0.058847961	0.005744435	0.011412095
Oct 1, 2012	0.095488273	0.001543647	0.005339649
Sep 4, 2012	0.133394496	-0.021286848	0.00627847
Aug 1, 2012	-0.005939392	0.022648045	0.025453887
Jul 2, 2012	-0.005917958	0.01827159	0.005618239
Jun 1, 2012	0.199627732	0.011219937	-0.006836636
May 1, 2012	-0.197606811	0.037493649	0.033825179
Apr 2, 2012	0.292575031	-0.065998262	-0.044672563
Mar 1, 2012	-0.295173055	-0.008824757	-0.022970289
Feb 1, 2012	0.292575031	0.029552524	0.022656936
Jan 3, 2012	0.030249346	0.038488319	0.029358289
Dec 1, 2011	0.343541474	0.041360987	0.030327965
Nov 1, 2011	-0.171480814	0.007197541	0.00016262
Oct 3, 2011	-0.109708311	-0.006370496	-0.011968367
Sep 1, 2011	0.170123254	0.10100758	0.05373346
Aug 1, 2011	-0.404050414	-0.07576614	-0.023477341
Jul 1, 2011	-0.133470785	-0.059766504	-0.047093667
Jun 1, 2011	0.052503694	-0.02300738	-0.036390332
May 2, 2011	-0.064580462	-0.019725245	-0.015451268
Apr 1, 2011	0.027411094	-0.014891906	-0.004015175
Mar 1, 2011	-0.044060871	0.026797904	0.014650289
Feb 1, 2011	-0.077398356	-0.002346863	-0.013625121
Jan 3, 2011	-0.072014537	0.030157583	0.004616819
Dec 1, 2010	0.05656837	0.021093973	0.021786039
Nov 1, 2010	-0.022352421	0.061957505	0.03921165
Oct 29, 2010	0.28638306	-0.003591922	-0.013865635
Oct 1, 2010	-0.031397043	-0.001299012	0.026954207
Sep 1, 2010	-0.001299012	0.034893989	-0.001299012
Aug 2, 2010	0.034370064	0.082629463	0.05353706
Jul 1, 2010	-0.127119185	-0.049910815	-0.009097336
Jun 1, 2010	-0.039951167	0.065216771	0.041553352
May 3, 2010	-0.104761994	-0.056687392	-0.021631441
Apr 1, 2010	-0.140689276	-0.086830666	-0.066896295
Mar 1, 2010	-0.076468556	0.013352456	-0.000306456

SUMMARY OUTPUT NAS & MSCI World

Regression Statistics	
Multiple R	0.218602568
R Square	0.047787083
Adjusted R Square	0.034375633
Standard Error	0.147052023
Observations	73

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.077050739	0.077050739	3.563155695	0.06316255
Residual	71	1.53532512	0.021624297		
Total	72	1.612375859			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.000568665	0.017804912	0.031938646	0.974610594	-0.034933321	0.03607065	-0.034933321	0.03607065
X Variable 1	1.119211615	0.592918237	1.887632299	0.06316255	-0.063033772	2.301457002	-0.063033772	2.301457002

SUMMARY OUTPUT NAS & S&P 500

Regression Statistics	
Multiple R	0.216259172
R Square	0.046768029
Adjusted R Square	0.033342227
Standard Error	0.147144402
Observations	73

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.075421698	0.075421698	3.48344389	0.066115559
Residual	71	1.537254726	0.021651475		
Total	72	1.612676425			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.003657256	0.01747717	0.209259037	0.834845276	-0.031191231	0.038505742	-0.031191231	0.038505742
X Variable 1	0.858045548	0.459733269	1.866398642	0.066115559	-0.058636554	1.774727651	-0.058636554	1.774727651

Appendix 2: NAS Reformulated Income Statement (M NOK)

REFORMULATED INCOME STATMENT FOR NAS	2008	2009	2010	2011	2012	2013	2014	2015
Currency	NOK	NOK	NOK	NOK	NOK	NOK	NOK	NOK
Passenger Transport	5,641,533	6,389,406	7,210,161	9,097,228	11,201,072	13,381,460	16,254,622	18,505,762
Ancillary Revenue	463,609	788,655	1,034,006	1,224,744	1,405,495	1,757,887	2,727,439	3,275,289
Other Revenues	121,271	131,129	162,172	206,688	234,624	371,871	557,978	702,493
Total Operating Revenue	**6,226,413**	**7,309,190**	**8,406,339**	**10,528,660**	**12,841,191**	**15,511,218**	**19,540,039**	**22,483,544**
Sales And Distribution Cost	115,251	149,415	167,859	198,930	274,954	339,376	469,111	612,286
Aviation Fuel	2,006,248	1,423,328	2,092,859	3,093,514	3,740,508	4,707,203	6,321,053	5,184,475
Airport Charges	841,999	1,037,716	1,295,913	1,561,369	1,730,217	2,182,645	2,723,910	2,949,313
Handling Charges	615,740	722,658	863,551	982,191	1,077,334	1,339,417	1,854,844	2,336,785
Technical Maintenance Expenses	574,077	659,796	697,196	711,597	792,565	927,820	1,290,035	1,716,547
Other Aircraft Expences	312,815	325,371	405,787	441,657	482,932	589,742	855,231	826,391
Other Operating Expences	318,094	396,058	397,735	472,908	534,336	733,319	1,049,577	1,263,185
Payroll Expenses	1,076,068	1,303,299	1,531,211	1,836,194	2,068,202	2,478,294	3,208,987	3,433,703
Shares of profit / loss from assosiated companies	8,773	-3,200	-6,328	-19,518	-32,840	-46,594	-57,631	-103,441
Total Operating Expence	**5,869,065**	**6,014,441**	**7,445,783**	**9,278,842**	**10,668,208**	**13,251,222**	**17,715,117**	**18,219,244**
EBITDA	**357,348**	**1,294,749**	**960,556**	**1,249,818**	**2,172,983**	**2,259,996**	**1,824,922**	**4,264,300**
Depritiation	72,877	109,433	156,417	245,370	332,183	474,904	697,978	1,087,275
Operating Lease Depretiation	204,767	297,655	373,637	398,240	495,799	616,510	886,051	1,062,384
EBITA	**79,704**	**887,661**	**430,502**	**606,208**	**1,345,001**	**1,168,582**	**240,893**	**2,114,641**
Amortization	56735	39449	30291	48579	53062	54921	50160	46012
EBIT	**22,969**	**848,212**	**400,211**	**557,629**	**1,291,939**	**1,113,661**	**190,733**	**2,068,629**
Operating Tax	8,905	237,329	111,969	156,105	361,844	311,241	148,404	492,008
NOPAT	**14,064**	**610,883**	**288,242**	**401,524**	**930,095**	**802,420**	**42,329**	**1,576,621**
Reconciliation with net income:								
Net Financial Income/Expense	351,966	47,974	26,600	-268,911	186,888	-578,874	-274,139	-376,178
Adjustment Lease Interest	-221,830	-322,459	-404,774	-431,427	-537,116	-667,885	-959,889	-1,150,916
Net Financial Income/Expense adjusted for lease	130,136	-274,485	-378,174	-700,338	-350,228	-1,246,759	-1,234,028	-1,527,094
Net Financial Income/Expense after tax	93,698	-197,629	-272,285	-504,243	-252,164	-897,667	-888,500	-1,114,779
Special items								
Other Losses/ (Gains)-net	-147,768	49,315	29,732	305,720	-336,385	502,148	-583,751	-474,150
other income	0	0	191,329	3,471	17,852	59,079	0	7,603
Total Special items	**-147,768**	**49,315**	**221,061**	**309,191**	**-318,533**	**561,227**	**-583,751**	**-466,547**
Total special items After Tax	**-106,393**	**35,507**	**159,164**	**222,618**	**-229,344**	**404,083**	**-420,301**	**-340,579**
Adjustment For Non Operating Taxes	2,576	-2,507	-4,237	2,167	8,056	12,727	196,709	124,889
Net Income	**3,944.640**	**446,253.240**	**170,883.560**	**122,065.040**	**456,643.160**	**321,563.880**	**-1,069,763.120**	**246,152.240**

Appendix 3: NAS Reformulated Balance Sheet (M NOK)

REFORMULATED BALANCE SHEET OF NAS	2008	2009	2010	2011	2012	2013	2014	2015
Inventory	34,214	40,825	66,191	81,994	68,385	74,135	82,851	104,141
Trade recivables	914,379	829,893	842,143	1,072,497	1,096,558	1,623,079	2,173,522	2,550,716
Total Current Operating Assets	**948,593**	**870,718**	**908,334**	**1,154,491**	**1,164,943**	**1,697,214**	**2,256,373**	**2,654,857**
Trade and other payables	694,832	746,549	1,063,436	1,230,935	1,564,955	1,949,693	2,680,445	2,862,566
Air traffic settlement liabilities	598,162	792,713	954,232	1,208,326	1,739,681	2,566,519	2,965,427	4,014,428
Tax Payable	267	111,158	976	488	0	2	2,210	32,123
Operating Current Liabilities	**1,293,261**	**1,650,420**	**2,018,644**	**2,439,749**	**3,304,636**	**4,516,214**	**5,648,082**	**6,909,117**
Net Working Capital	**-344,668**	**-779,702**	**-1,110,310**	**-1,285,258**	**-2,139,693**	**-2,819,000**	**-3,391,709**	**-4,254,260**
Aircraft, parts and instalation	523,676	974,892	2,092,136	3,869,159	5,579,757	7,526,707	12,527,932	18,507,706
Equipment and fixtures	31,014	30,905	26,175	31,991	58,476	72,972	83,687	79,508
Buildings	3,933	3,933	9,525	9,525	9,525	14,966	252,236	285,674
Financial lease asset	0	26,092	31,203	27,882	24,562	21,242	19,234	0
Prepayment to Manufacter	705,165	1,410,992	2,002,600	2,126,954	2,844,359	2,514,882	4,102,664	5,939,281
Other Recivables	32,404	26,391	53,242	113,061	135,562	199,036	421,060	501,811
Tangible Assets	**1,296,192**	**2,473,205**	**4,214,881**	**6,178,572**	**8,652,241**	**10,349,805**	**17,406,813**	**25,313,980**
Intangible Assets	198,074	190,543	210,293	236,216	237,774	225,270	206,826	206,675
Capitalized Operational Lease	3,412,776	4,960,912	6,227,288	6,637,336	8,263,320	10,275,160	14,767,520	17,706,400
Non-Current Operating Assets	**4,907,042**	**7,624,660**	**10,652,462**	**13,052,124**	**17,153,335**	**20,850,235**	**32,381,159**	**43,227,055**
Provisions for periodic maintanance	114,090	70,336	94,961	81,865	175,306	412,737	835,480	1,177,513
Invested Capital	**4,448,284**	**6,774,622**	**9,447,191**	**11,685,001**	**14,838,336**	**17,618,498**	**28,153,970**	**37,795,282**
Derivatives financial instruments	18,360	23,688	43,395	242,790	0	37,389	0	0
Financial Assets Available Fore Sale	0	0	0	0	10,172	11,158	0	0
Cash And Cash Equivalents	607,536	1,408,475	1,178,416	1,104,946	1,730,895	2,166,126	2,011,139	2,454,160
Non-Operating Current Assets	**625,896**	**1,432,163**	**1,221,811**	**1,347,736**	**1,741,067**	**2,214,673**	**2,011,139**	**2,454,160**
Financial Assets Available For Sale (Non-Current)	5,628	7,236	2,689	2,689	2,689	82,689	82,689	82,689
Investment in associate	44,743	47,943	62,272	82,091	116,050	164,578	223,594	328,127
Non-Operating Non-Current Assets	**50,371**	**55,179**	**64,961**	**84,780**	**118,739**	**247,267**	**306,283**	**410,816**
Total Non-Operating Assets	**676,267**	**1,487,342**	**1,286,772**	**1,432,516**	**1,859,806**	**2,461,940**	**2,317,422**	**2,864,976**
Total Funds Invested	**5,124,551**	**8,261,964**	**10,733,963**	**13,117,517**	**16,698,142**	**20,080,438**	**30,471,392**	**40,660,258**
Short term borrowing	257,456	675,303	520,972	1,551,918	1,349,359	768,401	3,330,387	3,041,388
Borrowing	440,873	878,878	1,943,903	2,682,888	4,166,854	5,736,896	9,950,229	16,543,405
Capitalized Operational Lease	3,412,776	4,960,912	6,227,288	6,637,336	8,263,320	10,275,160	14,767,520	17,706,400
Pension obligation	61,815	97,559	121,672	151,187	0	127,821	201,884	134,516
Derivative Financial Instrument Current	104,328	1,227	15,003	539	190,356	0	458,958	782,523
Financial lease liability	0	28,829	20,007	15,485	10,853	6,860	3,227	0
Intrestbearing Debt And Debt Equivalents	**4,277,248**	**6,642,708**	**8,848,845**	**11,039,353**	**13,980,742**	**16,915,138**	**28,712,205**	**38,208,232**
Share Capital	3,236	3,421	3,457	3,488	3,516	3,516	3,516	3,576
Share Premium	789,130	1,041,894	1,055,083	1,075,463	1,093,549	1,093,549	1,093,549	1,231,632
Other Paid - in equity	38,984	47,421	54,521	63,365	63,365	72,744	87,221	94,362
Other Reserves	-7,633	-11,031	-7,944	-9,638	-9,335	-11,102	455,099	876,192
Retained Earnings	73,650	519,902	690,788	812,910	1,269,556	1,591,119	468,866	759,550
Deferred Tax Liabilities	9,695	17,806	89,483	134,645	301,042	443,991	169,851	0
Deferred Tax Assets	-59,759	-157	-270	-2,069	-4,293	-28,517	-518,915	-513,286
Equity and Equity Equivalents	**847,303**	**1,619,256**	**1,885,118**	**2,078,164**	**2,717,400**	**3,165,300**	**1,759,187**	**2,452,026**
Total Funds Invested	**5,124,551**	**8,261,964**	**10,733,963**	**13,117,517**	**16,698,142**	**20,080,438**	**30,471,392**	**40,660,258**

Appendix 4: SAS Reformulated Income Statement (M SEK)

REFORMULATED INCOME STATEMENT SAS	2008	2009	2010	2011	2012	2013	2014	2015
Revenues	**52,870**	**44,918**	**40,723**	**41,412**	**35,986**	**42,182**	**38,006**	**39,650**
Payroll Expence	17,632	17,998	13,473	13,092	11,584	11,451	9,181	9,622
Jet Fuel	9,637	7,685	6,601	7,769	8,035	9,046	8,806	8,430
Other Operating Expenses	22,692	18,227	19,064	17,947	14,025	15,483	16,316	15,822
Total Operating Cost	49,961	43,910	39,138	38,808	33,644	35,980	34,303	33,874
EBITDA	2,909	1,008	1,585	2,604	2,342	6,202	3,703	5,776
Depritiation and Amortization	1,550	1,845	1,867	2,413	1,426	1,658	1,443	1,466
Lease Depritiation	1,577	1,603	1,255	1,078	928	1,234	1,470	1,792
EBIT	**-218**	**-2,440**	**-1,537**	**-887**	**-12**	**3,310**	**790**	**2,518**
Operating Tax	-61	-683	-430	-248	-3	927	221	705
NOPAT	**-157**	**-1,757**	**-1,106**	**-639**	**-8**	**2,383**	**569**	**1,813**

Appendix 5: SAS Reformulated Balance Sheet (M SEK)

REFORMULATED BALANCE SHEET SAS	2008	2009	2010	2011	2012	2013	2014	2015
Operating Cash	1,057	498	821	828	720	844	760	793
Expandables Spare Parts and Inventories	819	758	678	705	687	359	342	345
Prepaiment to supplier	1	0	0	0	0	2	8	0
Accounts recivable	1,851	1,581	1,277	1,275	1,311	1,376	1,067	1,249
Recivables from affiliated companies	479	92	3	6	3	1	0	2
Other recivables	2,661	4,780	2,901	2,574	1,399	866	1,263	867
prepaid expences and accrued income	1,009	1,058	839	934	873	858	937	1,093
Operating Current Assets	**7,877**	**8,767**	**6,519**	**6,322**	**4,993**	**4,306**	**4,377**	**4,349**
Prepayment from cutomers	7	13	16	24	0	16	4	22
Accounts payable	2,068	1,738	1,749	1,540	1,929	1,689	1,499	1,528
Tax Payable	110	27	22	18	32	36	0	0
Unearned transportation revenue	3,299	3,227	3,598	3,453	4,292	3,932	4,244	4,482
Other Liabilities	2,460	2,110	2,070	1,160	1,033	722	679	964
Accrued expence and prepaid income	2,774	3,264	2,755	2,934	3,201	3,416	4,355	4,684
Operating Current Liabilities	**10,718**	**10,379**	**10,210**	**9,129**	**10,487**	**9,811**	**10,781**	**11,680**
Operating Working Capital	**-2,841**	**-1,612**	**-3,691**	**-2,807**	**-5,494**	**-5,505**	**-6,404**	**-7,331**
Land and buildings	513	439	375	491	353	303	243	560
Aircraft	11,037	13,087	12,652	11,866	11,220	8,795	7,535	7,095
Spare engines and spare parts	1,185	1,299	1,393	1,367	1,349	147	76	31
Workshop and aircraft servicing equipment	220	161	90	76	110	117	85	101
Other equipment and vehicles	318	192	130	123	117	105	128	137
Investments in progress	232	158	118	66	34	34	71	190
Payments to relating tangible fixed assets	627	238	24	155	160	160	763	1,482
Equity in Affiliated Companies	622	358	294	317	325	352	395	421
Other long-term recivables	410	729	2,379	1,011	1,250	2,249	1,928	1,951
Operating Tangible Assets	15,164	16,661	17,455	15,472	14,918	12,262	11,224	11,968
Capitalized operating lease	18,256	18,552	14,520	12,480	10,736	14,288	17,016	20,744
Intangible Assets	1,092	1,296	1,414	1,693	1,922	1,802	1,905	1,798
Other Provisions(Long term Liabilities/Current liabilities)	2,138	2,983	2,800	2,101	3,153	2,216	2,797	2,471
Other Liabilities	334	378	143	55	130	161	161	188
Invested Capital	**29,199**	**31,536**	**26,755**	**24,682**	**18,799**	**20,470**	**20,783**	**24,520**
Cash And Equivalents	576	0	941	138	1,703	1,827	2,954	2,254
Short term investment	3,872	3,691	3,281	2,842	366	2,080	4,472	5,151
Assets Avaiable For Sale	3,921	401	493	0	0	0	0	0
Other holdings of securities	5	234	23	23	23	292	43	300
Pension founds, Net	9,658	10,286	10,512	11,355	12,232	12,507	5,434	4,820
Total non-operating Assets	18,032	14,612	15,250	14,358	14,324	16,706	12,903	12,525
Total Founds Invested	**47,231**	**46,148**	**42,005**	**39,040**	**33,123**	**37,176**	**33,686**	**37,045**
Subordinated Loans	953	919	974	1,019	978	956	1,003	1,104
Bond Loans	2,212	0	1,503	2,809	2,763	2,641	2,713	2,183
Other Loans	10,535	6,809	6,866	6,179	5,260	5,054	4,419	4,807
Current portion of long-term loans	872	5,742	1,383	2,309	1,403	2,517	2,082	1,264
Short term loans	1,189	907	1,073	997	411	231	462	229
Liabilities attributable to assets held for sale	2,465	157	132	0	0	0	0	0
Capitalized Lease	18,256	18,552	14,520	12,480	10,736	14,288	17,016	20,744
Debt and debt equivalent	**36,482**	**33,086**	**26,451**	**25,793**	**21,551**	**25,687**	**27,695**	**30,331**
Deferred Income Tax: Net	2,067	1,673	1,116	814	416	402	1,111	375
Share Capital	1,645	6,168	6,612	6,612	6,613	6,613	6,754	6,754
Other contributed capital	170	170	337	337	337	337	494	327
Reserves	-718	279	627	309	17	-230	181	932
Retained earnings	7,585	4,772	6,862	5,175	4,189	4,367	-2,549	-1,674
Equity and equity equivalent	**10,749**	**13,062**	**15,554**	**13,247**	**11,572**	**11,489**	**5,991**	**6,714**
Total Founds Invested	**47,231**	**46,148**	**42,005**	**39,040**	**33,123**	**37,176**	**33,686**	**37,045**

Appendix 6: Ryanair Reformulated Income Statement (M EUR)

REFORMULATED INCOME STATEMENT RYANAIR	2008	2009	2010	2011	2012	2013	2014	2015
Operating Revenue	**2,714**	**2,942**	**2,988**	**3,630**	**4,390**	**4,884**	**5,037**	**5,654**
Staff Costs	285	309	335	376	415	436	464	503
Fuel and Oil	791	1,257	894	1,227	1,594	1,886	2,013	1,992
Operating Cost	851	949	1,026	1,151	1,299	1,417	1,448	1,629
EBITDA	**786**	**427**	**733**	**876**	**1,083**	**1,146**	**1,112**	**1,530**
Depreciation	176	256	235	376	309	330	352	378
Lease Depreciation	44	48	58	59	55	60	62	67
EBIT	**566**	**123**	**440**	**440**	**719**	**757**	**698**	**1,086**
Operating Taxes	71	15	55	55	90	95	87	136
Cash Operating Taxes	47	-7	25	11	48	53	50	110
Noplat	**518**	**131**	**415**	**429**	**670**	**703**	**649**	**975**

Appendix 7: Ryanair Reformulated Balance Sheet (M EUR)

REFORMULATED BALANCE SHEET RYANAIR	2008	2009	2010	2011	2012	2013	2014	2015
Inventory	2	2	3	3	3	3	3	2
Other Assets	170	91	81	99	65	68	124	139
Current Tax	2	0	0	1	9	0	1	1
Trade Recivables	34	42	44	51	52	56	58	60
Total Operational Current Asssets	**207**	**135**	**127**	**153**	**129**	**127**	**186**	**202**
Trade Payables	129	133	154	151	181	138	150	197
Other Liabilities	514	458	543	458	556	683	706	850
Current Tax	2	0	1	0	0	0	0	0
Total Current Operating Liabilities	**645**	**591**	**698**	**609**	**737**	**822**	**856**	**1,047**
Net Working Capital	**-438**	**-456**	**-570**	**-456**	**-609**	**-695**	**-670**	**-845**
PPE	3,582	3,645	4,314	4,934	4,925	4,906	5,060	5,471
Intangible Assets	47	47	47	47	47	47	47	47
Capitalized Lease	581	626	764	778	726	786	812	875
Non Current Operating Assets	4,210	4,317	5,125	5,758	5,698	5,739	5,919	6,393
Provisions	45	62	93	85	85	91	132	176
Invested Capital	**3,728**	**3,799**	**4,462**	**5,217**	**5,004**	**4,952**	**5,117**	**5,372**
Avg		*3,971*	*4,215*	*4,631*	*4,799*	*4,380*	*3,755*	*2,558*
Cash And Equivalent	1,471	1,583	1,478	2,028	2,708	1,241	1,730	1,185
Restricted Cash	292	292	68	43	35	25	13	7
Financial Asset Available for sale	311	93	116	114	150	221	260	371
Derivative Financial Instruments Current	0	60	23	24	3	5	0	555
Derivative Financial Instruments Non-Current	10	130	123	384	232	78	17	744
Financial Assets: Cash>3 Months	406	403	1,268	869	772	2,293	1,498	3,605
Total Non-operating Assets	**2,491**	**2,561**	**3,075**	**3,462**	**3,901**	**3,863**	**3,519**	**6,466**
Total Funds Invested	**6,219**	**6,360**	**7,537**	**8,680**	**8,905**	**8,816**	**8,636**	**11,838**
Current Maturities Of Debt	367	203	266	337	368	400	468	400
Non-Current Maturities Of Debt	1,900	2,195	2,691	3,313	3,257	3,098	2,616	4,032
Capitalized Operational Lease	581	626	764	778	726	786	812	875
Derivative Financial Instruments Current	142	137	41	125	28	32	95	812
Derivative Financial Instruments Non-Current	76	54	35	8	64	55	43	73
Intrestbearing Debt and Equivalents	**3,065**	**3,216**	**3,797**	**4,561**	**4,443**	**4,371**	**4,034**	**6,192**
Issued Share Capital	9	9	9	10	9	9	9	9
Share Premium Account	616	617	632	659	666	688	704	724
Capital Redemtion Reserve	0	0	1	1	1	1	1	1
Retained Earnings	2,000	1,778	2,084	1,968	2,400	2,419	2,465	2,706
Other Reserves	-124	30	123	319	230	188	107	600
Unearned Revenue	405	448	546	766	681	658	857	1,089
Other Creditors	100	107	137	129	154	128	90	55
Net Deferred Tax Liabilities	147	156	210	268	319	354	369	461
Equity And Equity Equivalents	**3,154**	**3,145**	**3,741**	**4,119**	**4,462**	**4,445**	**4,602**	**5,646**
Total Funds Invested	**6,219**	**6,360**	**7,537**	**8,680**	**8,905**	**8,815**	**8,636**	**11,837**

Appendix 8: easyJet Reformulated Income Statement (M GBP)

REFORMULATED INCOME STATMENT easyJet	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenue	**2,363**	**2,667**	**2,973**	**3,452**	**3,854**	**4,258**	**4,527**	**4,686**
Airport And Ground Handling	609	737	805	923	955	1,078	1,107	1,122
Fuel	709	807	733	917	1,149	1,182	1,251	1,199
Crew	263	307	336	407	432	454	479	505
Navigation	196	232	256	285	280	294	307	313
Maintenance	148	162	177	179	203	212	212	229
Selling And Marketing	47	47	92	102	104	101	103	102
Other Costs	130	163	171	172	200	226	245	276
Operating Cost	**2,101**	**2,454**	**2,570**	**2,985**	**3,323**	**3,547**	**3,704**	**3,746**
EBITDA	**262**	**212**	**403**	**467**	**531**	**711**	**823**	**940**
Deprtiation	44.4	55.4	72	83	97	102	106	125
Lease Deprititation	86	90	89	84	74	79	96	88
EBITA	**131**	**67**	**242**	**300**	**360**	**530**	**621**	**727**
Amortisation	2.5	4.4	6	7	8	10	11	11
EBIT	**129**	**63**	**236**	**293**	**352**	**520**	**610**	**716**
Operating Cash Tax	41	31	51	22	43	105	103	115
NOPLAT	**88**	**32**	**185**	**271**	**310**	**415**	**507**	**601**

Appendix 9: easyJet Reformulated Balance Sheet (M GBP)

REFORMULATED BALANCE SHEET easyJet	2008	2009	2010	2011	2012	2013	2014	2015
Trade And Other Recivables	236.9	241.8	194	165	241	194	200	206
Total Current Operating Assets	**236.9**	**241.8**	**194**	**165**	**241**	**194**	**200**	**206**
Trade And Other Payables	653	750.7	829	916	1021	1093	523	495
Current Tax Liabilities	73.2	57.7	28	9	29	58	53	43
Maintanance Provisions Current	55.9	45.1	71	45	59	81	94	61
Operating Current Liabilities	**782.1**	**853.5**	**928**	**970**	**1109**	**1232**	**670**	**599**
Net Working Capital	**-545.2**	**-611.7**	**-734**	**-805**	**-868**	**-1038**	**-470**	**-393**
PPE	1102.6	1612.2	1928	2149	2395	2280	2542	2877
Tangible Assets	1102.6	1612.2	1928	2149	2395	2280	2542	2877
Capitalized Operating Lease	886	930	920	872	760	816	992	912
Goodwill	365.4	365.4	365.4	365.4	365.4	365.4	365.4	365.4
Other Intangible Assets	80.6	81.7	87	86	91	102	113	127
Non-Current Operating Assets	**2,434**	**2,989**	**3,300**	**3,472**	**3,611**	**3,563**	**4,012**	**4,281**
Maintanance Provisions Non-Current	160.4	168.6	144	177	141	171	147	165
Invested Capital	**1,729**	**2,209**	**2,422**	**2,490**	**2,602**	**2,354**	**3,395**	**3,723**
Assets Held For Sale	194.9	73.22	73	0	0	0	0	0
Derivative Financial Instruments	96.5	68	53	83	73	17	53	128
Restricted Cash	23.3	24.3	23	90	130	0	23	6
Money Market Deposit	230.3	286.3	260	300	238	224	561	289
Cash And Equivalents	632.2	788.6	912	1100	645	1013	424	650
Current Non-Operating Assets	1177.2	1240.42	1321	1573	1086	1254	1061	1073
Derivative Fianancial Instrument Non-Current	21.3	7.8	8	24	21	13	36	44
Loan Notes	12	12.6	13	11	10	7	0	0
Restricted Cash	42.9	48	33	33	29	12	9	6
Other Non-Current Assets	61.1	62.7	54	63	57	185	156	130
Non-Current Non-Operating Assets	137.3	131.1	108	131	117	217	201	180
Total Founds Invested	**3,043**	**3,580**	**3,851**	**4,194**	**3,805**	**3,825**	**4,657**	**4,976**
Current Borrowing	57	118	127	155	129	87	91	182
Non-Current Borrowing	570	1,003	1,085	1,145	828	592	472	322
Capitalized Lease	886	930	920	872	760	816	992	912
Derivatives Financial Instruments Current	76	91	10	52	26	60	87	368
Derivatives Financial Instruments Non-Current	0	3	4	27	24	41	23	101
Interest Bearing Debt And Equivalents	**1,589**	**2,144**	**2,146**	**2,251**	**1,767**	**1,596**	**1,665**	**1,885**
Share Capital	106	106	107	108	108	108	108	108
Share Premium	640	643	652	654	656	657	658	659
Hedging Reserve	28	-24	35	14	42	-55	-17	-239
Translation Revenue	0	0	1	1	1	1	1	1
Retained Earnings	505	583	706	925	987	1,306	1,422	1,720
Non-Current Deferred Income	69	53	56	59	46	68	62	47
Unearned Revenue	0	0	0	0	0	0	572	619
Net Defered Tax Liabilities	108	76	148	179	198	144	186	176
Equity And Equity Equivalents	**1,455**	**1,436**	**1,705**	**1,940**	**2,038**	**2,229**	**2,992**	**3,091**
Total Funds Invested	**3,043**	**3,580**	**3,851**	**4,191**	**3,805**	**3,825**	**4,657**	**4,976**

Appendix 10: Capitalized Lease

NAS	2008	2009	2010	2011	2012	2013	2014	2015
Operational Lease Cost	426 597	620 114	778 411	829 667	1 032 915	1 284 395	1 845 940	2 213 300
Multiplier	8	8	8	8	8	8	8	8
Capitalized Lease	3 412 776	4 960 912	6 227 288	6 637 336	8 263 320	10 275 160	14 767 520	17 706 400
Cost Of Debt	6,50 %	6,50 %	6,50 %	6,50 %	6,50 %	6,50 %	6,50 %	6,50 %
Intrest Capitalized Lease	221 830	322 459	404 774	431 427	537 116	667 885	959 889	1 150 916
After Tax Intrest Lease	159 718	232 171	291 437	310 627	386 723	480 877	691 120	828 660
Depritiation Capitalized Lease	204 767	297 655	373 637	398 240	495 799	616 510	886 051	1 062 384

SAS	2008	2009	2010	2011	2012	2013	2014	2015
Operating Lease Cost	2282	2 319	1 815	1 560	1 342	1 786	2 127	2 593
Multiplier	8	8	8	8	8	8	8	8
Capitalized Operational lease	18 256	18 552	14 520	12 480	10 736	14 288	17 016	20 744
Cost Of Debt	3,86 %	3,86 %	3,86 %	3,86 %	3,86 %	3,86 %	3,86 %	3,86 %
Intrest Capitalized Lease	705	716	560	482	414	552	657	801
Depritiation Lease	1 577	1 603	1 255	1 078	928	1 234	1 470	1 792

easyJet	2008	2009	2010	2011	2012	2013	2014	2015
Lease Payments	110,7	116,2	115	109	95	102	124	114
Multiplier	8	8	8	8	8	8	8	8
Capitalized Operational Lease	885,6	929,6	920	872	760	816	992	912
Cost Of Debt	2,82 %	2,82 %	2,82 %	2,82 %	2,82 %	2,82 %	2,82 %	2,82 %
Intrest Capitalized Lease	24,97392	26,21472	25,944	24,5904	21,432	23,0112	27,9744	25,7184
Depritiation	85,72608	89,98528	89,056	84,4096	73,568	78,9888	96,0256	88,2816

Ryanair	2008	2009	2010	2011	2012	2013	2014	2015
Operational Lease Payment	72,67	78,209	95,5	97,2	90,7	98,2	101,5	109,4
Multiplier	8	8	8	8	8	8	8	8
Capitalized Operational Lease	581,36	625,67	764,00	777,60	725,60	785,60	812,00	875,20
Cost Of Debt	4,90 %	4,90 %	4,90 %	4,90 %	4,90 %	4,90 %	4,90 %	4,90 %
Intrest Lease	28,49	30,66	37,44	38,10	35,55	38,49	39,79	42,88
Depreciation Lease	44,18	47,55	58,06	59,10	55,15	59,71	61,71	66,52

Appendix 11: Calculation of NAS Cost of Debt

MNOK				
Current Earning before interest and tax (EBIT)	NOK 348,000,000			
Current interest expenses	NOK 388,990,000			
10 year Norwegian goverment bond rate	1.57%			
Operating lease expense in 2015	NOK 21,082,000			
Capitalization factor Aviation	8			
Debt Value of leases	NOK 168,656,000			
Interest on capitaized lease 2015	1,238,563			
Depreciation on leased asset 2015	974,737			
Output				
Interest Coverage Ratio	0.895			
Estimated Bond Rating	CCC			
Estimated Default Spread	9.00%			
Estimated Cost of Debt	10.57%			
MNOK				
Loan Classification	Book value	Weights	Eff. Interest rate	Weigted interest rate
Bond Issue	3221569	0.16	6.50%	1.07%
Facility agreement	1,473,448	0.08	4.50%	0.34%
Aircraft financing	14889775	0.76	3.30%	2.51%
Financial lease liability	-	-	0.00%	0.00%
Total	19,584,792	1.00		3.92%
Pre-tax Cost of Debt				5.22%
Final Cost of Debt	7.90%			

Appendix 12: Calculation of SAS Cost of Debt

MSEK				
Current Earning before interest and tax (EBIT)	2,225			
Current interest expenses	632			
10 year Norwegian goverment bond rate	1.57%			
Operating lease expense in 2015	2,593			
Capitalization factor Aviation	8			
Debt Value of leases	20,744			
Interest on capitaized lease 2015				
Depreciation on leased asset 2015				
Output				
Interest Coverage Ratio	3.52			
Estimated Bond Rating	A-			
Estimated Default Spread	1.75%			
Estimated Cost of Debt	3.32%			
MSEK				
Loan Classification	Book value	Weights	Interest rate	interest rate
Finance lease	837	0.15	3.24%	0.50%
Convertible bond	1,358	0.25	3.63%	0.91%
Other loans	3213	0.59	3.28%	1.95%
Total	5,408	1.00		3.36%
Pre-tax Cost of Debt				4.48%
Final cost of debt	**3.90%**			

Appendix 13: Calculation of Ryanair Cost of Debt

MEUR				
Current Earning before interest and tax (EBIT)	1,042,900,000			
Current interest expenses	742,000,000			
10 year Norwegian goverment bond rate	1.57%			
Operating lease expense in 2015	109,400,000			
Capitalization factor Aviation	8			
Debt Value of leases	875,200,000			
Interest on capitaized lease 2015				
Depreciation on leased asset 2015				
Output				
Interest Coverage Ratio	1.41			
Estimated Bond Rating	B-			
Estimated Default Spread	7.50%			
Estimated Cost of Debt	9.07%			
MEUR				
Loan Classification	Book value	Weights	Interest rate	interest rate
Long-term debt after swaps Fixed	1734.6	0.56	0.50%	0.28%
Finance leases Fixed	309.4	0.10	1.27%	0.13%
Total floating rate debt	1039.6	0.34	0.79%	0.27%
Total	3,084	1.00		0.68%
Pre-tax Cost of Debt				0.90%
Final cost of debt	**4.99%**			

If interest coverage ratio is			
>	**≤ *to***	***Rating is***	***Spread is***
8.50	100000	Aaa/AAA	0.75%
6.5	8.499999	Aa2/AA	1.00%
5.5	6.499999	A1/A+	1.10%
4.25	5.499999	A2/A	1.25%
3	4.249999	A3/A-	1.75%
2.5	2.999999	Baa2/BBB	2.25%
2.25	2.49999	Ba1/BB+	3.25%
2	2.2499999	Ba2/BB	4.25%
1.75	1.999999	B1/B+	5.50%
1.5	1.749999	B2/B	6.50%
1.25	1.499999	B3/B-	7.50%
0.8	1.249999	Caa/CCC	9.00%
0.65	0.799999	Ca2/CC	12.00%
0.2	0.649999	C2/C	16.00%
-100000	0.199999	D2/D	20.00%

(Credit spread Source: Damodaran online)

Appendix 14: Jet Fuel & Crude Oil Prices

Month	Jet fuel price	Jet fuel $/bbl	Crude oil $/bbl	Difference
Mar-08	3.12	131.04	103.28	27.76
Apr-08	3.37	141.54	110.44	31.1
May 2008	3.74	157.08	123.94	33.14
Jun-08	3.88	162.96	133.05	29.91
Jul-08	3.89	163.38	133.9	29.48
Aug-08	3.27	137.34	113.85	23.49
Sep-08	3.38	141.96	99.06	42.9
Oct 2008	2.32	97.44	72.84	24.6
Nov-08	1.88	78.96	53.24	25.72
Dec 2008	1.38	57.96	41.58	16.38
Jan-09	1.47	61.74	44.86	16.88
Feb-09	1.26	52.92	43.24	9.68
Mar-09	1.27	53.34	46.84	6.5
Apr-09	1.37	57.54	50.85	6.69
May 2009	1.49	62.58	57.94	4.64
Jun-09	1.81	76.02	68.59	7.43
Jul-09	1.71	71.82	64.92	6.9
Aug-09	1.89	79.38	72.5	6.88
Sep-09	1.75	73.5	67.69	5.81
Oct 2009	1.94	81.48	73.19	8.29
Nov-09	1.99	83.58	77.04	6.54
Dec 2009	1.98	83.16	74.67	8.49
Jan-10	2.05	86.1	76.37	9.73
Feb-10	1.99	83.58	74.31	9.27
Mar-10	2.11	88.62	79.27	9.35
Apr-10	2.24	94.08	84.93	9.15
May 2010	2.06	86.52	76.25	10.27
Jun-10	2.06	86.52	74.84	11.68
Jul-10	2.02	84.84	74.74	10.1
Aug-10	2.08	87.36	76.69	10.67
Sep-10	2.11	88.62	77.79	10.83
Oct 2010	2.25	94.5	82.92	11.58
Nov-10	2.32	97.44	85.67	11.77
Dec 2010	2.45	102.9	91.8	11.1
Jan-11	2.62	110.04	96.29	13.75
Feb-11	2.84	119.28	103.96	15.32
Mar-11	3.13	131.46	114.44	17.02
Apr-11	3.27	137.34	123.15	14.19

May 2011	3.09	129.78	114.46	15.32
Jun-11	3.05	128.1	113.76	14.34
Jul-11	3.13	131.46	116.46	15
Aug-11	3.01	126.42	110.08	16.34
Sep-11	2.95	123.9	110.88	13.02
Oct 2011	2.97	124.74	109.47	15.27
Nov-11	3.05	128.1	110.5	17.6
Dec 2011	2.87	120.54	107.97	12.57
Jan-12	3.09	129.78	110.99	18.79
Feb-12	3.21	134.82	119.7	15.12
Mar-12	3.26	136.92	124.93	11.99
Apr-12	3.23	135.66	120.59	15.07
May 2012	2.97	124.74	110.52	14.22
Jun-12	2.68	112.56	95.59	16.97
Jul-12	2.89	121.38	103.14	18.24
Aug-12	3.16	132.72	113.34	19.38
Sep-12	3.19	133.98	113.38	20.6
Oct 2012	3.11	130.62	111.97	18.65
Nov-12	2.96	124.32	109.71	14.61
Dec 2012	2.94	123.48	109.64	13.84
Jan-13	3.09	129.78	112.93	16.85
Feb-13	3.22	135.24	116.46	18.78
Mar-13	2.97	124.74	109.24	15.5
Apr-13	2.81	118.02	102.88	15.14
May 2013	2.73	114.66	103.03	11.63
Jun-13	2.77	116.34	103.11	13.23
Jul-13	2.89	121.38	107.72	13.66
Aug-13	3	126	110.96	15.04
Sep-13	2.93	123.06	111.62	11.44
Oct 2013	2.89	121.38	109.48	11.9
Nov-13	2.83	118.86	108.08	10.78
Dec 2013	2.96	124.32	110.63	13.69
Jan-14	2.92	122.64	107.57	15.07
Feb-14	2.97	124.74	108.81	15.93
Mar-14	2.89	121.38	107.41	13.97
Apr-14	2.89	121.38	107.88	13.5
May 2014	2.87	120.54	109.68	10.86
Jun-14	2.88	120.96	111.87	9.09
Jul-14	2.82	118.44	106.98	11.46
Aug-14	2.84	119.28	101.92	17.36
Sep-14	2.73	114.66	97.34	17.32
Oct 2014	2.46	103.32	87.27	16.05
Nov-14	2.3	96.6	78.44	18.16
Dec 2014	1.8	75.6	62.16	13.44
Jan-15	1.5	63	48.42	14.58
Feb-15	1.76	73.92	57.93	15.99
Mar-15	1.63	68.46	55.79	12.67
Apr-15	1.7	71.4	59.39	12.01
May 2015	1.85	77.7	64.56	13.14
Jun-15	1.73	72.66	62.35	10.31
Jul-15	1.54	64.68	55.87	8.81
Aug-15	1.39	58.38	46.99	11.39
Sep-15	1.39	58.38	47.23	11.15
Oct 2015	1.39	58.38	48.12	10.26
Nov-15	1.33	55.86	44.42	11.44
Dec 2015	1.08	45.36	37.72	7.64
Jan-16	0.93	39.06	30.8	8.26
Feb-16	0.97	40.74	33.2	7.54
Mar-16	1.07	44.94	39.07	5.87
1 barrel = 42 gallion			Average difference:	14.26

(Source: Own creation and Indexmundi)

Appendix 15: Jet Fuel and Crude Oil Price Regression

REGRESSION JET FUEL & CRUDE OIL

Regression Statistics	
Multiple R	0.982952257
R Square	0.96619514
Adjusted R Square	0.965846636
Standard Error	5.583288909
Observations	99

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	86424.653	86424.653	2772.409908	3.71738E-73
Residual	97	3023.792159	31.17311504		
Total	98	89448.44516			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4.549689578	1.950956836	2.33202985	0.021767187	0.677580311	8.421798845	0.677580311	8.421798845
X Variable 1	1.110598847	0.021092521	52.65367896	3.71738E-73	1.06873603	1.152461663	1.06873603	1.152461663

Appendix 16: Historical & Forecast Crude Oil Prices

World Bank Commodities Price Forecast (nominal US dollars) — **Released: April 19, 2016**

Commodity	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Energy														
Coal, Australia	$/mt	84.6	70.1	57.5	50.0	51.0	52.1	53.1	54.2	55.3	56.5	57.6	58.8	60.0
Crude oil, avg, spot	$/bbl	104.1	96.2	50.8	41.0	50.0	53.3	56.7	60.4	64.4	68.6	73.1	77.9	82.6
Natural gas, Europe	$/mmbtu	11.8	10.1	7.3	4.5	4.8	5.1	5.5	5.8	6.2	6.6	7.0	7.5	8.0
Natural gas, US	$/mmbtu	3.7	4.4	2.6	2.5	3.0	3.5	3.7	3.9	4.1	4.3	4.5	4.8	5.0
Natural gas LNG, Japan	$/mmbtu	16.0	16.0	10.4	8.0	8.2	8.4	8.6	8.8	9.1	9.3	9.5	9.8	10.0

(Source: World Bank)

Appendix 17: Percentage of Historical and Forecasted Revenue

Percentage of Revenue	2008	2009	2010	2011	2012	2013	2014	2015	Average
Inventory	0,005495	0,005585	0,007874	0,007788	0,005325	0,004779	0,00424	0,004632	0,005715
Trade recivables	0,146855	0,113541	0,10018	0,101865	0,085394	0,104639	0,111234	0,113448	0,109644
Trade and other payables	0,111594	0,102138	0,126504	0,116913	0,12187	0,125696	0,137177	0,127318	0,121151
Air traffic settlement liabilities	0,096068	0,108454	0,113513	0,114765	0,135477	0,165462	0,151762	0,17855	0,133006
Tax Payable	4,29E-05	0,015208	0,000116	4,63E-05	0	1,29E-07	0,000113	0,001429	0,002119
Operating Current Liabilities									
Aircraft, parts and instalation	0,084106	0,133379	0,248876	0,367488	0,43452	0,485243	0,641142	0,823167	0,550312
Equipment and fixtures	0,004981	0,004228	0,003114	0,003038	0,004554	0,004704	0,004283	0,003536	0,004055
Buildings	0,000632	0,000538	0,001133	0,000905	0,000742	0,000965	0,012909	0,012706	0,012807
Financial lease asset	0	0,00357	0,003712	0,002648	0,001913	0,001369	0,000984	0	0,0015
Prepayment to Manufacter	0,113254	0,193044	0,238225	0,202016	0,221503	0,162133	0,209962	0,264161	0,200537
Other Recivables	0,005204	0,003611	0,006334	0,010738	0,010557	0,012832	0,021549	0,022319	0,0189
Intangible Assets	0,031812	0,026069	0,025016	0,022436	0,018517	0,014523	0,010585	0,009192	0,013204
Capitalized Operational Lease	0,548113	0,678723	0,740785	0,630407	0,643501	0,662434	0,755757	0,787527	0,680906
Non-Current Operating Assets									
Provisions for periodic maintanance	0,018324	0,009623	0,011296	0,007775	0,013652	0,026609	0,042757	0,052372	0,040579
Financial Lease Cost	0,068514	0,08484	0,092598	0,078801	0,080438	0,082804	0,09447	0,098441	0,085113
Non-Operating Current Assets	0,100523	0,19594	0,145344	0,128006	0,135585	0,142779	0,102924	0,109154	0,123689
Non-Operating Non-Current Assets	0,00809	0,007549	0,007728	0,008052	0,009247	0,015941	0,015675	0,018272	0,016629

Forecast % of revenue	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
Inventory	0,006	0,006	0,006	0,006	0,006	0,006	0,006	0,006	0,006	0,006
Trade recivables	0,11	0,11	0,11	0,11	0,11	0,11	0,11	0,11	0,11	0,11
Trade and other payables	0,12	0,12	0,12	0,12	0,12	0,12	0,12	0,12	0,12	0,12
Air traffic settlement liabilities	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15	0,15
Tax Payable	0	0	0	0	0	0	0	0	0	0
Operating Current Liabilities										
Aircraft, parts and instalation	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55	0,55
Equipment and fixtures	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004	0,004
Buildings	0,0128	0,009	0,009	0,009	0,009	0,009	0,009	0,009	0,009	0,009
Financial lease asset	0,15	0,0015	0,0015	0,0015	0,0015	0,0015	0,0015	0,0015	0,0015	0,0015
Prepayment to Manufacter	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Other Recivables	0,019	0,019	0,019	0,019	0,019	0,019	0,019	0,019	0,019	0,019
Intangible Assets	0,013	0,013	0,013	0,013	0,013	0,013	0,013	0,013	0,013	0,013
Capitalized Operational Lease	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75	0,75
Non-Current Operating Assets										
Provisions for periodic maintanance	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04	0,04
Financial Lease Cost	0,09	0,09	0,09	0,09	0,09	0,09	0,09	0,09	0,09	0,09
Non-Operating Current Assets	0,124	0,124	0,124	0,124	0,124	0,124	0,124	0,124	0,124	0,124
Non-Operating Non-Current Assets	0,017	0,017	0,017	0,017	0,017	0,017	0,017	0,017	0,017	0,017

Appendix 18: Forecasted Income Statement and Balance Sheet

Forecasted Income Statement	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
ASK	56,363,001	76,642,363	86,817,351	89,911,827	94,774,577	98,753,190	104,058,008	110,689,030	115,109,711	119,530,392
RASK	0.416772049	0.409799504	0.402943608	0.396202411	0.389573993	0.383056468	0.37664798	0.370346705	0.36415085	0.358058651
Passenger Revenue	23,490,523	31,408,002	34,982,496	35,623,283	36,921,710	37,828,048	39,193,238	40,993,317	41,917,299	42,798,891
Ancilliary Revenue	3,523,579	4,711,200	5,247,374	5,343,492	5,538,257	5,674,207	5,878,986	6,148,998	6,287,595	6,419,834
Other Revenue	469,810	628,160	699,650	712,466	738,434	756,561	783,865	819,866	838,346	855,978
Total Revenue	**27,483,912**	**36,747,363**	**40,929,521**	**41,679,241**	**43,198,401**	**44,258,816**	**45,856,089**	**47,962,181**	**49,043,240**	**50,074,702**
		0.337	0.114	0.018	0.036	0.025	0.036	0.046	0.023	0.021
Aviation Fuel	3,781,866	6,066,164	7,187,482	7,789,746	8,621,673	9,457,826	10,498,806	11,784,655	12,947,838	14,151,247
Payroll Expenses	4,122,587	5,512,104	6,139,428	6,251,886	6,479,760	6,638,822	6,878,413	7,194,327	7,356,486	7,511,205
Sales And Distribution Cost	549,678	734,947	818,590	833,585	863,968	885,176	917,122	959,244	980,865	1,001,494
Airport Charges	3,847,748	5,144,631	5,730,133	5,835,094	6,047,776	6,196,234	6,419,852	6,714,705	6,866,054	7,010,458
Handling Charges	2,748,391	3,674,736	4,092,952	4,167,924	4,319,840	4,425,882	4,585,609	4,796,218	4,904,324	5,007,470
Technical Maintenance Expenses	1,923,874	2,572,315	2,865,066	2,917,547	3,023,888	3,098,117	3,209,926	3,357,353	3,433,027	3,505,229
Other Aircraft Expences	1,181,808	1,580,137	1,759,969	1,792,207	1,857,531	1,903,129	1,971,812	2,062,374	2,108,859	2,153,212
Other Operating Expences	1,374,196	1,837,368	2,046,476	2,083,962	2,159,920	2,212,941	2,292,804	2,398,109	2,452,162	2,503,735
Shares of profit / loss from assosiated companies	0	0	0	0	0	0	0	0	0	0
Total Operating Expense	**19,530,148**	**27,122,402**	**30,640,097**	**31,671,951**	**33,374,357**	**34,818,128**	**36,774,345**	**39,266,985**	**41,049,615**	**42,844,051**
EBITDA	**7,953,764**	**9,624,960**	**10,289,424**	**10,007,290**	**9,824,044**	**9,440,689**	**9,081,744**	**8,695,196**	**7,993,625**	**7,230,651**
Depritiation	1,083,482	1,208,014	1,345,497	1,370,143	1,420,083	1,454,942	1,507,450	1,576,685	1,612,223	1,646,131
Lease Depritiation	1,187,305	1,587,486	1,768,155	1,800,543	1,866,171	1,911,981	1,980,983	2,071,966	2,118,668	2,163,227
EBITA	**5,682,977**	**6,829,460**	**7,175,772**	**6,836,604**	**6,537,791**	**6,073,766**	**5,593,310**	**5,046,545**	**4,262,734**	**3,421,293**
Amortization	78,604	105,097	117,058	119,203	123,547	126,580	131,148	137,172	140,264	143,214
EBIT	**5,604,373**	**6,724,362**	**7,058,713**	**6,717,402**	**6,414,243**	**5,947,186**	**5,462,162**	**4,909,373**	**4,122,470**	**3,278,080**
Operating Tax 25%	1,401,093	1,681,091	1,764,678	1,679,350	1,603,561	1,486,796	1,365,541	1,227,343	1,030,618	819,520
NOPAT	**4,203,280**	**5,043,272**	**5,294,035**	**5,038,051**	**4,810,682**	**4,460,389**	**4,096,622**	**3,682,030**	**3,091,853**	**2,458,560**
Lease Interest	1,286,247	1,719,777	1,915,502	1,950,588	2,021,685	2,071,313	2,146,065	2,244,630	2,295,224	2,343,496
Financial Expense	1,553,901	1,883,494	2,097,851	2,136,278	2,214,143	2,268,495	2,350,364	2,458,312	2,513,722	2,566,590
Net Financial Expense	2,840,148	3,603,270	4,013,353	4,086,867	4,235,828	4,339,808	4,496,429	4,702,942	4,808,945	4,910,086
Net financial expense After Tax (1-25%)	2,130,111	2,702,453	3,010,015	3,065,150	3,176,871	3,254,856	3,372,321	3,527,206	3,606,709	3,682,564
Net Income	**2,073,169**	**2,340,819**	**2,284,020**	**1,972,901**	**1,633,811**	**1,205,533**	**724,300**	**154,824**	**-514,856**	**-1,224,005**

Forecasted Balance Sheet	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Inventory	164,903	220,484	245,577	250,075	259,190	265,553	275,137	287,773	294,259	300,448
Trade recivables	3,023,230	4,042,210	4,502,247	4,584,716	4,751,824	4,868,470	5,044,170	5,275,840	5,394,756	5,508,217
Operating Current Assets	**3,188,134**	**4,262,694**	**4,747,824**	**4,834,792**	**5,011,015**	**5,134,023**	**5,319,306**	**5,563,613**	**5,689,016**	**5,808,665**
Trade and other payables	3,298,069	4,409,684	4,911,543	5,001,509	5,183,808	5,311,058	5,502,731	5,755,462	5,885,189	6,008,964
Air traffic settlement liabilities	4,122,587	5,512,104	6,139,428	6,251,886	6,479,760	6,638,822	6,878,413	7,194,327	7,356,486	7,511,205
Tax Payable	0	0	0	0	0	0	0	0	0	0
Operating Current Liabilities	**7,420,656**	**9,921,788**	**11,050,971**	**11,253,395**	**11,663,568**	**11,949,880**	**12,381,144**	**12,949,789**	**13,241,675**	**13,520,170**
Net Working Capital	**-3,847,748**	**-5,144,631**	**-5,730,133**	**-5,835,094**	**-6,047,776**	**-6,196,234**	**-6,419,852**	**-6,714,705**	**-6,866,054**	**-7,010,458**
Aircraft, parts and instalation	15,116,152	20,211,049	22,511,236	22,923,582	23,759,121	24,342,349	25,220,849	26,379,200	26,973,782	27,541,086
Equipment and fixtures	109,936	146,989	163,718	166,717	172,794	177,035	183,424	191,849	196,173	200,299
Buildings	351,794	330,726	368,366	375,113	388,786	398,329	412,705	431,660	441,389	450,672
Financial lease asset	4,122,587	55,121	61,394	62,519	64,798	66,388	68,784	71,943	73,565	75,112
Prepayment to Manufacter	5,496,782	7,349,473	8,185,904	8,335,848	8,639,680	8,851,763	9,171,218	9,592,436	9,808,648	10,014,940
Tangible Assets	**25,197,251**	**28,093,359**	**31,290,619**	**31,863,780**	**33,025,178**	**33,835,865**	**35,056,980**	**36,667,088**	**37,493,557**	**38,282,110**
Other Recivables	522,194	698,200	777,661	791,906	820,770	840,918	871,266	911,281	931,822	951,419
Intangible Assets	357,291	477,716	532,084	541,830	561,579	575,365	596,129	623,508	637,562	650,971
Capitalized Lease	19,788,417	26,458,101	29,469,255	30,009,053	31,102,849	31,866,348	33,016,384	34,532,771	35,311,133	36,053,786
Non-Current Operating Assets	**45,865,153**	**55,727,375**	**62,069,618**	**63,206,569**	**65,510,375**	**67,118,495**	**69,540,759**	**72,734,648**	**74,374,073**	**75,938,286**
Provisions for periodic maintanance	1,099,356	1,469,895	1,637,181	1,667,170	1,727,936	1,770,353	1,834,244	1,918,487	1,961,730	2,002,988
Invested Capital	**40,918,049**	**49,112,850**	**54,702,305**	**55,704,305**	**57,734,663**	**59,151,908**	**61,286,663**	**64,101,455**	**65,546,290**	**66,924,840**
Non-Operating Current Assets	3,408,005	4,556,673	5,075,261	5,168,226	5,356,602	5,488,093	5,686,155	5,947,310	6,081,362	6,209,263
Non-Current Non-Operating Assets	467,227	624,705	695,802	708,547	734,373	752,400	779,554	815,357	833,735	851,270
Total Founds Invested	**44,793,281**	**54,294,228**	**60,473,367**	**61,581,078**	**63,825,638**	**65,392,401**	**67,752,371**	**70,864,123**	**72,461,387**	**73,985,373**
Intrest Bearing Debt	34,531,140	41,855,420	46,618,919	47,472,853	49,203,184	50,411,002	52,230,303	54,629,152	55,860,483	57,035,324

Appendix 19: Calculation of Forecasted Tax

Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
NBC	1 553 901	1 883 494	2 097 851	2 136 278	2 214 143	2 268 495	2 350 364	2 458 312	2 513 722	2 566 590
Tax Shield	388 475	470 873	524 463	534 070	553 536	567 124	587 591	614 578	628 430	641 647
Net Financial Expense A.Tax	1 165 426	1 412 620	1 573 389	1 602 209	1 660 607	1 701 371	1 762 773	1 843 734	1 885 291	1 924 942

Appendix 20: Historical and Forecasted Analysis Operating Cost

Year	2008	2009	2010	2011	2012	2013	2014	2015	AVERAGE
Sales And Distribution Cost	1.9 %	2.0 %	2.0 %	1.9 %	2.1 %	2.2 %	2.4 %	2.7 %	2.15%
Aviation Fuel	32.2 %	19.5 %	24.9 %	29.4 %	29.1 %	30.3 %	32.3 %	23.1 %	27.61%
Airport Charges	13.5 %	14.2 %	15.4 %	14.8 %	13.5 %	14.1 %	13.9 %	13.1 %	14.07%
Handling Charges	9.9 %	9.9 %	10.3 %	9.3 %	8.4 %	8.6 %	9.5 %	10.4 %	9.54%
Technical Maintenance Expenses	9.2 %	9.0 %	8.3 %	6.8 %	6.2 %	6.0 %	6.6 %	7.6 %	7.46%
Other Aircraft Expences	5.0 %	4.5 %	4.8 %	4.2 %	3.8 %	3.8 %	4.4 %	3.7 %	4.26%
Other Operating Expences	5.1 %	5.4 %	4.7 %	4.5 %	4.2 %	4.7 %	5.4 %	5.6 %	4.95%
Payroll Expenses	17.3 %	17.8 %	18.2 %	17.4 %	16.1 %	16.0 %	16.4 %	15.3 %	16.82%
Share profit/loss from Assosiated Company	0.1 %	0.0 %	-0.1 %	-0.2 %	-0.3 %	-0.3 %	-0.3 %	-0.5 %	-0.18%
Depritiation	5.6 %	4.4 %	3.7 %	4.0 %	3.8 %	4.6 %	4.0 %	4.3 %	4.31%
Amortization	28.6 %	20.7 %	14.4 %	20.6 %	22.3 %	24.4 %	24.3 %	22.3 %	22.19%

2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %	2.0 %
28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
4.30%	4.30%	4.30%	4.30%	4.30%	4.30%	4.30%	4.30%	4.30%	4.30%
22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%	22.00%

Appendix 21: ASK Estimation

2008	Planes	Seats	Total Seats	ASK	Weight	ASK pr Type	ASK pr Plane
B738 new	7,00	93,00	651,00	11 530 000,00	0,12	1 408 525,05	201 217,86
B733	27,00	137,00	3 699,00	11 530 000,00	0,69	8 003 278,29	296 417,71
B733 New	1,00	69,00	69,00	11 530 000,00	0,01	149 290,67	149 290,67
M80	5,00	140,00	700,00	11 530 000,00	0,13	1 514 543,07	302 908,61
M80 Scrapt	3,00	70,00	210,00	11 530 000,00	0,04	454 362,92	151 454,31
	43,00		5 329,00	11 530 000,00		11 530 000,00	2 163,63

2009	Planes	Seats	Total Seats	ASK	Weight	Ask pr Type	ASK pr Plane
B738	7,00	186,00	1 302,00	13 555 000,00	0,20	2 710 583,63	387 226,23
B738 new	11,00	93,00	1 023,00	13 555 000,00	0,16	2 129 744,28	193 613,12
B733	28,00	137,00	3 836,00	13 555 000,00	0,59	7 986 020,58	285 215,02
M80 Scrapt	5,00	70,00	350,00	13 555 000,00	0,05	728 651,51	145 730,30
	51,00		6 511,00	265,78		13 555 000,00	2 081,86

2010	Planes	Seats	Total Seats	ASK	Weight	ASK pr Type	ASK pr Plane
B738	18,00	186,00	3 348,00	17 804 000,00	0,41	7 219 936,05	401 107,56
B738 new	12,00	93,00	1 116,00	17 804 000,00	0,14	2 406 645,35	200 553,78
B733	27,00	137,00	3 699,00	17 804 000,00	0,45	7 976 864,83	295 439,44
B733 Scrapt	1,00	93,00	93,00	17 804 000,00	0,01	200 553,78	200 553,78
	58,00		8 256,00	306,97		17 804 000,00	2 156,49
2011	**Planes**	**Seats**	**Total Seats**	**ASK**	**Weight**	**ASK pr Type**	**ASK pr Plane**
B738	**30,00**	**186,00**	**5 580,00**	**21 958 000,00**	**0,54**	**16 256 504,91**	**541 883,50**
B738 new	**16,00**	**93,00**	**1 488,00**	**21 958 000,00**	**0,14**	**4 335 067,98**	**270 941,75**
B733	**16,00**	**137,00**	**2 192,00**	**21 958 000,00**	**0,21**	**6 386 067,88**	**399 129,24**
B733 Scrapt	**11,00**	**93,00**	**1 023,00**	**21 958 000,00**	**0,10**	**2 980 359,23**	**270 941,75**
	73,00		**10 283,00**	**300,79**		**29 958 000,00**	**2 913,35**

2012	Planes	Seats	Total Seats	ASK	Weight	ASK pr Type	ASK pr Plane
B738	**46,00**	**186,00**	**8 556,00**	**25 920 000,00**	**0,75**	**19 358 547,49**	**420 837,99**
B738 new	**12,00**	**93,00**	**1 116,00**	**25 920 000,00**	**0,10**	**2 525 027,93**	**210 418,99**
B733	**10,00**	**137,00**	**1 370,00**	**25 920 000,00**	**0,12**	**3 099 720,67**	**309 972,07**
B733 Scrapt	**6,00**	**69,00**	**414,00**	**25 920 000,00**	**0,04**	**936 703,91**	**156 117,32**
	74,00		**11 456,00**	**350,27**		**25 920 000,00**	**2 262,57**

2013	Planes	Seats	Total Seats	ASK	Weight	ASK pr Type	ASK pr Plane
B788 New	**3,00**	**146,00**	**438,00**	**34 318 000,00**	**0,03**	**1 081 542,96**	**360 514,32**
B738	**58,00**	**186,00**	**10 788,00**	**34 318 000,00**	**0,78**	**26 638 551,16**	**459 285,36**
B738 new	**14,00**	**93,00**	**1 302,00**	**34 318 000,00**	**0,09**	**3 214 997,55**	**229 642,68**
B733 Owned	**10,00**	**137,00**	**1 370,00**	**34 318 000,00**	**0,10**	**3 382 908,33**	**338 290,83**
	85,00		**13 898,00**			**34 318 000,00**	**2 469,28**

Appendix 21: ASK Estimation

2014	Planes	Seats	Total Seats	ASK	Weight	ASK pr Type	ASK pr Plane
B788	3,00	291,00	873,00	46 479 000,00	0,05	2 400 672,52	800 224,17
B788 New	4,00	146,00	584,00	46 479 000,00	0,03	1 605 948,17	401 487,04
B738	72,00	186,00	13 392,00	46 479 000,00	0,79	36 826 811,50	511 483,49
B738 new	11,00	93,00	1 023,00	46 479 000,00	0,06	2 813 159,21	255 741,75
B733 Owned	5,00	137,00	685,00	46 479 000,00	0,04	1 883 689,21	376 737,84
B733 Scrapt	5,00	69,00	345,00	46 479 000,00	0,02	948 719,38	189 743,88
	100,00		16 902,00			46 479 000,00	2 749,91

2015	Planes	Seats	Total Seat Available	ASK	Weight	ASK pr Type	ASK pr Plane
B788	7,00	291,00	2 037,00	49 028 000,00	0,11	5 337 789,20	762 541,31
B788 New	1,00	146,00	146,00	49 028 000,00	0,01	382 580,87	382 580,87
B738	81,00	186,00	15 066,00	49 028 000,00	0,81	39 479 200,86	487 397,54
B738 new	10,00	93,00	930,00	49 028 000,00	0,05	2 436 987,71	243 698,77
B738 Scrapt	2,00	93,00	186,00	49 028 000,00	0,01	487 397,54	243 698,77
B733 Scrapt	5,00	69,00	345,00	49 028 000,00	0,02	904 043,83	180 808,77
	106,00		18 710,00			49 028 000,00	2 620,42

2016	Planes	Seats	Total Seat	Weight
B788	8	291	2328	0,10834458
B789 new	4	172	688	0,032019361
A320neo r	4	84	336	0,015637362
B738	87	186	16182	0,75310653
B738 new	17	93	1581	0,073579374
B738 Scrap	4	93	372	0,017312794
	124		21487	1

2017	Planes	Seats	Total Seat	Weight
B788	8	291	2328	0,084244047
B788 New	6	146	876	0,03170008
B789	4	344	1376	0,049793732
B789 new	3	172	516	0,01867265
A320neo	4	168	672	0,024317869
A320neo r	8	84	672	0,024317869
B737 MAX	5	93	465	0,016827097
B738	100	186	18600	0,673083882
B738 new	17	93	1581	0,05721213
B738 Scrap	4	137	548	0,019830643
	159		27634	1

Appendix 21: ASK Estimation

2018 Planes	Seats		Total Seat	Weight
B788	14	291	4074	0,120728997
B788 New	5	146	730	0,021632834
B789	7	344	2408	0,07135872
B789 new	2	172	344	0,010194103
A320neo	12	168	2016	0,059742184
A320neo r	10	84	840	0,024892577
B737 MAX	5	186	930	0,027559638
B737 MAX	7	93	651	0,019291747
B738	113	186	21018	0,622847829
B738 new	2	93	186	0,005511928
B738 Scrap	4	137	548	0,016239443
	181		33745	1

Plane Type	ASK pr Plane		AVG				AVG
B788	762 541,31	800 224,17	781 382,74				
B788 New	382 580,87						
B738	487 397,54						
B738 new	243 698,77						
B738 Scrapt	243 698,77	387 226,23	401 107,56	541 883,50	420 837,99	459 285,36	442 068,13
B733 Scrapt	180 808,77						

ASK Estimation	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Short Haul	91	105	134	144	151	162	171	183	198	208	218
Long Haul B789	0	4	7	9	9	9	9	9	9	9	9
Long Haul B788	8	8	14	19	19	19	19	19	19	19	19
Number of Aircrafts	99	117	155	172	179	190	199	211	226	236	246
ASK Per Short Haul	442 068	442 068	442 068	442 068	442 068	442 068	442 068	442 068	442 068	442 068	442 068
ASK Per Long Haul	781 383	781 383	781 383	781 383	781 383	781 383	781 383	781 383	781 383	781 383	781 383
Short Haul Contribution	40 228 200	46 417 153	59 237 129	63 657 810	66 752 287	71 615 037	75 593 650	80 898 467	87 529 489	91 950 171	96 370 852
Long Haul Contribution	6 251 062	9 945 848	17 405 234	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540	23 159 540
ASK Estimated	46 479 262	56 363 001	76 642 363	86 817 351	89 911 827	94 774 577	98 753 190	104 058 008	110 689 030	115 109 711	119 530 392

Appendix 22: Multiple Calculation

2015	Ryanair (EUR)	easyJet (GBP)	WIZZ Air (GBP)	Average P/E
Net income (1000)	867	548	144	
Outstanding shares (1000)	1,388	3,970	1,265	
Earnings per share (EPS)	0.62	0.14	0.11	
Share price at end of the fiscal year	7.42	1.58	0.90	
P/E	11.88	11.46	7.93	10.4
NAS income (1000)	246,152			
Outstanding shares (1000)	35,591			
NAS EPS	6.92			
Calculated shares price	**72.09**			

	Ryanair	easyJet	Wizz Air	Average
EV/EBITDA	9.13	6.63	3.21	6.32
NAS EBITDA	4,264,300,000			
Market value	26,964,590,333			
NAS Interest bearing debt	17,706,400,000			
NAS outstanding shares	35,591,045			
Calculated share price	**260**			