# Valuation of SAS - in M&A Perspective


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**Author:** Mathias Roland Dirksen _____ CPR: XXXX-XXXX

**Supervisor:** Kenneth Winther


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## Executive Summary

The DCF analysis of SAS suggests a fair value of **8.36 SEK pr. share.** As such SAS' share price of 14.05 SEK as of 1st of May 2013 is an overvaluation. The overvaluation is supported by the multiples, but not by the M&A analysis that rather tend to suggest an undervaluation of SAS' share.

SAS' market cap has declined from 13.6 SEKbn in 2007 to 4.6 SEKbn in May 2013. The main reason is SAS' strategic fit with the industry, facing intense competition, and homogenous products. This does not correspond with SAS' value proposition of high service levels, in terms of frequency, punctuality and simplicity. Currently SAS' high prices, compared to peers, are not sufficient to cover the inferior cost structure and load factor, also compared to peers.

Historically SAS' high costs were justified by high prices, derived from political monopolies. The industry deregulation has led to increased competition and price sensitive customers.
As such, SAS has been forced to lower ticket prices and decrease capacity, and has not yet managed to adjust costs in accordance with revenues, even though unit costs have been driven down.
As of 2012, SAS is still behind peers, in terms of salary levels, productivity and load factor.
Hence, the reason for SAS' inefficient cost structure is found to be SAS national ownership, as this has made for inefficient resource optimisation and poor bargaining position against employees.

SAS' operational problems have translated into a fatal financial condition, with an almost eroded equity adjusting for pensions. In relation to future operations, SAS' financial situation lowers SAS' flexibility, as to meet industry changes/possibilities, why the current situation is difficult to change.

An M&A strategy could change the outlooks as the main rationale behind M&A activity in the European airline industry is efficiency optimisation, especially on the cost side.
Based on experience, strategic fit, and size, Lufthansa and IAG were found to be the most obvious buyers of SAS. Applying the expected implications from mergers to the DCF base case a SAS share price of respectively *31.45 and 19.53 SEK pr. share* and a sure buy recommendation was derived.
Precedent transaction multiples found that 19.53 SEK pr. share is a reliable price in an M&A, but depending on the base line, a fair price could lie in the interval 8.36 SEK-19.53 SEK pr. share
The precedent transaction multiples did therefore not contradict, nor support the standalone value, but did support the impression that SAS revenue characteristics are good, but costs even worse.

The overall assessment of the SAS share is difficult, but a slight overvaluation can be argued for, as current share price may neglect the threat of default, but including potential upsides i.e. from M&A, why private investors will tend to bid the share price up, refraining potential bidders from acting.

# Contents

*Thank, you for taking an interest in my thesis.*

*Before reading please note that selected airline abbreviations can be found in appendix 10.*

# Chapter 1 Introduction

Scandinavian Airlines Service (SAS) has been one of the world's leading airlines since the foundation in 1946. Quickly after the foundation SAS stabilized as one of the leading European airlines with constant increase in routes and organization. As such, SAS, and the airline industry as a whole, has been the incarnation of wealth and prosperity since the end of World War II.

The market conditions and customer composition SAS is facing has changed over time. Once travels by plane were occasional and solely for wealthy people, making the target segment and thereby value proposition very different from the one now faced.
Today flight travels are common and for all social classes. It has gone from being a luxury good, to a matter of transportation. This transition has made SAS' past cast a huge shadow over the company resulting in SAS' fifth consecutive year with deficits in 2012.
The business problems have translated into the share price that has fallen from 1,815 SEK in September 2008 to a low of 5.1 SEK in June 2012. On the 1st of May 2013 the share price had increased to 14.05 SEK[1].

The reason behind SAS' worsened performance have many faces, here among being the global financial crisis, increased competition, lower margins, threat of terror, rising fuel prices etc. The fact, however, is that SAS has gone from being a market leader, in the airline industry, to a seriously wounded company, fighting for survival[2].
Simultaneously with SAS' downturn a new generation of airlines, Low Cost Carriers, such as RyanAir, Norwegian and EasyJet have exploited the new customer demands, gained market shares and delivered great results - under the very same market conditions, and in the Nordic market, where SAS has historically been invulnerable. The damaged competitiveness, profits and rapidly declining share price must therefore be due to internal factors, and cannot solely be excused by increasingly difficult market conditions.

As SAS' performance over the past ten years has been inferior compared to the airline industry the future of the company is blurry and therefore an exciting case.

On one hand is the choice of a hard and determined fight to improve current conditions by optimizing and cutting business to meet and challenge market demand and competition. This is

[1] http://www.euroinvestor.dk/boerser/nasdaq-omx-stockholm/sas-ab/69271/graf
[2] http://www.expressen.se/ekonomi/uppgifter-i-natt-sas-hotas-av-konkurs/

what SAS has been doing in recent years, but has consistently failed to gain ground. To break the deadlock SAS has launched the 4XNG strategy in 2011 - A strategy that has led to the sale of SAS Ground Handling and aircraft engines[3].

On the other hand is an M&A strategy. In the current situation SAS is an obvious M&A case, as they are struggling to optimize the organization, having difficulties navigating in the competition and making profits from core customer. This is also why SAS has consistently been rumored as an M&A target for some of the biggest European Airlines[4].

## 1.1 Problem statement

SAS' increasing problems, high public focus and the outlook of the company make SAS an exciting case. The current low share price, threats of bankruptcy, the numerous M&A rumors, national ownership, and these factors' influence on the current and future share price has caught the attention.

The persistent M&A rumors and the expected implication on the share prices demands a thorough analysis of the M&A environment in the airline industry and an assessment of SAS' M&A potential given the company characteristics and ownership. The problem statement of the thesis is therefore:

*"What is the fair value of the SAS AB stock, as of the 1st of May 2013 using the DCF-model framework; sanity checked with multiples and a input sensitivity analysis? And given M&A rationales, previous M&A activity in the European Airline industry and SAS' outlook, will SAS then engage in M&A, and how does a potential M&A affect SAS' share price?"*

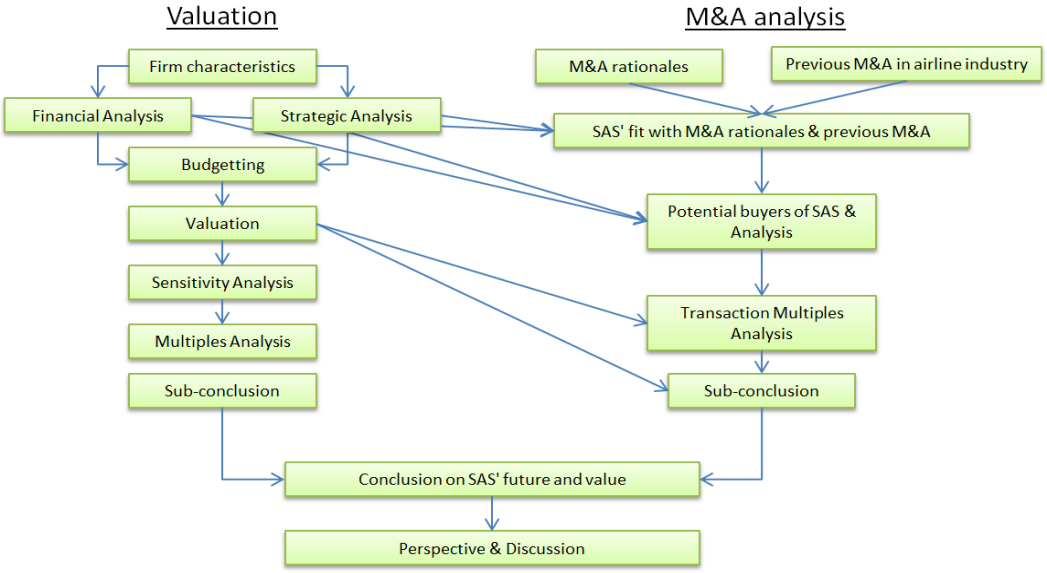
## 1.2 Methodical framework & research design

The objective of the thesis can be split in two; a standalone valuation of SAS AB, which is the main objective, and an analysis of SAS in M&A context. As this is the case the thesis has two separate methodical frameworks.

[3] http://www.business.dk/transport/sas-saelger-ground-handling
http://www.business.dk/transport/sas-saelger-flymotorer-for-millioner
[4] http://www.swedishwire.com/business/7991-sas-says-merger-more-likely-than-takeover
http://www.dr.dk/Nyheder/Penge/2012/02/08/142659.htm

The two separate analyses will enable to make two sub-conclusions. The two sub conclusions will ultimately be combined to a common conclusion and discussion of the value and future of SAS. In figure 1.2 the methodical framework is presented.

**Figure 1.2 Methodical framework**




Source: Own depiction

In order to assess a valuation of SAS and to reveal SAS' key strengths and weaknesses in relation to both standalone value and in an M&A context, sub-question on SAS' strategic and financial situation must be proposed and answered.

Together the strategic and financial sub-questions will give a broad understanding of SAS, hopefully revealing the positive and negative trends in SAS business case, give answers on where SAS will go in the future and ultimately enabling to valuate SAS.

The firm-specific characteristics combined with an analysis of the M&A rationales in the airline industry and precedent M&A activity can help evaluate SAS' M&A potential and target potential buyers of SAS.

The sub-questions proposed in order to derive a conclusion on the overall problem statement are presented below.

Strategic sub-questions

- What are SAS' history, core competencies, value proposition and strategic approach?
- What macroeconomic factors affect the airline industry? How is SAS managing these factors?
- How is the competition on SAS' primary markets? How will it develop? How can SAS exploit the possibilities?

Financial sub-questions:

- From a DuPont breakdown of Return on invested Capital, what factors are critical for SAS?[5]
- How does SAS perform on key areas compared to the competition?
- How does relative valuation methods/multiples relate to the recommendation found using the Discounted Cash Flow approach?

To explore the second objective of the thesis further sub-questions are needed on previous M&A activity in the airline industry and synergies between SAS and a potential buyer

- What are the main rationales behind M&A activity in the airline industry?
- What is the outcome from previous M&A activity in the airline industry?
- How does SAS' fit M&A rationales in the airline industry & which airlines will be interested in buying SAS?
- What is SAS' value when applying M&A synergies of potential buyers?
- How is SAS evaluated given precedent transaction multiples, and are the values derived from M&A impacts realistic based on precedent transaction multiples?

## 1.3 Data collection

The main contribution of the thesis is to valuate SAS AB as both standalone entity and in M&A context. The recipients of the thesis are all stakeholders in SAS AB, with the main focus on both current and potential investors private, institutional or M&A partner.
As the primary recipients are investors and potential buyers of SAS with limited knowledge on SAS as a company the thesis will be based on public information.

SAS' annual reports are a main source of information. As the overall goal is to valuate SAS the information from the annual report must be extracted with care, as some bias in terms of future profitability, evaluation of business model etc. are likely to occur.
The information especially regarding qualitative data like industry outlooks and key drivers in the industry are therefore critically handled confirmed by external and trustable sources.
The trade organization International Air Transport Association (IATA) and market reports are widely used as source on this matter. The analysis and citations of IATA and market report providers are perceived to be unbiased due to their objectivity in the industry.

[5] Petersen & Plenborg (2012) p. 94

In addition all of SAS' annual reports have been audited without remarks. The reliability and validity of the financial information is assessed as high and trustworthy. Further the information granted in SAS' annual reports are handled with care and compared to objective sources when possible.

Citations, quotes and statements from internet, newspaper etc. is secured on a basis of reputation and size. The sources are all trustable with reputation at stake. The information can therefore be trusted as well-informed and as the real-world picture.

**Information and M&A:**

In an actual M&A process the information granted to the financial and legal advisors are much more detailed and often highly confidential and classified internal material. The potential buyers and price is of course based on this information.

As this information is not accessible the M&A part will be based on public information. The reader should note that this will entail short comings to the analysis compared to an in-debt due diligence. The findings and conclusions are therefore sanity checked using precedent transaction multiples.

## 1.4 Delimitation

The scope of a valuation and an M&A transaction cannot be limited to certain activities, markets etc. It is however reasonable to say that very detailed information on certain activities that could be crucial for an M&A is not public. As this thesis is primarily based on public information the availability of data does somewhat limit the scope of the thesis.

As mail, freight and other traffic revenues only account for ten to fifteen percent of SAS' revenue, and as this is not widely discussed in either SAS' annual report it is assumed that freight, mail and other traffic revenue will be proportional to the standard revenue from leisure and business customers going into the future.

**Figure 1.4 Passenger revenues of total revenues**

| Passenger Revenue as % of Total Revenue | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| SAS | 84,7% | 84,8% | 84,8% | 86,6% | 87,7% | 88,1% |

Source: SAS annual reports 2007-2012 (Own depiction)

Conducting the financial analysis (chapter 4) some precautions, assumptions and estimations have been used to obtain comparability across peer group and simplify computations when estimations are found sufficient for analytical means. These assumptions are discussed in appendix 8

# Chapter 2 Scandinavian Airline Services

## 2.1 SAS' strategy & value proposition

SAS was founded in 1946 as a merger of the national Danish, Swedish and Norwegian airline companies[6]. The first flight in 1946 was between Stockholm and New York.
Since 1946 SAS have been first mover on many initiatives improving the service and business of the Airline Industry. As such SAS were the first to fly Copenhagen - Los Angeles polar route on scheduled service (1954), first to offer "round the world service over the North Pole" (in 1957) and introduced the electronic reservation system (in 1965) etc. [7].
In 1982 SAS was awarded as the most punctual airline company in the industry, and in 1984 furthermore awarded "Airline Company of the year".
In 1997 one of the world's biggest and best renowned airline alliances StarAlliance was established with SAS as one of the five initiators[8].
Beside SAS, the SAS Group has been engaged in hotel operations and smaller airline subsidiaries such as Spainair, Air Botnia and Estonian Air. Today SAS Group is primarily engaged in SAS and Widerøe (Norwegian carrier). Other subsidiaries have been sold or have undergone bankruptcy.

SAS' historic influence on initiations and improvements of the airline industry and business have entailed that SAS both externally, but especially internally, is perceived as one of the big players in the European airline industry. As seen from SAS' current mission, vision and brand promise, SAS' main objectives are closely connected to the heritage of the company[9].

| | |
|---|---|
| SAS vision: | *To be valued for Excellence by all Stakeholders* |
| SAS' mission: | *We provide best Value for time and Money to Nordic Travelers whatever the purpose of their journey* |
| SAS' Brand promise: | *Service and Simplicity* |
| SAS' priorities: | *Safety, Punctuality and Care* |

Section 2.1.1 will look at how SAS' strategic approach has developed over time and the successfulness of the respective strategies.

[6] Det Danske Luftfartsselskab A/S from 1918, AB Aerotransport from 1924 and Det Norske Luftfartselskap from 1927..
[7] http://www.sasgroup.net/SASGroup/default.asp
[8] http://www.staralliance.com/en/about/organisation/
[9] SAS annual report 2012 p.5

### 2.1.1 SAS' strategic development from 2005-2011

In order to discuss SAS' current strategy a closer look at the starting point and previous strategies is needed. From SAS' strategic approaches in years 2005-2011 five key takeaways are found.

***1) SAS has narrowed the focus to the Nordic countries***

The strategic development suggests that SAS has had problems retaining the customer base under the new industry characteristics. In 2005 SAS' overall goal was *"to be one of the leading airlines in Europe"*[10]. Today SAS' mission centers on Nordic travelers. This shows SAS' geographical retreat.

***2) SAS has been indecisive on core segment***

In Strategy 2011, leisure travelers were the most important, and in Core SAS, business travelers were the most important. The change in strategic focus has lead SAS to invest and divest many SBUs with huge losses even though SAS has carried the divestments out with commitment and determinacy. In years 2005-2007 investments in the Spain, the Baltic and Russian growth markets were made. These activities are now sold off with significant losses[11].

The diverging core customer segments clearly suggest that SAS has been unable to meet the preferences in the airline industry and that no customer base has SAS as their number one priority.

***3) Cost structure in an ongoing problem***

Even though new deals are made with unions, and optimizations carried through, the costs are an ongoing theme. Positive and important to note is that SAS has been able to strike new employee agreements even under difficult conditions.

The repeated focus on negotiating employee conditions in the annual reports suggests that costs are important but also that SAS seem unable to reach desired staff costs and productivity levels.

***4) The brand values service and reliability remained unchanged from 2005 to 2011***

SAS is still a full service carrier with a strong heritage connection in terms of region (Nordic) and core values. Brand promises of "service and simplicity" through frequency and routes is sustained.

***5) In the latest strategic initiatives improvement of capital structure is important.***

This fact signals, along with the operational targets, that SAS has many aspects which need optimization, and that recent years have worsened SAS' capital reserves significantly.

The fact that capital structure has become an area of core interest, signals that SAS' operational problems have translated into a fight for future survival.

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[10] SAS annual report 2009 p. 7

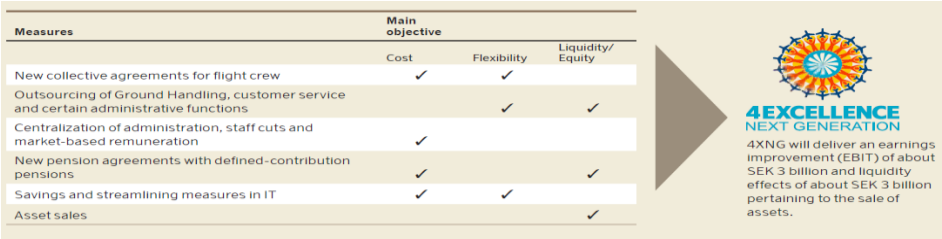
[11] http://politiken.dk/oekonomi/ECE1522044/sas-faar-milliardtab-paa-spanair-konkurs/

### 2.2.2 SAS' current strategy: 4 Excellence & 4 Excellence Next Generation

Since 2005 the airline industry has changed drastically. The most important changes are that the LCCs now play a significant role (O'Connell & Williams, 2005) in the industry especially on continental routes and the economic downturn has perhaps been more serious than first expected[12]. This has entailed a change in industry characteristics (strategic and competitive environment).

SAS' remedy as to meet the new industry characteristics and standards are the *4 Excellence* and *4 Excellence Next Generation* (4XNG), the extension of *4 Excellence*, strategies.
The 4XNG strategy is divided into four main themes: Operational, Commercial, Sales and People excellence. Related to the four several 2015 targets are put forward (figure 2.1.1 below show the most important objectives).

**Figure 2.1.1 SAS' 4XNG Strategic Objectives**




Source: SAS annual report 2012 (p.5)

The key takeaways concerning future strategic initiatives are:
- SAS (still) wants to ***decrease costs*** through new collective - and new pension agreements.

- The ***Nordic business travelers*** are (still) the core segment while improved competitiveness among the leisure segment is strived for.

- SAS' core value proposition is (still) high frequency, best airports, many destinations, safety, and punctuality - in other words service, simplicity and value for money compared to other airlines.

- A ***simplification of short-haul flight offerings*** i.e. business class has been shut down and more cheap seats are offered on continental flights[13].

- ***New routes have been opened***. As such the new offerings are made to increase capacity, lower the prices and increase load factor through fleet optimization.

- ***Improved loyalty program***. Looking beyond the near future SAS hopes that revenues can become more stable as a matter of new and improved loyalty program (EuroBonus) initiatives.

[12] http://www.reuters.com/article/2013/02/14/us-europe-economy-idUSBRE91D0CX20130214
[13] http://www.business.dk/transport/sas-skrotter-business-class

- ***Cost and flexibility improvements through a simplified fleet***. Today SAS operates with a fleet of 13 years on average - oldest among peers[14]. A renewal of the fleet can serve for both fuel efficiency, cost efficiency in terms of preparing fleet for flights (more routines and less training expenses) and flexibility in terms of matching fleet size with actual demand.

The remaining aspects of the strategy are improvement of capital structure as SAS is currently financially weak due to many negative years. SAS' intend is therefore to divest SAS Ground Handling, spare engines and Widerøe (Norwegian subsidiary airline).

A divestment of SAS Ground handling is a natural step as SAS has wanted to abandon their positions outside air transportation in the value chain. As of May 1st spare engines and SAS Ground Handling have been divested making for an improved financial base. The Aircraft engines are a matter of financing and flexibility as the engines are re-leased after sale.

**Conclusion the 4XNG strategy**

The 4XNG generation has some new positive strategic objectives as well as old concerns like the cost-cutting (from both re-structuring and union agreements) and future divestment.

Regarding revenues and capacity, SAS' choice of reducing ticket prices is a most welcome initiative given the product characteristics and the customer preferences (see chapter 3).
The openings of new routes signals that SAS is confident in the current business model and underlying cost structure, and even more important, on company survival.

The fleet optimization is a new approach and is very positive as fleet optimization will be important to SAS in the future. A negative aspect is that peers have optimized fleet to demand for years.
The strategic initiatives regarding cost structure are old and bad news for SAS and may be a potential worry to current and potential investors.
SAS has a high cost base and inefficient organizational structure. This is argued for, as a matter of both Corporate Governance (section 2.2), and historic industry regulation, giving flag carriers monopoly in certain markets, that have entailed equivalent cost structures (section 3.3) [15].

Heading into the future SAS' executives and employees must be more committed to cost-cutting and restructuring as the owners have publicly announced that this is the "final call" for SAS and no

[14] http://www.business.dk/transport/sas-flyver-veteranfly-i-forhold-til-konkurrenter
[15] Currently the administration is divided almost equally in Sweden (49 %), Denmark (33 %) and Norway (18 %). In 2015 the target is Sweden (81 %), Denmark (11 % and Norway (7 %).

more extra financing will be given to the company[16].

The overall assessment of SAS' strategic objectives, is a SAS that has understood the situation the company is facing given the industry characteristics of increasing demand but higher price sensitivity on shorter flights, given the price transparency.

The current strategy also reveal some reminiscences of SAS' heritage i.e. SAS' target of having top 5 job satisfaction among Nordic transportation companies simultaneous with cost and FTEs cuts. In industry perspective this objective is very uncommon, especially compared to the LCCs where the CEOs M. O'Leary (RyanAir) and Bjørn Kjos (Norwegian) are publicly arguing that salary levels base must be driven down in Europe to be able to compete with Asian airlines in the long run.

The job satisfaction objective, living side by side with initiatives weakening the employee conditions, is a paradox drawing a picture of SAS trying to have their cake and eat it too. A paradox that SAS must address as quickly as possible. In figure 2.1.2 below key stats on SAS in years 2006-2012 is shown to give an impression of the company development.

**Figure 2.1.2 SAS Fact box**

| SAS' Fact Sheet | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|---|---|---|---|---|---|---|---|
| **Strategy** | *4XNG* | *4Excellence* | *Core SAS* | *Core SAS* | *Core SAS* | *S2011* | *S2011* |
| **Core Segment** | Business/Leisure | Business/Leisure | Business | Business | Business | Business/Leisure | Business/Leisure |
| **Core Area** | Nordic | Nordic | Nordic | Nordic | Nordic | Northern Europe | Europe |
| **Destinations Served** | 126 | 128 | 127 | 134 | 157 | 158 | 164 |
| **Average Passenger Distance** | 1.069 | 1.058 | 1.085 | 1.076 | 1.070 | 1.054 | 1.084 |
| **ASK (mio)** | 38.681 | 37.003 | 34.660 | 35.571 | 41.993 | 40.019 | 54.907 |
| **Number of Passengers ('000)** | 30.141 | 28.990 | 27.096 | 26.967 | 30.936 | 31.381 | 43.138 |
| **Employees** | 14.897 | 15.142 | 14.862 | 17.371 | 20.496 | 21.898 | 26.554 |
| **Fleet Size, aircraft no.** | 204 | 199 | 207 | 215 | 255 | 260 | 301 |
| **Fleet age (years)** | 13,1 | 12,9 | 11,7 | 11,6 | 12,2 | N/A | c. 11 |
| **Market share Denmark** | 39% | | 40% | 43% | 46% | 50% | |
| **Market share Norway** | 51% | N/A | 50% | 54% | 59% | 60% | 45% |
| **Market share Sweden** | 31% | | 33% | 33% | 35% | 40% | |
| **Revenue pr. ASK** | 0,82 | 0,82 | 0,86 | 0,92 | 0,91 | 0,96 | |
| **Reported cost pr. ASK** | 0,81 | 0,86 | 0,95 | 1,02 | 0,96 | 0,87 | |

Source: SAS annual reports (2006-2012)

## 2.2 Corporate governance in SAS

From the very beginning SAS has been owned by the Norwegian, Danish and Swedish government. Today SAS is 50 % owned by the Danish, Swedish and Norwegian states. The remaining 50 % is privately owned with the Swedish Wallenberg Foundation as the primary private investor.

SAS national ownership has historically been (and is) substantiated by SAS' importance on the region in terms of infrastructure, work places and as a general brand for the Scandinavian countries.

The governments' 50 % ownership stake in SAS leads to a situation where the three governments are decisive for SAS' future. The ownership structure gives rise to a discussion of the governance, future objectives, potential bail and attitude towards M&A.

[16] http://www.ft.com/cms/s/0/b44e0d32-2c9e-11e2-a95d-00144feabdc0.html#axzz2ZfXSqWm7

As a private investor one should keep in mind that SAS' future choices are reliant on the governments' attitude towards and interest in the different issues in the company. One of the issues regarding SAS' ownership structure is that SAS, unlike a privately owned company has to take national interests into account and the three main owners' interests have not always been aligned;

***The Norwegian government*** is focused on infrastructural issues as the Norwegian west coast is difficult to combine by car or train. This has forced SAS to operate infrastructural combining routes in Norway.

***The Danish government*** has always wanted Copenhagen as the central hub due to work place interests. The Danish government has therefore been reluctant to initiatives shutting work places down in Copenhagen. This tendency seems to have disappeared in recent years as a centralization of administration in Sweden is a strategic goal in the 4XNG strategy (see 2.1.1).

***The Swedish Government*** has been the most anonymous player. Supporting this Swedish government has long been tired of the SAS debate and has wanted to divest SAS.
The primary concern for the Swedish government seem to be that Swedish banks are most reliant on SAS' future survival [17].

Historically the setbacks from i.e. inefficient structuring, operating unprofitable routes and wanting to avoid strikes has been offset by SAS' ability to charge monopoly prices due to political legislation. The ownership has therefore been a fruitful relationship for SAS in the past.
The question is how SAS' owners will cope with the increased price sensitivity in the industry caused by the "open skies" legislation as this has meant all means as to lower costs i.e. hiring staff on short-term contract, contract without pension etc. (further detailed in chapter 3).
A positive aspect regarding the national ownership has been that the owners have been willing to bail out SAS several times due to national interests. This advantage could have vanished as the owners have publicly announced that they will not bail out SAS again and SAS will have to survive without additional help[18]. The question is if this threat is credible, given the above discussion, even though the owners have allegedly rejected a proposal of a new capital injection, after having injected 5 SEKbn in 2009 and 6 SEKbn in 2010[19]?

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[17] http://borsen.dk/nyheder/investor/artikel/1/176190/svenskerne_vil_saelge_sas.html & http://www.check-in.dk/newselement.cfm?nNewsArticleID=70021
[18] http://www.b.dk/politiko/thorning-stoetter-omstridt-sas-sms
http://www.ft.com/intl/cms/s/0/b44e0d32-2c9e-11e2-a95d-00144feabdc0.html#axzz2gUCLb4Q0
[19] http://borsen.dk/nyheder/investor/artikel/1/240003/avis_presset_sas_faar_nej_til_aktieemission.html & http://www.fyens.dk/article/1419714:Boers-nyt--SAS-i-ny-emission-paa-5-mia--skr---2--opd

# Chapter 3 Industry analysis

Having introduced SAS and SAS' strategies and value proposition a closer look at the industry and the forces driving the industry is taken. The industry analysis will enable to discuss how SAS' current condition and strategic approach fit industry conditions. Along with the financial analysis in Chapter 4 the coming strategic analysis will make base for the SWOT analysis summing up on SAS future potential, ultimately making the base for valuating SAS, and improve the M&A analysis. The industry analysis will be made using Porter's 5 forces and the PESTEL framework. In order to set the scene for the industry analysis a brief introduction to SAS' peer group is made.

## 3.1 Introduction to the airline industry & SAS' peer group

The airline industry consists of different types of airlines; Low-Cost Carriers (LCC) and Full-Service carriers (FSC)[20].

***The LCCs*** are known for their low prices but charging extra fees for luggage, forgotten boarding passes, late check-ins and refreshments during flights.

***The FSCs*** charge higher prices but have a high service level, loyalty programs, use big airports, has high frequency and no extra charge for luggage etc.

When analyzing SAS in relation to peers the selection of peer group/comparable companies is crucial (Koller et. al 2010). Important parameters that have to be shared among peers are business plan (product, customers, geography etc.) and financial profile (size, profitability, ROI etc.).

In SAS' case shared underlying characteristics can be difficult as customer and geographical scope, company size, ownership etc. is hugely different across the industry due to its international scope. The main focus when selecting peers has been airlines that share geographical scope with SAS as this is a great indicator of preferences, legal interference and economic outlooks.

The selected peer group is shown below followed by a short discussion of the peer choices.

***Lufthansa:*** German FSC, the biggest Airline in Europe with operations all across Europe.

***KLM/AirFrance:*** Dutch/French FSC focusing on both Western Europe and US/Latin American transfer.

***IAG:*** UK based merger of British Airways and Iberia that has recently bought Vueling. IAG focuses on Western Europe, Southern Europe and transfer to Latin America, US and Asia.

***FinnAir:*** Finnish FSC, primarily focusing on Asia. Increasing focus on Nordic home market.

[20] Also called Network carriers or Flag carriers.

***Norwegian:*** Low Cost Carrier located in Norway, primary competitor in Norway.

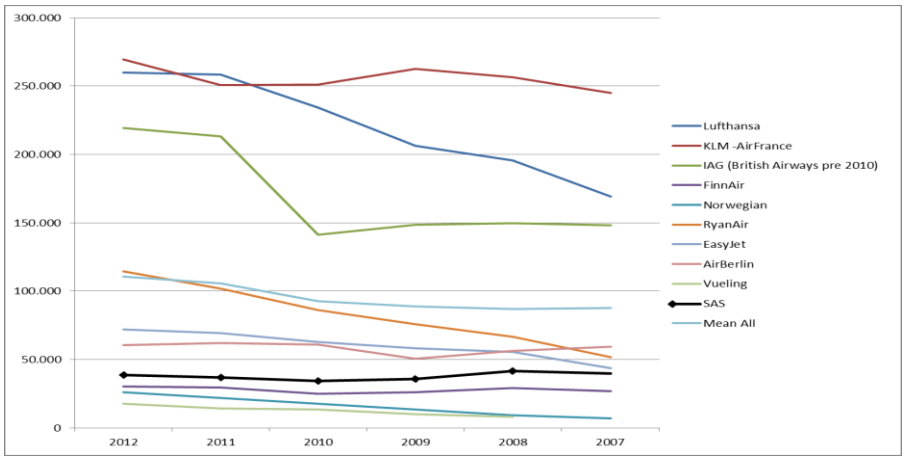
***RyanAir:*** Irish LCC with enormous growth over the past 10 years, large expansion in Nordics.

***EasyJet:*** UK based LCC, operations in entire Western Europe.

***AirBerlin:*** German LCC primarily focused on Germany and Central Europe, but has increased the Scandinavian focus in recent years.

***Vueling:*** Spanish LCC that has just entered the North European market**.** Now part of IAG.

**Figure 3.1. Airline size based on capacity (ASK)**




Source: Annual reports SAS & Peer Group 2012-2007 (Own depiction)

The argument for including Lufthansa, IAG and AF-KLM is that they are all airlines that share SAS' differentiation points in terms of brand and heritage in the industry as well as higher prices and as such operational base line.

Another argument for including *"old carriers"* is to have comparables in terms of lifetime (as new enterprise will often deviate from old - Petersen & Plenborg (2012, p. 107), geography and value proposition.

The counter argument for including the three is that the three are much bigger than SAS (see figure 3.1) and owns multiple airlines with a much broader scope.

The remaining six peer companies are all close to SAS in terms of capacity (tough RyanAir is expanding hugely) and all share Western and/or Central Europe as their home market -
a market where preferences, macroeconomics and value chain are hugely identical and as such all are all more or less focused on the Nordic market, as Norwegian operates from or to Scandinavia and as such a direct comparable to SAS in terms of market conditions and customer preferences.

## 3.2 Porter's 5 forces analysis

To assess the industry specific factors affecting the profitability of SAS and the airline industry in general a Porter's Five Forces analysis is conducted[21].

### 3.2.1 Internal competition

In 1992 EU adopted the "Open Skies" legislation making for a deregulation of the airline industry. The deregulation has entailed a much more competitive market compared to the previous monopoly market characteristics (Spitzer, 2006).

Since 1992 the deregulation has been ongoing and the "Open Skies" amendment from 2010 increased rivalry even further as all airlines could now operate in all countries. The "Open Skies" legislation has made for the introduction of the LCCs changing the general industry conditions for good. (O'Connell & Williams, 2005).

In addition to the increased competition from political deregulation, the homogenous product characteristics and prices being an important differentiator, combined with the fact that airline inventions are highly imitable and services therefore difficult to diversify (i.e. electronic check-in) has led to low switching costs, high price sensitivity and intense competition.

Further the introduction of internet portals like Expedia and Momondo, together with travel agencies like Carlson Wagonlit, have increased price transparency and as such price sensitivity[22].

Based on the above, the airline industry is assessed as one of the most competitive, due to the high number of competitors and the differentiation difficulties due to highly homogenous products, low switching costs, high fixed costs that have to be covered and inventions being highly imitable (MarketLine report on European Airline industry).

The overall assessment of the internal competition is that ***the internal competition is high.***

### 3.2.2 New entrants

The threat of new airlines entering the European market is almost equal to zero due to the high capital requirements compared to the competitive environment. This can also be seen from the drastic decline in airlines formed since 2006 (see figure A.7.2 in Appendix 7). In addition the biggest European airports has long had been closed for new entrants due to insufficient capacity.

The threat of a non-European airline entering the market is however not unlikely. This is the case as an airline with a solid cost base and sound funding, can enter most markets due to the continuous

[21] Based on Michael E. Porter (1979)

[22] IATA (2010) *"Network vs. LCC competition and airfares: New empirical evidence from the US"*

deregulation of the industry and homogenous preferences.
The question is if new FSCs are able to enter as a matter of slot allocation in the most important airports are based on the grand-father[23] right system and extremely difficult to change[24].

***The overall threat of new entrants in the European airline industry is low to medium***. This is mainly based on the enormous difficulties in stabilizing in the European Airline industry due to the already competitive market and grandfather rights.

### 3.2.3 Substitute products

The alternatives to airline travel are car, train, sailing and furthermore the development of telecommunication, where only train and telecommunication are assessed as threats in the future.

**Railroad travel** focuses on short and medium distances. The development of fast going trains (like the Chinese bullet train averaging 300 km/h) can be a serious alternative to air travel.
The railroad infrastructure and the Nordic geography with mountains, water etc. makes air-travel much easier than "ground-travel". The threat from fast going trains is therefore assessed as low.

**Telecommunication** and conferences are becoming more predominant in the business environment. This means less business travelling. The evolution of telecommunication can therefore lower the demand for air travel. However many matters are still solved on location why this is only a minor threat, as the increased airline customer base must also be taken into account (section 3.2.4).

As neither railroad travels nor telecommunication are reliable threats towards the aviation industry in terms of transporting people and given the increased aviation demand and customer base, ***the threat from substitute products is assessed to be low***.

### 3.2.4 Bargaining power of customers

The assessment of customer bargaining power is based on O'Connell & Williams (2005) findings. In general O'Connell & Williams (2005) divide the segment in business and leisure but also found age as being important especially in the leisure segment.

**Business:** O'Connell & Williams' (2005) survey clearly suggests that business customers tend to favor FSCs especially when employed in a big company. Self-employed or smaller businesses tend to use LCCs if money can be saved and no important service drawbacks are attached. This

[23] Grand-father right: The continuous right to airport slots if currently assigned to the airline.
[24] Deloitte - "Open Skies , open for business" - In appendix 7 (A.7.1) the allocation of Grand-father slots in the biggest European airports to local FSC is shown + Iatrou & Oretti (2007) p. 16

underpins another important finding, location of airport is crucial.
Besides employment the importance of the business trip is important for carrier choice, here training and conference travels has a tendency to choose LCCs.
The former suggests that the business segment is also price sensitive but not also that other parameters than prices is important when choosing carrier, most important are location of airport and intermediate landing - in other words that time is saved.

**Leisure:** The leisure segment favors the LCCs as prices are lower. The ticket research has been thoroughly done. As the duration of the journey increases the more likely the choice of an LCC i.e. going on weekend trips, the leisure segment will most likely favor the FSC segment if no LCC can offer the same airport, reasonable departure and arrival time and cheaper ticket.
As such LCCs hold an advantage when overall travel time increases and vice versa. This can be seen from the fact that people having a long trip, before reaching the airport, tend to favor the LCCs. The time/distance relation primarily relates to continental flights as other service parameters must be taken into account when flight time increases.

In addition to the leisure vs. business orientation O'Connell & Williams (2005) found a clear connection between age and preference for service/brand. The elder segment primarily chooses FSCs. This was the case from both a financial condition but also airline brand condition.

Overall the advantage for FSCs is in the business segment and elder segments. The advantage is driven by airport location and brand values as people with sufficient funds will favor the FSC.

The LCC advantage is the price advantage and the increased knowledge on LCC offerings. Often LCC services are equally good as FSCs but brand values give FSCs some advantages. This might change in the future, as more and more people gain knowledge on LCCs. In the future it may prove challenging for SAS, and other FSCs, as LCCs could be preferred on shorter flights.

***The overall customer power assessment is medium*** as switching costs are low but the customers still demand a ticket at a given price/service preferences tradeoff. The preferences might change in the near future as airline usage and product knowledge increase (discussed in section 3.3.3).

### 3.2.5 Bargaining power of suppliers

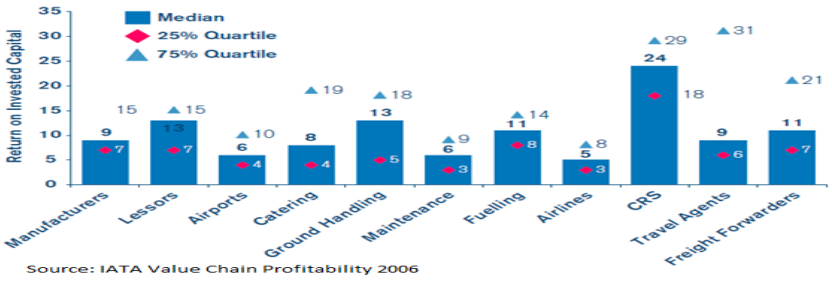
Three suppliers are important to the airline industry; Aircraft manufacturers, airports and fuel suppliers.
The biggest ***airports*** hold a tremendous resource as the location of the airport is important for the airlines destination offering (i.e. the London airports can charge premium prices as London is an

important and popular destination), as also discussed in section 3.2.2. and 3.2.4.

Same story, as with airports, go for ***manufacturers*** as only two companies are currently in the market (Boeing and Airbus). From theory airports and manufacturers should be able to charge premium prices as the airline industry is highly competitive and theory. In reality alternate customers must however be taken into account, and should the airlines disappear the entire customer base would also disappear.

Airports and airline suppliers are therefore dependent on airlines to be profitable, in order to survive and demand services in the long run. Figure 3.2.5.a shows that manufacturers' and airports' profitability does not deviate much from that of the airlines' and that power is not exercised.

**Figure 3.2.5.a Profitability in Airline Value Chain**




As with airports and manufacturers, the ***jet fuel suppliers*** are in a great bargaining position, and are able to charge monopoly prices through OPEC. The difference between airports and manufacturers is numerous customers of the oil suppliers. Airlines are therefore not able to shield from fuel price increases, and as fuel is an important input fuel prices represent a huge threat to airline profitability.

**Figure 3.2.5.b Fuel as & of Revenues SAS & Peer Group**

| Fuel as % of Revenue | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| SAS | -22,33% | -18,76% | -16,21% | -17,11% | -18,12% | -15,51% |
| Mean Peer-group | -28,45% | -26,30% | -22,92% | -24,39% | -25,62% | -21,39% |

Source: Annual reports SAS & Peer Group 2012-2007 (Own depiction)

Over the past years the oil prices have challenged airline profitability (figure 3.2.5.b & figure A.7.3 in appendix 7). Recent oil price expectations are however good news for SAS and the airline industry as IMF expects a declining oil price until 2018 (appendix 7, figure A.7.4). Bad news is the sensitivities of the oil prices to political stability and demand in other industries. As such long term forecasts can be misleading.

Summing up, suppliers hold bargaining power over the airlines, but not as much as one might expect, as both airports and manufacturers are dependent on the airlines (and the entire aviation value chain) to be profitable to survive in the long run. Instead both airlines and airports can be seen as co-players in order for the airline industry to be "a winner"

The fuel suppliers, on the other hand, are capable of exercising monopoly bargaining power, and tend to be so. Based on fuel suppliers the overall assesment of ***supplier power is medium to high***.

**Conclusions on Porter's 5 Forces;**

The factors challenging industry profitability are the competitive structure within the airline industry, customer preferences and product characteristics. The airline product is a commodity and therefore the cost-structure becomes a main source of competitive advantage.

The external factor, affecting industry profitability the most, is oil price development. Currently airlines and airline suppliers are keen on reducing fuel consumption as fuel prices keeps increasing with significantly losses to the airlines.

The above cooperation among airlines and suppliers in terms of improving value chain profitability explains why the potential threat of suppliers, extracting abnormal profits, is assessed as low.

## 3.3 PESTEL analysis

In addition to industry specific characteristics the airline industry is also affected by macroeconomic factors. To assess the impact and influence from macroeconomic factors on the airline industry a PESTEL analysis is conducted.

### 3.3.1 Political

Historically the airline industry has been highly influenced by political factors. The influence has been caused by national interests in supporting and expanding the aviation industry. Further the national interest has historically also been to defend national airspace. As such national airlines (like KLM, SAS, Lufthansa and BA) have enjoyed monopoly in their respective home markets. With *Open Skies*[25] the monopoly advantage for national carriers has vanished and the increased competition have therefore been is affected by political initiatives.

As most of SAS core business area (Europe and the Nordics) has adopted *Open Skies* the future implications from political interference is not expected to be significant.

However, SAS' current situation is believed to have strong connections with SAS' ownership, as SAS' historic monopoly has led to the inefficient operations (as SAS bargaining position with unions are weak and certain routes a political necessity (also discussed in section 2.2.)

In the future SAS' ownership is therefore assessed the most important political impact whereas

[25] *Open Skies* is an bilateral agreement where all airlines are able to operate routes everywhere to and from countries part of *Open Skies* i.e. SAS can operated between France and USA and AirFrance between DK and USA.

social and legal initiatives and attitude regarding fuel emissions, terror and working conditions are more important to the European airline industry (discussed in sections 3.2.5. and 3.2.6.).

### 3.3.2 Economic

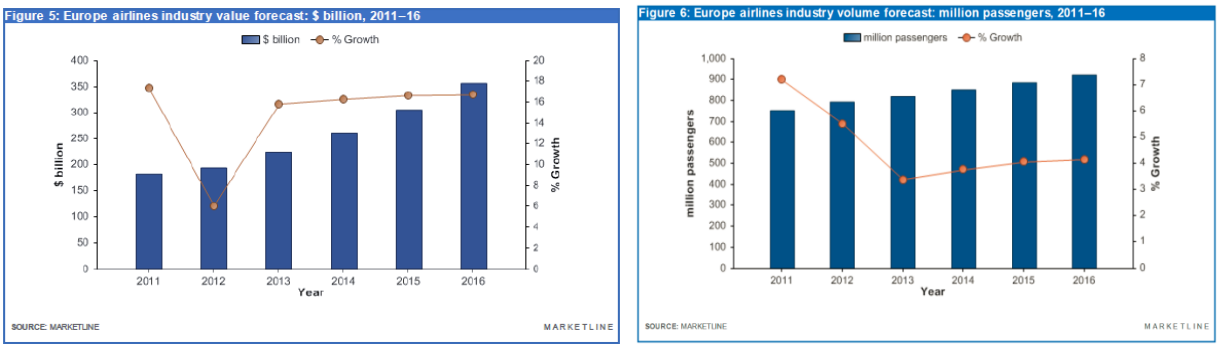
Air travelling can be regarded as a commodity. On one hand this fact combined with the current economic conditions entail high price sensitivity. On the other hand, the product is also somewhat a necessity. The overall revenues are therefore pressured by prices not quantities, and as demand does not disappear but preferences seem to change under different macroeconomic conditions the industry, as a whole, is not heavily affected by economic factors.

The preference changes has been driven by the current economic situation (and political deregulation) and has lead business travelers to focus on travelling costs, meaning that travelling expenses are one of the first areas to cut in a downturn, especially on short-hauls (see figure A.7.7 in appendix 7), exemplified by SAS' recent shut down of business class on European flights[26].

Leisure travelling is of course affected by economic conditions as more people will spend money on travels when the economic conditions are good. On the other hand air travelling, as a result of LCCs and lower prices, and more and more people being familiar with air travel, is a direct alternative to bus, train and car. This is perhaps also why the growth expectations for the industry lie within the leisure segment and in Asia (as all other industries)[27].

In combination with the economic factors the social factors make for significant overall market increase in the airline industry in the future (figure 3.3.2). The market value increases is expected to be driven by price increases rather than quantities, which is rather surprising given the assessed price sensitivity in among customers from sections 3.2.1 and 3.2.4. The different arguments can however be caused by SAS' primary markets (Western Europe) and figure 3.3.2 deal with Europe.

**Figure 3.3.2 - Industry outlook Europe**




Source: Market Line (appendix 9)

[26] http://www.business.dk/transport/sas-skrotter-business-class
[27] http://www.takeoff.dk/bjorn-kjos-tror-pa-asiatisk-dominans/

### 3.3.3 Social

The size of the overall airline demand is highly driven by routines and familiarity with the airline product and not necessarily given trends or fads in society as seen with other industries.

The drivers that have turned the product to a commodity are imitable technology improvements and political deregulation (sections 3.3.1 and 3.3.4). This is however also what has driven the demand and market size up in general as Europeans have become more and more used and familiar with air travelling and the possibilities and advantages attached, given alternatives and the purpose.

The future expectations on customer preferences given O'Connell & Williams' (2005) are that smaller price and product differences between FSC and LCC as a great customer desire.

As such the price/product trade-off will become even more important to attract customers in the future. In other words a general social adaption of airfares as a commodity will drive the industry in the future - for good and for worse as total market volume will increase, maybe on behalf of prices.

This further supplement the findings from section 3.2.3 and 3.2.4 where no direct competitor to the airline industry was found and the customer demand largely driven by price sensitivities, and that the market volume will increase in the future and the quest will rather be to align with preferences.

### 3.3.4 Technological

Technological improvements are extremely important for the development, profitability and the attitude towards the aviation industry as such.

In the current situation the airlines' profitability is sensitive to the jet fuel prices. Currently aircrafts (the Dreamliner) that lower fuel consumption with approx.15- 30% (depending on the base line) are introduced to the market[28]. This is a major step towards lowering costs. Another advantage of a more fuel efficient fleet is a reduction to the emissions that some NGOs have criticized.

The use of electronic inventions has also lowered the complexity of travelling by plane. This is an important part of the increased activity but also led to the commodity product perception.

In the future technological inventions are important as costs have become increasingly important. The problem is that all technological progressions are imitable as such not crucial for the respective airlines but important in order for the industry to distance competing industries (section 3.2.3).

### 3.3.5 Environmental

There is a very delicate balance between increased focus on flight safety due to terrorism and the inconvenience the procedures in the airport entail. A new 9/11 will per se damage the use of air transportation, as people will be afraid of flying. To calm the customers/passengers a more

[28] http://www.virgin-atlantic.com/tridion/images/787nov_tcm4-523607.pdf

conservative attitude towards safety will be seen. This will be very time consuming and decrease the value/advantage of air travel.

As terrorism is an invisible threat the handling of this is both a political, social and economic factor. As such this matter is included as an environmental factor, and a potential factor that in case of happening will be harmful to the industry at least for a period.

Other factors such as hurricanes and volcanic eruptions cannot be foreseen and will harm the entire industry. As such no airline is able to do better than others during natural disasters but will of course, momentarily paralyze the entire industry.

### 3.3.6 Legal

Airline competitors are located in different countries and therefore have different laws to obey. This has historically been a source of competitive advantage. For example RyanAir employees have to pay for training and work wear themselves, and have low job security[29]. The argument has been that employees are hired on Irish conditions excluding other countries unions.

The trend is not expected to stop if LCC CEOs were to decide. Recently Norwegian hired pensioned pilots on Asian terms and has employees working on Spanish conditions[30]. In an article Bjørn Kjos, CEO in Norwegian says; "We will fail if we do not bring our costs down to Asian levels. In the future our main competition will be Asian[18]".

Lawsuits have already been filed against RyanAir[31]. In the future the legal perspective regarding employee conditions is expected to play a major role for the industry dynamics.

Overall the legal structure is a crucial point in the future as legal factors can be a game changer for either LCCs or FSCs as the approaches towards cost-cutting vs. employee conditions are different.

**Conclusion on PESTEL**

The key take-away from the PESTEL is that all macroeconomic aspects are somewhat intervened and as such all factors affect the airline industry.

This is the case as political attitude towards legislation is important regarding entrants, staff conditions and general safety perception. Further economic factors are important as these drive social factors, ultimately driving the preferences. As such the airline industry players must be highly aware of the macroeconomic trend as all factors are highly intervened, and drastic changes in industry conditions might follow even if no sole factor have an obvious and constant influence.

[29] http://www.dr.dk/Nyheder/Penge/2013/04/09/181958.htm
[30] http://www.dn.no/forsiden/naringsliv/article2595912.ece
[31] http://www.thejournal.ie/belgian-union-to-sue-ryanair-over-illegal-work-practices-204039-Aug2011/

# Chapter 4 Financial analysis

This chapter will deal with the financial aspects of SAS and the chosen peer group. This will enable for both an analysis of SAS' development over time as well as a comparison with the primary competition.

In this section the financial health and ratios of SAS will be examined. The purpose of the financial analysis is to look at both the operating and financing health of SAS. The operating health will reveal where the value is created and destroyed. The financing analysis will enable to analyze and assess SAS' ability to act and react on short and long-term strategic opportunities and threats.

**SAS' accounting policies:**

Since January 1st 2005 SAS has prepared its annual reports according to the IFRS and the data from the five annual reports used (2008-2012) are therefore comparable in terms of regulative.

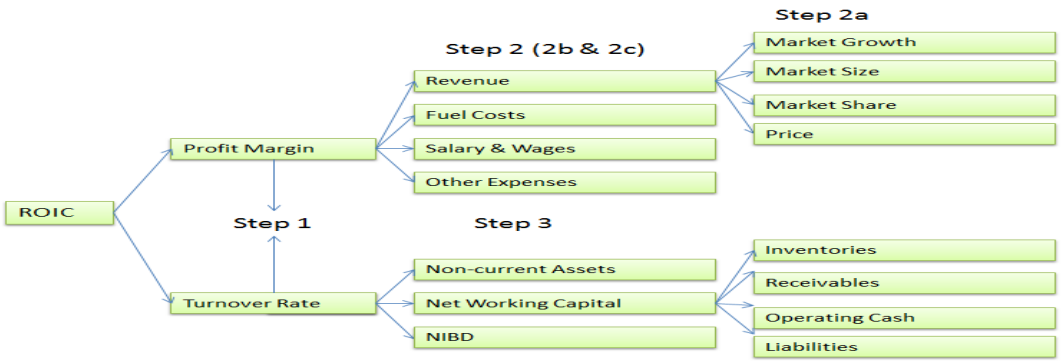
The Annual reports have all been approved by the Auditor without remarks; as such SAS AB can continue its business which is a basic assumption for the DCF valuation framework used to value SAS AB.

In appendix 8 the underlying rationales and assumptions behind the reorganized income statements and balance sheets of SAS (appendix 2) and peer group (appendix 3) is presented.

## 4.1 Operational analysis / DuPont analysis

In figure 4.1 the Du-Pont framework on ROIC is presented. The figure represents the order in which the financial analysis of SAS will be made. As also suggested by the figure the first step in order to analyze on SAS' condition will be to examine the profit margin and turnover of invested capital ratio, next the drivers of profit margin (operations) and turnover rate (revenue and capital bindings).

**Figure 4.1 DuPont model framework**




Source: Petersen & Plenborg (2012) p. 94 (Own depiction)

### *Step 1 Profit margin & asset turnover:*

First step when analyzing a company is to look at return on invested capital (ROIC), profit margin (PM) and turnover of invested capital as this will both reveal the tendencies but also reveal where the underlying drivers of the business and key performance indicators lie. The relation between the three is presented in equation 4.1.1.

$$Return\ on\ invested\ capital = Profit\ margin * Invested\ capital\ turnover \quad (4.1.1)$$

**Figure 4.1.1.a SAS' ROIC, Profit Margin & Invested capital turnover 2012-2007**

| SAS - ROIC, Profit Margin & Turnover | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| ROIC before tax (using EBIT) | -0,34% | -0,52% | -4,26% | -6,03% | 0,57% | 6,91% |
| ROIC after tax (using NOPAT) | -0,90% | -1,88% | -3,16% | -4,72% | -0,31% | 4,99% |
| Profit margin (using EBIT) | -0,25% | -0,47% | -3,48% | -5,18% | 0,43% | 5,25% |
| Profit margin (NOPAT) | -0,67% | -1,47% | -2,63% | -3,68% | -0,20% | 3,85% |
| Invested capital turnover | 1,33 | 1,28 | 1,20 | 1,29 | 1,56 | 1,29 |

Source: SAS annual reports (own depiction)

SAS has had negative returns for the past five years (after tax). This is caused by the profit margin (as PM is the only variable in 4.1.1 that can be negative. A positive point is however that ROIC (profit margins) is less negative each year since 2009 suggesting a positive tendency.
The invested capital turnover seems less important as stable and as operations run with deficits. SAS' numbers does not tell the entire story and must, as stated, be compared to peers. ROIC, profit margin and invested capital turnover in shown figure 4.1.1.b.

**Figure 4.1.1.b SAS vs. peer group: ROIC before tax, profit margin & turnover**

| Return on Invested Capital before Tax | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| SAS | -0,34% | -0,52% | -4,26% | -6,03% | 0,57% | 6,91% |
| Mean All | 6,53% | 4,42% | 3,73% | 2,14% | 7,59% | 13,07% |
| Mean Low Cost Carriers | 10,56% | 6,07% | 6,96% | 6,05% | 5,36% | 12,57% |
| Mean Full-service carriers | 2,51% | 2,77% | 0,49% | -1,77% | 9,38% | 13,47% |
| Median All | 6,24% | 4,29% | 3,41% | 3,01% | 7,85% | 12,74% |
| Median Low cost Carriers | 8,61% | 7,69% | 6,37% | 4,44% | 5,31% | 13,41% |
| Median Full Service Carriers | 0,24% | 2,20% | -4,02% | -3,78% | 9,11% | 12,74% |
| **Profit Margin** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** |
| SAS | -0,67% | -1,47% | -2,63% | -3,68% | -0,20% | 3,85% |
| Mean All | 4,04% | 2,37% | 2,42% | 1,08% | 3,90% | 6,77% |
| Mean Low Cost Carriers | 7,57% | 4,01% | 5,13% | 3,52% | 4,49% | 8,95% |
| Mean Full-service carriers | 0,51% | 0,72% | -0,29% | -1,36% | 3,31% | 5,02% |
| Median All | 4,04% | 1,70% | 1,85% | 0,99% | 2,91% | 4,91% |
| Median Low cost Carriers | 5,91% | 5,23% | 3,95% | 3,77% | 1,84% | 6,64% |
| Median Full Service Carriers | -0,65% | 1,57% | -2,34% | -2,30% | 3,98% | 4,91% |
| **Asset Turnover** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** |
| SAS | 1,33 | 1,28 | 1,20 | 1,29 | 1,56 | 1,29 |
| Mean All | 1,41 | 1,37 | 1,29 | 1,36 | 1,67 | 1,73 |
| Mean Low Cost Carriers | 1,10 | 1,00 | 1,01 | 1,08 | 1,33 | 1,45 |
| Mean Full-service carriers | 1,73 | 1,74 | 1,58 | 1,64 | 1,94 | 1,96 |
| Median All | 1,25 | 1,17 | 1,17 | 1,30 | 1,52 | 1,50 |
| Median Low cost Carriers | 1,03 | 0,88 | 0,91 | 0,95 | 1,28 | 1,35 |
| Median Full Service Carriers | 1,33 | 1,28 | 1,21 | 1,38 | 1,56 | 1,51 |

Source: Annual reports SAS & Peer Group 2012-2007 (Own depiction)

The reason behind the inferior ROIC is the negative profit margin also suggested in figure 4.1.1.a. The former has also revealed that the most interesting areas to investigate are the underlying drivers of the *profit margin* as this has caused the negative ROIC and as turnovers are almost identical across peers.
Unfortunately the profit margin does not tell much about SAS and a deeper dive into the operations must be made in order to state where SAS losses ground on peers as suggested in figure 4.1.1.b. The profit margin deep dive will center on revenue, fuel costs, salaries and other expenses. As revenues and costs are different especially in SAS' case where fixed costs (not driven by sales) are significant the analysis will be split in two; a revenue and a cost analysis (step 2 in figure 4.2.).

The turnover analysis seems less important at first glance. Still SAS could deviates from peers and this will affect value creation. The analysis will center on short- and long term capital bindings where the long term bindings might the most important as the airline industry is capital intensive.

### *Step 2 Profit margin analysis*

**Step 2a, Revenue:**

First thing to look at when analyzing profit margin are revenues. Figure 1.4 showed that passenger revenues account for approx. 85 % of total revenues. Passenger revenue is therefore the most important revenue driver (fig. 4.1.1.c also show that freight and mail tend to follow passenger rev.).

**Figure 4.1.1.c SAS' revenue development 2007-2012**

| SAS Revenue Index 2007 =100 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| Passenger revenue | 81,89 | 79,01 | 77,56 | 84,65 | 98,71 | 100 |
| Freight and mail revenue | 78,41 | 83,66 | 88,34 | 58,37 | 87,64 | 100 |
| Charter revenue | 100,46 | 95,95 | 99,08 | 111,53 | 85,24 | 100 |
| Other traffic revenue | 156,52 | 138,47 | 123,85 | 121,44 | 140,29 | 100 |
| Total | 85,20 | 82,03 | 80,57 | 86,10 | 99,13 | 100 |

Source: SAS annual reports (own depiction)

Figure 4.1.1.c clearly shows that SAS' passenger revenues have declined rapidly since 2007. In 2012 passenger revenues only amounted to 82 % of 2007 levels. This suggests that revenue developments have played an important role in SAS' negative profit margin in the covered period. A positive takeaway is that SAS revenues show positive trends in 2011 and 2012. This signals that SAS' strategic position is somewhat stable and can be slowly expanded as also seen in chapter 2.

The underlying reasons for SAS declining revenues are not explained in figure 4.1.1.c. why the only (but important) take away is that SAS' revenues have declined approx. 20 % over a 4 year period.

In order to state what has driven SAS' negative revenue development a closer look at underlying drivers of revenue is needed. In general revenues consist of quantities (ASK) and prices (RASK) which is also the case in the airline industry (shown in equation 4.1.1a and 4.1.1.b).

$$Passenger\ Revenue = ASK * Revenue\ pr.ASK \quad (4.1.1.a)$$

$$Passenger\ Revenue = ASK * Revenue\ pr.RPK * Load\ Factor \quad (4.1.1.b)$$

The equations tell that SAS' revenue development must have been driven by at least one the three factors - *available seat kilometer*, *revenue pr. revenue passenger kilometer* and *load factor*.

**Figure 4.2.1.d SAS' RASK, RRPK & load factor index**

| Index (2007 = 100) | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| ASK (capacity) | 96,7 | 92,5 | 86,6 | 88,9 | 104,9 | 100,0 |
| RASK (revenue pr. unit) | 84,7 | 85,4 | 89,6 | 95,2 | 94,1 | 100,0 |
| RRPK SEK (ticket prices) | 83,5 | 85,4 | 88,6 | 98,5 | 96,9 | 100,0 |
| Load Factor (capacity utilization) | 101,5 | 100,1 | 101,1 | 96,7 | 97,1 | 100,0 |

Source: SAS annual reports (own depiction)

From figure 4.1.1.d it is seen that the main driver behind SAS' declining passenger revenues is the RRPK and the ASK - in other words lower ticket prices and declining capacity.
The capacity decline is hopefully offset by lower costs as this is 100 % determined by the airline. This is however seldom the case the revenues are often a leader to the lagging costs especially when fixed costs are high. In the airline industry fixed costs are high compared to other industries.

The decline in ticket prices is a red flag but perhaps a natural tendency given the price sensitivity in the industry (chapter 3). The RRPK declines may therefore not be SAS specific and the trend must be compared to industry in general as to compare levels but also reveal strengths and weaknesses.

**Figure 4.1.1.e SAS' RASK vs. peers**

| RASK in Swedish Ore | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| SAS | 81,7 | 82,4 | 86,4 | 91,9 | 90,7 | 96,5 |
| Mean All | 58,9 | 46,4 | 44,3 | 45,1 | 46,2 | 46,5 |
| Mean Low Cost Carriers | 46,3 | 24,5 | 23,0 | 24,2 | 23,2 | 16,1 |
| Mean Full-service carriers | 71,4 | 68,4 | 65,5 | 66,1 | 69,2 | 70,8 |
| Median All | 60,4 | 57,4 | 48,8 | 51,7 | 49,0 | 49,4 |
| Median Low cost Carriers | 48,0 | 23,7 | 23,1 | 26,4 | 28,6 | 15,5 |
| Median Full Service Carriers | 70,8 | 65,8 | 67,1 | 61,4 | 66,5 | 69,4 |
| SAS Deviation From Mean All | 38,8% | 77,5% | 95,1% | 103,6% | 96,4% | 107,4% |
| SAS Deviation from FSC Mean | 14,4% | 20,6% | 31,8% | 39,1% | 31,1% | 36,2% |

Source: Annual reports, SAS & Peers (Own depiction)

Compared to peers SAS' RASK is 14.4 % above FSC standards. This is even though SAS' RASK has declined 15 % since 2007. The RASK analysis therefore suggests that SAS has an edge on peers in terms of revenues. From equation 4.1.1.b the overall RASK advantage is based on either RRPK and/or load factor. A closer look at the two variables is therefore needed.

**Figure 4.1.1.f SAS' load factor & revenue pr. RPK vs. peers**

| Load factor | 2012 | 2011 | 2010 | RRPK in Swedish Ore | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|
| SAS | 74,4% | 73,4% | 74,2% | SAS | 109,8 | 112,2 | 116,4 |
| Mean All | 80,8% | 78,8% | 78,4% | Mean All | 69,8 | 63,1 | 62,2 |
| Mean Full-service carriers | 80,0% | 77,0% | 77,9% | Mean Full-service carriers | 86,2 | 73,0 | 71,9 |
| Median All | 79,8% | 78,6% | 77,5% | Median All | 70,3 | 61,9 | 61,5 |
| Median Full Service Carriers | 79,6% | 77,6% | 78,5% | Median Full Service Carriers | 88,1 | 87,6 | 84,4 |
| SAS Deviation From Mean All | -7,8% | -6,8% | -5,4% | SAS Deviation From Mean All | 57,2% | 77,9% | 87,3% |
| SAS Deviation from FSC Mean | -6,9% | -4,6% | -4,8% | SAS Deviation from FSC Mean | 27,3% | 53,6% | 61,9% |

Source: Annual reports, SAS & Peers (Own depiction)

From figure 4.1.1.f it can be concluded that SAS' RASK advantage is solely based on ticket prices (RRPK). This is evident as SAS only manages to use 74 % of cabin capacity compared to peers' 80% capacity exploitation and as SAS is able to charge 27.3 % (in 2012) more pr. flown passenger pr. kilometer compared to FSC peers (RRPK).
A negative tendency is that SAS RRPK advantage is slowly vanishing. Given the price sensitivity discussion from chapter 3 an interesting point is that the industry as a whole sees an increasing trend in RRPK. As such the tendency of industry closing in on SAS' RRPK is expected to continue in the future. The question is if SAS brand will be able to sustain a small premium compared to peers and if not SAS' load factor will be a serious setback why it must be improved in the future.

**Revenue conclusions:**
SAS' revenues have declined 20 % since 2007. This tendency is not satisfying for SAS but still the overall assessment of SAS' revenue is somewhat positive however with some concerns.
The positive impression is based on SAS' high RASK compared to peers. This is quite an achievement given the price and product characteristics in the industry. The underlying drivers of the RASK were a low load factor but also really high RRPK compared to peers.
Heading into the future SAS' load factor must be changed radically as this will be a serious threat for SAS is the RRPK advantage is not sustained at current levels and this is not expectable both given the actual tendency and the increased price sensitivity among customers.
In addition SAS' 4NXG strategy confirms this theory as SAS has closed business class and simplified offerings and this will most likely lead to higher load factor and lower RRPK.

Beyond RRPK/load factor optimizations SAS' wants to improve load factor through fleet optimization suggesting improvements in addition to RRPK/load factor can be made.
Regarding costs increases in load factor has the upside that it lowers unit costs (see appendix 7, figure A.7.6).

Relating to SAS' profit margin from 2007-2012 revenues have played an important, not to be negative in first place as SAS' RASK is high compared to peers but to keep profit margin negative as revenues have dropped 20 % over the period.
SAS' problem must therefore be that SAS' revenues are not sufficient to derive at a positive profit margin and as such SAS' negative profit margin must be driven by extremely poor cost structure. The next step will take a closer look at how SAS' has managed the cost base.

**Step 2b, Cost structure:**
Airlines' costs are primarily salaries, fuel and other expenses (maintenance, handling fees, airport charges etc.). As to make an overall assessment of SAS' cost structure the three cost groups will be individually discussed both cross sectional and across time as also done with revenues.

*Fuel expenses:*
Fuel expenses are closely connected to capacity as it takes fuel to produce one unit capacity (ASK). As fuel is consumed regardless of the load factor and RRPK, fuel is based on ASK, and not revenues. In the following SAS' FASK is analyzed.

**Figure 4.1.1.g SAS' FASK in index & compared to peers (continues on next page)**

| Index (2007 = 100) | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| Fuel pr. ASK in SEK | 119,8 | 103,7 | 94,0 | 106,7 | 113,3 | 100,0 |

| FASK Swedish Ore | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| SAS | 24,27 | 21,00 | 19,05 | 21,60 | 22,95 | 20,25 |
| Mean All | 18,28 | 15,98 | 13,31 | 14,12 | 16,15 | 13,39 |
| Mean Low Cost Carriers | 14,39 | 13,02 | 10,60 | 11,35 | 14,62 | 10,62 |
| Mean FSC excl. SAS | 21,66 | 18,44 | 15,27 | 15,71 | 16,35 | 14,45 |
| Median All | 17,68 | 15,92 | 12,62 | 14,33 | 15,84 | 13,99 |
| Median Low cost Carriers | 15,98 | 14,42 | 11,03 | 11,67 | 13,24 | 9,79 |
| Median FSC excl. SAS | 23,27 | 19,50 | 16,09 | 15,11 | 16,69 | 14,86 |
| SAS deviation from Mean All | 32,7% | 31,4% | 43,1% | 53,0% | 42,1% | 51,2% |
| SAS deviation from FSC Mean | 12,0% | 13,9% | 24,7% | 37,5% | 40,3% | 40,1% |

Source: Annual reports, SAS & Peers (Own depiction)

Figure 4.1.1.g shows that SAS' FASK has increased over since 2010. This is of course a negative development to SAS, but as seen from the peer comparison not unique characteristic in SAS. The increasing oil prices are a problem, as oil is a key input to airlines' profitability (figure 3.2.5.b).

Besides from the negative increase in SAS' FASK, the FSC peer comparison show that SAS has gained ground on the FSC peers closing the deviation gap from 40.3 % to 12 % over a 4 year period. This is a very positive development for SAS even if SAS has not fully reached peers' levels.

The fact that SAS lie above industry standards is however a negative sign as fuel prices should be identical among peers. SAS' higher FASK must be driven by internal characteristics i.e. old fleet, hedging decisions or choice of fleet given the routes[32].
In this light SAS' problems can be somewhat argued by procurement (StarAlliance subsidiary FuelCo. handles fuel procurement for the alliance, including SAS and Lufthansa) and SAS and Lufthansa FASK is almost identical. In 2012 SAS' FASK was marginally better than Lufthansa's.

In addition to procurement, the higher FASK may also be caused by SAS being more inefficient in optimizing aircraft size (also suggested by SAS' low load factor), and due to SAS' older fleet that could be less fuel efficient compared to newer aircrafts.
The overall assessment is that SAS' higher FASK is a mixture of the three plausible reasons. Heading into the future SAS' possibility to close the gap therefore rest on improving fuel efficiency from optimizing fleet and renew fleet. The question is if SAS' will be able to reach industry levels, as SAS has already had the chance to implement such efficiency approaches, and SAS' financial health can somewhat constraint the ability to rapidly renew current fleet (discussed in section 4.3).

*Salaries and Wages:*

Unlike fuel, salaries and wages are not directly tied to capacity. As such the SAS' salaries and wages cannot be analyzed using salary pr. ASK alone, why salaries are initially analyzed in relation to revenues (figure 4.1.1.h).

**Figure 4.1.1.h SAS' salaries as % of revenues**

| Salary & Wages as % of revenue | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| SAS | 32,2% | 31,6% | 33,1% | 40,1% | 34,1% | 33,1% |
| Mean All | 15,8% | 18,1% | 19,0% | 20,1% | 18,9% | 19,6% |
| Mean Low Cost Carriers | 11,2% | 12,0% | 12,4% | 12,9% | 12,9% | 12,1% |
| Mean Full-service carriers | 21,5% | 24,1% | 25,6% | 27,4% | 25,0% | 25,6% |
| Median All | 16,1% | 19,2% | 19,8% | 20,2% | 19,2% | 21,2% |
| Median Low cost Carriers | 10,7% | 11,2% | 11,3% | 11,5% | 12,4% | 11,8% |
| Median Full Service Carriers | 21,5% | 23,0% | 25,0% | 24,4% | 23,6% | 24,2% |
| SAS deviation from Mean All | 104,1% | 74,9% | 74,1% | 99,1% | 80,3% | 68,5% |
| SAS deviation from FSC Mean | 49,9% | 31,1% | 29,5% | 46,4% | 36,6% | 29,0% |

Source: Annual reports, SAS & Peers (Own depiction)

Given SAS' declining revenues an increase in the salary/revenue ratio is expected. Surprisingly the ratio has been stable (not 2009) suggesting that SAS has lowered salaries and wages in accordance with revenues and even more than revenues over the five year period. Comparing SAS to peers the ratio looks less satisfying as constantly having a >30% deviation from peers.
SAS' deviations from FSC mean suggest that SAS' salary level is enormous in industry context.

[32] (SAS' load factor suggests bigger planes compared to peers).

To reveal where SAS fall behind peers a decomposition into ASK pr. employee (productivity) and salary pr. employee (salary levels) is made in figure 4.1.1.i.

**Figure 4.1.1.i SAS & peer group's ASK/employee & salary pr. employee**

| Salary pr. Employee SEK | 2012 | 2011 | 2010 | 2009 | 2008 | ASK pr. Employee | 2012 | 2011 | 2010 | 2009 | 2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAS | 920.746 | 864.615 | 906.540 | 1.036.095 | 885.685 | SAS | 2,60 | 2,44 | 2,33 | 2,05 | 2,05 |
| Mean All | 612.293 | 587.274 | 562.199 | 575.359 | 546.792 | Mean All | 6,41 | 6,21 | 6,05 | 5,66 | 5,40 |
| Mean Low Cost Carriers | 542.743 | 538.593 | 529.037 | 542.002 | 518.788 | Mean Low Cost Carriers | 9,70 | 9,47 | 9,40 | 8,79 | 8,28 |
| Mean Full-service carriers | 681.844 | 635.954 | 595.360 | 608.715 | 574.796 | Mean Full-service carriers | 3,12 | 2,95 | 2,69 | 2,52 | 2,53 |
| Median All | 542.331 | 538.901 | 489.492 | 484.660 | 472.309 | Median All | 5,48 | 5,39 | 5,20 | 4,73 | 4,96 |
| Median Low cost Carriers | 463.618 | 475.885 | 486.766 | 477.507 | 449.895 | Median Low cost Carriers | 9,58 | 9,02 | 9,14 | 8,85 | 6,73 |
| Median Full Service Carriers | 650.093 | 614.606 | 503.432 | 491.813 | 483.888 | Median Full Service Carriers | 2,67 | 2,46 | 2,40 | 2,45 | 2,45 |
| SAS deviation from Mean All | 50,4% | 47,2% | 61,2% | 80,1% | 62,0% | SAS deviation from Mean All | -59,5% | -60,7% | -61,4% | -63,8% | -62,1% |
| SAS deviation from FSC Mean | 35,0% | 36,0% | 52,3% | 70,2% | 54,1% | SAS deviation from FSC Mean | -16,9% | -17,2% | -13,3% | -18,9% | -19,0% |

Source: Annual reports, SAS & Peers (Own depiction)

The salary level and productivity decomposition is devastating "news" for SAS as both productivity and especially wage levels are significantly negative compared to industry, even if SAS has improved both. As neither productivity nor salary levels have improved enough to close the gap to peers since 2009 the development is worse news than absolute levels, but explains why staff cost and administration efficiency objectives are a key element in all SAS' strategies.

In the future, the outlooks for SAS are however not positive. This is primarily based on SAS' negative track record in lowering salaries and improving productivity clearly stated in figure 4.1.1.i. The past, current and future salary inefficiencies are believed to be caused by SAS' owners, and the needed improvements are therefore difficult to believe in. The new approach of centralizing administrations is expected to cut FTEs but not in accordance with SAS' expectations.

*Other Expenses:*

Apart from fuel and wages, airlines have a number of other expenses like aircraft maintenance, airport charges, landing fees and ground handling. As with salaries "other expenses" has no direct connection to ASK. As such *Other revenues* will be analyzed as percentage of revenues.

**Figure 4.1.1.j Other expenses SAS vs. peers**

| Other Expenses % of Revenue | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| SAS | 39,1% | 38,6% | 45,7% | 40,6% | 41,6% | 41,3% |
| Mean All | 40,9% | 43,2% | 45,3% | 44,4% | 42,9% | 43,1% |
| Mean Low Cost Carriers | 41,2% | 44,3% | 45,4% | 45,3% | 43,7% | 44,5% |
| Mean Full-service carriers | 40,5% | 42,0% | 45,1% | 43,5% | 42,2% | 41,9% |
| Median All | 42,6% | 43,6% | 46,3% | 44,8% | 44,4% | 43,4% |
| Median Low cost Carriers | 44,7% | 45,8% | 46,2% | 49,4% | 46,1% | 49,1% |
| Median Full Service Carriers | 41,6% | 41,3% | 46,4% | 43,2% | 41,6% | 41,3% |
| SAS deviation from Mean All | -4,3% | -10,6% | 1,0% | -8,6% | -3,0% | -4,2% |
| SAS deviation from FSC Mean | -3,5% | -8,3% | 1,3% | -6,7% | -1,4% | -1,6% |

Source: Annual reports, SAS & Peers (Own depiction)

As seen in figure 4.1.1.j *Other expenses* take a huge chunk of revenues for both SAS and the peers. Further the ratio seems to be relatively identical across industry in relation to revenues. As SAS has

higher RASKs compared to peers, the *other expenses/revenues* ratio could be expected to be lower compared to peers. The initial conclusion on SAS' *other expenses* levels negative, but must be analyzed in detail. In figure 4.1.1.k *other expenses* are seem in relation to ASK and passengers.

**Figure 4.1.1.k Other expenses pr. ASK and Other expenses pr. passenger**

| Other Expenses/ASK Euro | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | Other Expenses/Pax EURO | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAS | -5,1% | -5,0% | -6,3% | -6,0% | -6,2% | -6,3% | SAS | -76 | -69 | -86 | -86 | -89 | -86 |
| Mean All | -3,3% | -3,3% | -3,2% | -3,3% | -3,3% | -3,3% | Mean All | -81 | -82 | -79 | -81 | -82 | -83 |
| Mean Low Cost Carriers | -2,6% | -2,6% | -2,5% | -2,7% | -2,6% | -2,4% | Mean Low Cost Carriers | -38 | -37 | -36 | -37 | -38 | -33 |
| Mean Full-service carriers | -4,3% | -4,3% | -4,5% | -4,4% | -4,5% | -4,6% | Mean Full-service carriers | -123 | -124 | -124 | -126 | -127 | -124 |
| Median All | -3,3% | -3,4% | -3,1% | -3,2% | -3,1% | -3,4% | Median All | -71 | -67 | -70 | -72 | -73 | -86 |
| Median Low cost Carriers | -2,8% | -2,8% | -2,8% | -3,0% | -2,6% | -2,3% | Median Low cost Carriers | -35 | -36 | -37 | -37 | -35 | -35 |
| Median Full Service Carriers | -4,1% | -3,7% | -3,8% | -3,3% | -3,5% | -3,4% | Median Full Service Carriers | -124 | -132 | -135 | -115 | -122 | -112 |
| SAS deviation from Mean All | 54,9% | 54,0% | 95,5% | 84,1% | 88,5% | 91,3% | SAS deviation from Mean All | -6,5% | -16,0% | 8,7% | 5,9% | 9,5% | 3,7% |
| SAS deviation from FSC Mean | 17,2% | 17,1% | 39,5% | 36,1% | 36,9% | 37,5% | SAS deviation from FSC Mean | -38,6% | -44,6% | -30,7% | -31,8% | -29,7% | -30,5% |

Source: Annual reports, SAS & Peers (Own depiction)

The nature of other expenses does not have a clear connection with capacity or passengers as the flight length is dependent on ASK and maintenance and airport charges etc. is not directly reliant on neither of the two, and as such it is difficult to state if SAS is more or less efficient than peers.

The overall assessment given both the strategic analysis and figure 4.1.1.j and 4.1.1.k is that the nature of *other expenses* makes it difficult for airlines to affect these items. Further FSCs naturally have higher *other expenses* by using a differentiated fleet and the biggest and most expensive airports. As such the premium prices are offset by fees, leading to pretty much the same ratio.

**Conclusions on development in profit margin (step 2):**

SAS' negative profit margin has been caused by an inefficient cost structure and declining sales. The red flags are that SAS' revenue advantage in terms of higher prices (RRPK) is decreasing given the industry characteristics.

The question is if even lower prices will entail a higher load factor. This is much welcome as SAS is behind industry peers on this point suggesting that total revenues decline on a one to one basis lowering prices.

The revenue development displays SAS' low productivity and high wage levels compared to the industry. On top of this SAS has a high FASK. As most airlines face the same conditions this suggests that SAS' fleet age and flexibility in terms of capacity optimization is a problem.

Heading into the future SAS' will have to improve the cost base especially in terms of salary levels, especially as this is the single most important cost differentiator in the industry (Doganis, 2001). According to Doganis (2001) SAS is currently moving in the right direction by divesting labor intensive operations (i.e. Ground Handling) as this should increase productivity.

### *Step 3 Asset turnover analysis (Invested capital & net interest bearing debt):*

SAS' invested capital turnover has been stable over the period and does not deviate from industry standards (see figure 4.1.1.a and 4.1.1.b). This suggests that SAS' invested capital turnover is not an important value driver. However the composition of the invested capital can change (operating assets or net working capital) can have changed over time leading to losses. The development in the main parts of invested capital is shown in figure 4.1.1.l below in both absolute and index numbers.

**Figure 4.1.1.l Development in SAS' invested capital vs. revenues**

| Table 4.1.2.h - Development in Invested Capital (NOA, NWC, NIBD & Equity) Averages | | | | | | |
|---|---|---|---|---|---|---|
| **Mio. SEK - Averages** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** |
| Net Operating Assets | 26361 | 26078 | 25281 | 23759 | 22646 | 24334 |
| Net Working Capital | -4894 | -3795 | -3209 | -3273 | -4704 | -4291 |
| Capitalized Opearting Leases | 10315 | 10157 | 11813 | 14469 | 16104 | 20328 |
| Total Invested capital | 31782 | 32440 | 33884 | 34955 | 34045 | 40370 |
| **Index 2007 = 100** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** |
| Net Operating Assets | 108 | 107 | 104 | 98 | 93 | 100 |
| Net Working Capital | 114 | 88 | 75 | 76 | 110 | 100 |
| Net interest bearing debt | 295 | 270 | 280 | 319 | 154 | 100 |
| Capitalized Opearting Leases | 51 | 50 | 58 | 71 | 79 | 100 |
| Total Invested capital | 79 | 80 | 84 | 87 | 84 | 100 |
| *Revenue* | *85* | *82* | *81* | *86* | *99* | *100* |

Source: Annual reports SAS (Own depiction)

The figure suggests that SAS' invested capital has followed revenues almost one to one. As the invested capital has been driven down by lower operating the leases the high flexibility and inherent advantages in terms of adjusting capital bindings to operations is apparent.

As ASK levels diverge and the invested capital is believed to change with capacity (fleet including both operational leases and balance sheet fleet account for almost 70 % of the invested capital) a closer look at invested capital turnover in relation to capacity is made.

**Figure 4.1.1.m Invested capital / ASK turnover**

| **Invested Capital Turnover ASK** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** |
|---|---|---|---|---|---|---|
| SAS | 6,1% | 7,2% | 7,3% | 7,4% | 5,2% | 9,7% |
| Mean All | 5,8% | 6,4% | 6,2% | 5,9% | 5,4% | 5,4% |
| Mean Low Cost Carriers | 5,8% | 6,3% | 6,2% | 5,9% | 5,7% | 4,5% |
| Mean Full-service carriers | 5,9% | 6,4% | 6,2% | 6,0% | 5,2% | 6,1% |
| Median All | 5,8% | 6,9% | 6,8% | 6,1% | 5,2% | 4,5% |
| Median Low cost Carriers | 5,6% | 6,6% | 6,4% | 6,0% | 5,7% | 4,2% |
| Median Full Service Carriers | 6,1% | 7,2% | 7,3% | 6,3% | 5,2% | 5,5% |

Source: Annual reports SAS (Own depiction)

Figure 4.1.1.m confirms that SAS is peer level on invested capital vs. capacity effectiveness (SAS is the median in 2010-2012 in peer analysis). In relation to SAS' old fleet and thereby low book value a higher turnover could be expected compared to peers with newer fleet.

Even if SAS could be expected to have a higher capacity/ASK turnover the overall assessment is still that invested capital is not an important value driver in the industry compared to costs and profit margin. SAS' future focus should therefore center on the profit margin.

## 4.2 Financing analysis of SAS

From both the strategic analysis and the DuPont analysis it is evident that SAS has several areas where improvement is needed. Both in relation to restructuring but also on every day basis financing is important both to survive but also to be able to meet opportunities and threats. Financing of the daily operations is primarily concerned with the short term financing (liquidity) whereas strategic and structural changes are constrained by the long-term financing (solvency). This section will look at SAS' financial condition in terms of liquidity and solvency.

**Liquidity:**

The liquidity analysis is made based on current ratio and interest coverage ratio. The two approaches have two different scopes, and therefore analyze SAS' from different angles. This is the fact as current ratio is based on balance sheet where the interest coverage ratio shows how many times external obligations (rental and interests) can be paid from operations (EBITDA, EBITA or EBIT). The interest coverage ratio is the primary ratio to assess short-term financing among practitioners and rating agencies (Koller et al., 2012 p. 485).

$$Interest\ coverage\ ratio = \frac{EBIT(DAR)}{Net\ financial\ expenses} \qquad (4.2.1)$$

$$Current\ ratio = \frac{Currentassets}{Current\ liabilities} \qquad (4.2.2)$$

Important to note when using the two ratios is that *current ratio* gives a broad picture of liquidity development but some items included are not short-term why the ratio must be used with care. Examples of this are unearned revenues and accounts payable as the items are part of business cycle.

In the following the EBITA (and EBITAR) is used, as depreciations are part of operations and the depreciations are expected to be re-invested to secure ongoing operations (figure 4.2.1.a below).

**Figure 4.2.1.a SAS' liquidity using interest coverage & current ratio**

| Table 4.1.3.a Liquidity Measures | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| Current Ratio | 0,52 | 0,72 | 0,83 | 0,71 | 0,98 | 1,09 |
| EBITAR/(Leases exp + NFE) | 0,36 | 0,34 | -0,14 | -0,27 | 0,58 | 1,53 |
| EBITA/Net Financial Expenses | -0,56 | -0,81 | -2,68 | -3,56 | -2,16 | 4,85 |

Source: Annual reports SAS (Own depiction)

In theory Koller et al. (2012 p. 482) argue for a coverage ratio above two to obtain investment grade and SAS falls way below this measure in all years (and even being negative in some years).
As such SAS is extremely wounded in terms of short term financing which is a dangerous situation

for SAS as SAS may need to divest profitable activities to survive in the short run.
In addition the current ratio falls below one and as such short term liabilities exceed short term assets. This not positive but as previously stated the current ratio must be used with caution due to the nature of the items included. The suggestion does however only agree with the negative findings derived from the interest coverage ratio analysis.

Overall the liquidity analysis of SAS reveal big problems in meeting short-term obligations based on both balance sheet items and the operations. This is a tendency that must be changed in the future. Positive is that SAS is aware of the problems and have initiated divestments activities.
In broader perspective it is notable that the short-term financing problems are based on the cost/revenue based paradox (interest coverage ratio is low as costs are high compared to revenues).

**Solvency/leverage:**

To assess SAS' long-term financing solvency and debt/equity relation (leverage) are explored.

$$Solvency = \frac{shareholders\ equity}{Total\ assets} \qquad (4.2.3)$$

Market values are the best measure of the realizable value and therefore the basis of the analysis. To expand the perspective on SAS, book values are also included (Plenborg & Petersen, 2012 p. 158). Further SAS' credit rating is also presented as this is a good indicator for SAS' credit worthiness. All three measures are presented in the table below both including and excluding operational leases.

**Figure 4.2.1.b SAS' liquidity using interest coverage & current ratio**

| Long term financing ratios (without Op. Leases) | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| Sovency Ratio Book Value | 30,35% | 31,73% | 34,52% | 26,80% | 20,02% | 35,16% |
| Solvency Market Values | 7,52% | 7,71% | 19,83% | 26,63% | 12,90% | 43,18% |
| Debt/Equity Book Value | 2,29 | 2,15 | 1,90 | 2,73 | 3,99 | 1,84 |
| Debt/Equity Market Value | 12,06 | 10,16 | 3,70 | 3,13 | 5,56 | 2,32 |
| **Long term financing ratios (inc. Op. Leases)** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** |
| Opearting Leases Capital | 10654 | 9527 | 10318 | 13804 | 13573 | 14462 |
| Sovency Ratio Book Value | 23,53% | 25,52% | 27,69% | 20,23% | 15,25% | 27,12% |
| Solvency Market Values | 5,46% | 6,03% | 15,54% | 19,44% | 10,07% | 29,63% |
| Debt/Equity Book Value | 3,25 | 2,92 | 2,61 | 3,94 | 5,56 | 2,69 |
| Debt/Equity Market Value | 17,08 | 13,78 | 5,09 | 4,52 | 7,74 | 3,38 |
| **Credit Ratings** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** |
| Standard & Poors Credit Rating | CCC+ | B- Neg | B- Sta | B- | B | BB |
| Moody's Credit Rating | Caa1 Sta | Caa1 Sta | Caa1 Sta | Caa1 | B2 | B1 |

Source: Annual reports SAS & Euroinvestor (Own depiction)

From the annual report SAS has a long term target ratio of *equity to assets target* > 35 %[33]. In the current situation SAS is not even close to this based on market values. To obtain an equity to assets ratio of 35% the share price should be 30 SEK (or more than double up of the price of 14.05 SEK).

[33] SAS annual report (2012) p. 26

Using book-values and excluding operating leases the ratio is above forty percent. As such SAS is above this target. This ratio is however including pension obligation in equity. Excluding pension obligations from equity reduces equity to approx. zero as SAS current equity is 11.3 SEKbn and the pension obligations amount to 12.1 SEKbn[34] . Keeping this in mind the book values are more or less useless in relation to SAS' long-term financing. A remarkable point is that investors are willing to pay for nothing as the book value of a share is approx. 0, and the market value being 14.05 SEK.

As SAS' situation is so negative a comparison with peers us almost useless still it is done as peers may have identical financing conditions but this is surely not expected (figure 4.2.1.c).
As SAS book values are misleading the comparison is solely based on market values (all peers are presented as the ratios diverge significantly across peers).

**Figure 4.2.1.c Debt/equity measures SAS vs. peer group**

| Debt/Equity Market Values | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|
| Lufthansa | 3,08 | 4,76 | 2,80 | 3,75 | 3,09 | 1,85 |
| KLM -AirFrance | 10,71 | 17,69 | 5,45 | 11,55 | 3,84 | 1,98 |
| IAG (British Airways pre 2010) | 4,31 | 5,16 | 2,72 | 5,32 | 2,96 | 1,60 |
| FinnAir | 4,77 | 5,44 | 2,41 | 3,39 | 2,20 | 1,12 |
| Norwegian | 1,88 | 3,66 | 1,19 | 0,87 | 1,91 | 0,52 |
| RyanAir | 0,86 | 1,14 | | | | |
| EasyJet | 0,79 | 1,63 | 1,31 | 1,56 | 1,51 | 0,52 |
| AirBerlin | 11,61 | 9,48 | 5,90 | 5,62 | 6,55 | 2,39 |
| Vueling | | | | | | |
| SAS | 12,06 | 10,16 | 3,70 | 3,13 | 5,56 | 2,32 |
| Mean All | 5,56 | 6,57 | 3,19 | 4,40 | 3,45 | 1,54 |
| Mean Low Cost Carriers | 3,78 | 3,98 | 2,80 | 2,68 | 3,33 | 1,14 |
| Mean Full-service carriers | 6,99 | 8,64 | 3,42 | 5,43 | 3,53 | 1,77 |
| Median All | 4,31 | 5,16 | 2,76 | 3,57 | 3,02 | 1,73 |
| Median Low cost Carriers | 1,37 | 2,64 | 1,31 | 1,56 | 1,91 | 0,52 |
| Median Full Service Carriers | 4,77 | 5,44 | 2,80 | 3,75 | 3,09 | 1,85 |

Source: Annual reports SAS & Peer Group 2012-2007 (Own depiction)

Figure 4.2.1.c reveals that SAS is miles away from the best in the business and as such the figure only confirms the general suggestion of SAS being extremely vulnerable. Interestingly SAS is not the only airline with financial problems (AirBerlin and KLM/AF also above ten).

Overall the assessment of SAS' solvency using both book values and market values is extremely negative. This is the fact as SAS' equity is completely vanished adjusting for pensions.
This is also suggested by the credit rating as both Moody's and S&P place SAS below investment grade and the numerous bankruptcy rumors are therefore an actual problem[35].
Given the combined capital raises of 11 SEKbn in 2009 and 2010, SAS cannot rely on the owners to bail the company out again, and as such SAS' future is dark. This is most also why the recent divestment actions and initiatives are most welcome.

[34] SAS annual report 2012 p. 61 & http://www.check-in.dk/newselement.cfm?nNewsArticleID=60324
[35] http://nyhederne.tv2.dk/article.php/id-60324237:kurator-saskonkurs-er-det-mest-sandsynlige.html

## 4.3 Conclusion on financial analysis

The financial analysis showed that profit margins rather than asset turnover is important in the airline industry. This was the case as the asset turnover is identical in the industry and difficult deviate from peers based on the capital intensive characteristics (70% of capital is bound in fleet).

As profit margin is the most important value driver this is what defines an airline. Here SAS has run with negative profit margins in all years from 2009-2012, and is as such outperformed by peers. The reasons behind SAS' negative profit margins have been declining revenues based on both capacity cuts but more important price reductions and SAS' high staff costs and low productivity. The declines in ticket prices (RRPK) have been more or less anticipated as customers are becoming increasingly price sensitive, LCCs are pressuring prices and as SAS' prices have historically been (and is still) significantly above peers'. The recent trend has only forced SAS closer to peer levels.

On the cost side SAS has been able to drive overall unit cost down. Unfortunately for SAS the cost reductions have not been sufficient to offset price cuts and as such profit margin remains negative. SAS' trends in relation to costs and revenues make the outlook somewhat contradictive. In the future SAS' ticket prices are expected to decline further, and as such SAS' load factor (which has historically been inferior to peers') will be a crucial performance indicator as it must close in on peers to make SAS' operations profitable in the long run.
Simultaneously with the load factor ticket price optimisation, SAS must react on costs especially staff costs as the current situation is not sustainable and must be improved as soon as possible. Heading int to future SAS' financial condition, both short and long term, does not permit SAS to restructure and improve conditions through centralization or fleet renewal.

As discussed in chapter 2 initiatives in order to lower staff costs and improve financing is however initiated. The question from a corporate governance point of view  is if the owners can agree on the future operations and cut salaries on their very own citizens or hire the work load on non-unionized (or inferior conditions) as it is seen from RyanAir and Norwegian these days .
If not SAS will have to outperform the industry on every other point to be able to reach an acceptable profit margin in the future - this is not the current trend with the declining ticket prices.

Otherwise SAS' will have to pray that some external force will change the customer preferences making SAS' current salary level affordable or the current owners will have to accept the ongoing deficits and perceive SAS as a state-held transportation company, and not a private entity.

## SWOT Analysis

To sum up the findings from the strategic and financial analysis conducted in chapters 2, 3 and 4 a SWOT analysis is made. The SWOT will conclude on SAS' internal strengths and weaknesses and the external opportunities and treats SAS is facing in the future. The facts presented in the SWOT analysis are important as the forecasting in chapter 5 will be based on the conclusions derived here.

### Strengths

SAS is renowned for their high service levels, punctuality, frequency, heritage and route network connecting with the biggest cities and airports. As such SAS' most predominant strength is brand value, strong home market and heritage.
O'Connell & Williams (2005) argue that FSCs hold an unexplainable advantage on LCCs given the brand value, and is chosen if prices are reasonable. In SAS' case the brand strength has enabled SAS to obtain higher RASKs through higher ticket prices (RRPK) compared to industry peers.
Further SAS' brand and heritage also play a big role why SAS still enjoy significant market shares in Nordic region as customer prefer SAS, and FSC competitors are reluctant to enter the market.
In the future the Nordic countries will be a crucial stronghold on the turnaround mission.

Also derived from SAS' seniority in the industry, SAS holds landing rights in Europe's biggest airports. Landing rights that are highly valuable as landing rights in the biggest European airports is a scarce resource. This will in the future be an even bigger differentiator and as such a big strength that will enable SAS to sustain an advantage on potential entrant in SAS' markets.

From a financing point of view SAS face a dangerous situation. In terms of providing equity owners have long supplied with capital to an unhealthy business. The owners' willingness to supply excess capital is important as SAS could need financing in order to enhance efficiency quickly.

A final and important strength for SAS is the reactiveness and determination of the executives. SAS has been able to execute asset sales quickly after the sale had been decided. This is positive an extreme strength given SAS current condition that must be changed in a hurry.

### Weaknesses

Both the strategic and financial analysis suggests that SAS is behind competitors.
Strategically as SAS is constantly changing the scope of their strategy and being indecisive on how to approach the market and customers. The strategic fit has entailed that SAS' profit margin is low

compared to the industry. Together the two signals that SAS is struggling to fit the industry characteristics and earn money given the current industry conditions.

The customer approach is not SAS' only profit margin problem and in the current situation SAS' biggest profitability problem is the cost structure.
Currently SAS lie significantly behind peers in terms of fuel consumption, productivity and salary levels. This is even more problematic as cost structure is the single most important source of competitive advantage in the industry.
From a cost optimizing perspective SAS' ownership is, and has been, a major drawback and has led to enormous salary levels and inefficient resource usage. As such SAS' ownership is a weakness when solely looking at operations and being profitable.

SAS' low flexibility in order to follow the industry transitions especially due to high prices and cost structure means that SAS has been unable to meet the customer demands and preferences.
Examples of this are initiatives like snowflake (LCC imitation), fast track and other initiatives in order to attract the business segment. The initiatives have had diverging success and the ultimate result is that SAS has lost market shares and has been forced to narrow the geographical scope and shut the business class on continental flights.
SAS' feel with the industry as a matter of cost structure is therefore a clear weakness. Heading into the future the assessment is that SAS feel and cost structure is much improved. This has led SAS to expand why the weakness is not as big as it was 2-3 years ago.

All of the above has lead into financial disturbance. SAS' current financial condition is a significant weakness as the fierce competition demands ability to restructure, act and react on competitor' initiatives. The financial condition has already shown as SAS has been unable to renew the fleet. Today SAS' fleet is the oldest among peers leading to inefficient fuel consumption, more maintenance and load factor optimization. This is regarded as a major weakness for SAS.

### Opportunities

SAS' problems are closely connected to the industry transition since the deregulation of the industry and the economic recession that have increased price sensitivity and transparency.

One opportunity for SAS is an improved economy that leads to a more holistic customer preference avoiding airlines with non-unionized or even better for SAS politicians will prohibit employee transfer.

Another "look-alike" opportunity is that the customers will tire from the no-thrill LCC services. Customers experiencing extra charges from too big carry-on, forgotten boarding passes or late arrival at gate will be more likely to pay up for improved service level at SAS.
One of SAS' key catchphrases are *"safety"*. An opportunity for SAS (perhaps not hoped for) is that the LCCs will experience safety problems that will be publicly known. As such the reliability of the LCCs will be damaged, and the perceived safer FSCs will perhaps be chosen.

### Threats

SAS compete in a highly competitive market given both hard competition and customers' high price sensitivity. A continuation of the current trend could be fatal to SAS as SAS is not competitive under the current market conditions (at least in the short run), and the LCC market share gains slowly increase pressuring FSCs and SAS.
The primary factor causing the current situation has been *"Open Skies"*. This deregulation has enabled the LCCs to enter and compete in SAS home market on forced prices down due to the increased competition. In addition to this rising fuel prices has also damaged SAS' profit margin. A further rise in fuel is a big threat to SAS. As such SAS is threatened from all possible angles.

Currently, one of SAS major strengths is landing rights. This advantage can be removed by an introduction of new low cost terminals as it is seen in Copenhagen where a low cost terminal has opened for more carriers, and removed SAS' advantage.

All in all the biggest threat for SAS is that the current situation in terms increasing competition and consolidation and high price sensitivity with SAS slowly losing their advantages in terms of service, airport slots, frequency etc.

**SWOT Analysis**

| Strengths | Weaknesses |
|---|---|
| - Brand (service, punctuality & flexibility)<br>- Strong Nordic embeddedness & high market share<br>- Landing rights is Europe's biggest airports<br><br>*Minor:*<br>- Resolute executives<br>- Executives know SAS' uncompetitive areas.<br>- Nordic governments as owners (financing reasons) | - Cost Structure (especially wages & salaries)<br>- Liquidity & Solvency<br>- Nordic governments as owners (operational reasons)<br>- Historic indecisiveness on customer focus<br><br>*Minor:*<br>- Old fleet (not cost efficient nor flexible) |
| **Opportunities** | **Threats** |
| - Economic prosperity<br>- LCC safety/service problems<br><br>*Minor:*<br>- Declining oil prices<br>- Technological improvements (i.e. Fuel Saving)<br>- Improved price transparency (comparability of FSC & LCC)<br>- Attitude change on LCCs' conduct | - Increased/continuous price sensitivity<br>- Increased/continuous competition on Nordic market<br><br>*Minor:*<br>- Rising oil prices<br>- Low cost terminals in Europe's biggest airports<br>- Open Skies<br>-Developments of air travel substitutes |

# Chapter 5 Valuation

So far the thesis has only concerned historical data, the strategic environment and SAS' fit in this environment, all summed in the SWOT analysis.
This is done in order to improve the forecasting of SAS' future operations. The expected future operations are the drivers behind the inputs to the valuation and as such also the share price.

Before forecasting a short introduction to the Discounted Cash Flow (DCF) model is made

**The Discounted Cash Flow-model**

The DCF framework is the most commonly used absolute valuation tool among practitioners (Petersen & Plenborg, 2012). As the name suggests the framework deals with the cash-flows to and from the company.
Important to note is that cash flows can deviate from profits and value can be added from decreasing capital bindings in i.e. inventory, property or increase trade payables conditions.

The DCF model framework has one underlying assumption that must be satisfied for the valuation to be "true". This is the "going concern" that assumes that a given enterprise will exist for ever.
The equation for finding the Enterprise Value for a given enterprise using the DCF framework is:

$$Enterprise\ Value\ = \sum_{t=0}^{N} \left( \frac{Free\ Cash\ Flow\ t}{(1+WACC)\text{^}t} \right) \qquad (5.1)$$

The main component - The free cash flow - can, for a given year, be computed as shown in equation 5.2 (Rosenbaum & Pearl, 2009 p. 115).

*Net Operating Profit after Taxes*
*+ Depreciations & Amortizations*
*+/- Changes in Net Working Capital* (5.2)
*- Capital Expenditure*
*= Free Cash Flow of the year*

A small correction is that previous years' deficits are tax deductible in years with profits why Net Operating Profit after Tax can be written as EBIT - Tax Payable.

Having found all future cash flows the time value of money and the riskiness of cash flows must be taken into account as one SEK tomorrow is worth less than one SEK today.

As such the FCFs must be discounted to find the value of a given cash flow today. The discount factor is known as the weighted average cost of capital (WACC).

$$WACC = D/V*r^{d}*(1-T) + E/V*r^{e} \qquad (5.3)$$

Forecasting the infinite number of years needs further assumption as the far future is difficult to forecast. Future cash flows are therefore, at a certain time, assumed to be constant.
The forecast period therefore has a number of explicitly forecasted years, and perpetuity (or an exit multiple) when the forecast reaches steady state (Rosenbaum & Pearl, 2009 p. 132).

The length of the explicit forecast period can vary with the characteristics of the industry and analyzed company. Koller et al. (2012, p. 186) suggest an explicit forecast period of ten-fifteen years, whereas Rosenbaum & Pearl (2009, p. 115) argue for a five year forecast horizon. In the thesis at hand a forecast period of eight years is chosen. This is done as the far future is difficult to forecast today but long enough to cope with SAS' current problems and initiatives.

Having found the enterprise value (equation 5.1) the equity value is found by subtracting net interest bearing debt t=0 from the enterprise value.
The share price is found by dividing equity value with the number of shares outstanding.

The inputs used to valuate SAS AB as a standalone entity will be derived trough discussion starting with the forecast of free cash flows and capital structure. Next the WACC will be computed, ending with a valuation.

As forecasting is not an exact science and the WACC and g (growth) parameter in the perpetuity is important for the final result a sensitivity analysis on the two must be made to state whether found value is fair.

Further a comparison of forecasted EBIT, EBITDA and profit margins against the industry's historic performances will be made to see if the forecast is reliable.

Finally relative valuation approaches (multiples) will be conducted to perspective on the found share price. The multiples can reveal forecast errors or emphasize the found value.

## 5.1 Forecasting

The first part of the valuation is to forecast future performance and invested capital needed for future operations (or in other words cash bindings).
In this section the arguments and reasoning behind the forecast is discussed and presented.
The forecast of future performance will be made on the basis of the strategic and financial analysis conducted in chapter 2, 3 and 4 will several references to previous chapters will be made.
This is done to improve the understanding as reader and secure consistency.

**Important forecasting assumptions**

In order to improve the financial health SAS has decided to divest Widerøe and make a sale and lease back on some of the fleet.
From last annual report and until 1st of May SAS has divested and SAS Ground Handling and spare engines.
The numerous divestments harden the forecasting as the value of the Ground Handling SBU and spare engines is difficult to derive.
The sales of SAS Ground Handling is therefore expected to have been made on market conditions and with little value creation or destruction in SAS.
This assumption can lead to an overvaluation of SAS as the business units will be sold cheaper than market conditions due to SAS' instant capital needs.

In the terminal period a growth factor is often subtracted from the WACC. The assessment of the airline industry is that zero-growth compared to world economy is expectable in 2023. The growth factor is therefore estimated as 2 % which is commonly accepted as common long-term growth factor.

### 5.1.1 Forecast of revenues

The single most important item to forecast is revenues. This is the fact as many variables such as invested capital (i.e. accounts receivable, inventory and fleet) and costs are often closely connected with revenues.

The airline industry is very sensitive towards the general economic condition. As such the general economic forecast might be a good indicator for SAS' revenue development.
SAS has however had other issues than the general economic crisis and has sold SBU's.
Looking at SAS' revenue development over the last five years there is no clear connection between revenue growths, GDP growth and market value growth (see figure 5.1.1.a below).

Further SAS has decided to sell significant parts of the company in the coming years why the revenues will (expectedly) fall regardless of the GDP. As such SAS' future revenue is difficult to forecast from both market and general economic growth forecasts.

**Figure 5.1.1.a SAS' revenue development compared to EU GDP**

| Revenue Growth vs. Economic growth | 2012 | 2011 | 2010 | 2009 | 2008 |
|---|---|---|---|---|---|
| SAS Revenue Growth | 2,26% | 1,69% | -9,34% | -15,56% | 1,81% |
| SAS RASK Growth | -0,85% | -4,59% | -5,96% | 1,23% | -5,93% |
| GDP growth (EU) | -0,30% | 1,60% | 2,10% | -4,30% | 0,30% |
| Market Growth (report) | 5,92% | 17,45% | 16,70% | -20,22% | 11,74% |

Source: SAS annual report, Eurostat & Market Line report (appendix)

The revenue forecast will therefore be based on industry and company specific forecasts on important business drivers in the airline industry - ASK, RRPK and Load Factor, based on the analysis conducted in previous chapters.
In figure 5.1.1.b at the end of this section all revenue related forecasts are shown.

**ASK:**

SAS expect to increase capacity (ASK) with five to six percent in 2013[36]. From 2013 IATA expects a market growth of four to six percent in the European and Scandinavian market in the medium run[37]. MarketLine and IATA (figure 3.3.2 & Appendix 7, figure A.7.5) expects market volumes to grow around 4 % in years 2013-2017.
As SAS' current scope is not expected to narrow as seen over the previous five year a capacity increase in accordance with the market expectations of 4% from 2013 to 2017 is therefore expected. From 2018 the ASK growth is expected to follow the inflation with a stable 2 % increase.

**RRPK:**

The price sensitivity in the industry is expected to increase in the future and further SAS' RRPK is significantly above industry standards (see figure 4.2.1.f) [38]. In addition SAS has shut business class on continental flights and price cuts on the most expensive seats [39].The RRPK forecast is therefore significant decreases in the near future even if figure overall market prices are expected to increase, given MarketLine (figure 3.3.2) and IATA(Appendix 7, figure A.7.5).

In the long run SAS' equilibrium price is expected to be above industry standards as SAS' primary differentiation point is service and SAS will both internally and externally have a high price brand.

[36] SAS annual report 2012 p. 15
[37] SAS annual report 2012 p. 16
[38] SAS annual report 2012 p. 1 + O'Connell & William (2005)
[39] SAS annual report 2012 p. 4

In 2017 the RRPK is therefore expected to be the floor price why revenues from 2018 and onwards are expected to follow the inflation. The stabilizing tendency is argued for by better economy and that SAS has reached a stable price level given industry prices and differentiators.

**Load Factor:**

Currently SAS operates with lower load factor compared to the industry (see figure 4.1.2.f). To cope with this SAS has initiated load factor optimizing activities i.e. fleet size optimization to meet actual demand[40].

A full optimization requires a significant fleet investment that cannot be fully implemented within the first couple of years. There is however an expected natural renewal based on SAS current fleet and 20 years economic lifetime.

From 2016 extraordinary fleet renewal is expected to begin improving the load factor even more. Overall the load factor is therefore expected to improve due to the lower prices and as some optimization will take place with both current and new fleet.

**Figure 5.1.1.b Revenue forecast based on ASK and RASK (RRPK & load factor)**

| Revenue Forecast | 2010 | 2011 | 2012 | 10-12 Av | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 | FSC 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASK | 34660 | 37003 | 38681 | 37003 | 38483 | 40022 | 41623 | 43288 | 45020 | 45920 | 46839 | 47775 | |
| Load Factor | 74,2% | 73,4% | 74,4% | 74,0% | 75,9% | 77,2% | 78,2% | 79,2% | 79,7% | 79,9% | 79,9% | 79,9% | 79,96% |
| RRPK SEK | 1,16 | 1,12 | 1,10 | 1,13 | 1,02 | 0,96 | 0,92 | 0,90 | 0,90 | 0,92 | 0,93 | 0,95 | 0,86 |
| RASK SEK | 0,86 | 0,82 | 0,82 | 0,84 | 0,78 | 0,74 | 0,720 | 0,71 | 0,72 | 0,73 | 0,75 | 0,76 | 0,69 |
| ASK Growth | -2,6% | 6,8% | 4,5% | 2,9% | 4,0% | 4,0% | 4,0% | 4,0% | 4,0% | 2,0% | 2,0% | 2,0% | |
| Load Factor Growth | 4,0% | -1,0% | 1,4% | 1,5% | 1,5% | 1,25% | 1,0% | 1,0% | 0,5% | 0,25% | 0,0% | 0,0% | |
| RRPK growth | -10,1% | -3,6% | -2,2% | -5,3% | -7,0% | -6,0% | -4,0% | -2,5% | 0,0% | 2,0% | 2,0% | 2,0% | |
| RASK Growth | -6,0% | -4,6% | -0,8% | -3,8% | -5,1% | -5,0% | -3,5% | -2,5% | 0,6% | 2,3% | 2,0% | 2,0% | |
| **Passenger Revenues** | **29.939** | **30.497** | **31.610** | **30.682** | **29.836** | **29.648** | **29.984** | **30.793** | **32.227** | **33.634** | **34.992** | **36.406** | |
| Other Traffic Rev. % of Passenger Rev. | 18,1% | 17,9% | 17,9% | 17,98% | 18% | 18% | 18% | 18% | 18% | 18% | 18% | 18% | |
| Other Revenues % of Passenger Rev. | 15,9% | 15,2% | 18,1% | 16,38% | 18% | 16% | 15% | 15% | 14% | 14% | 14% | 14% | |

Source: Own depiction

**Other revenues:** Currently other revenues account for 18 % of revenues. In the future this is not expected to hold true as SAS expands on ASK and tries to abandon other activities and as technical maintenance and ground handling will not follow passenger revenues directly. Other revenues are therefore expected to fall to 14 % of passenger revenues.

Other traffic revenues is expected to remain at 18 % of revenues. This is expected as mail and freight volumes increases slower than ASKs (see figure A.7.9 in app. 7). As SAS ASK will increase the SAS' RASK is expected to decline, the two factors will offset entailing the 18% assumption.

[40] SAS annual report (2012) p. 11

### 5.1.2 Forecast of operating expenses

The forecast of EBIT concerns the expenses to fuels, salaries, other expenses, leases and D&A. The different items have different connections to both capacity and revenues.

**Fuel expenses:**

Fuel expenses are a direct capacity measure why future fuel expenses are forecasted based on ASK Beside the ASK the FASK is affected by oil prices, fleet size optimization and fleet efficiency.

Oil prices forecasts are made from IMF price estimates until 2018 (see appendix 7, figure A.7.4). From 2019 the oil price is expected to follow the inflation. Oil is however a crucial input to the airline industry. A sensitivity analysis on the oil price development is therefore made in section 5.4.

Fuel efficiency gains are a matter of number of new planes, aircraft savings and optimized operations from new fleet optimize operations (i.e. maintenance).
The economic lifetime aircrafts is 20 years[41]. The forecast therefore includes a yearly natural 5 % renewal with additional renewals on top as SAS fleet is oldest among peers. The extraordinary renewal is expected to slowly kick in from 2014 peaking in 2018 due to lead time.

The fuel efficiency gains from fleet renewal are forecasted to increase until steady state of 15 % is reached in 2016. 15 % efficiency uplift is IATA target[42] and efficiency gains from the Dreamliner[43]. As new fleet is introduced incremental efficiency gains are expected. The underlying rationale is that new fleet is procured as match intended use thereby increasing efficiency. On top of fleet renewal is an incremental optimization from existing resources in years 2013-2016. The incremental improvements efficiency from new aircrafts approx. 2-3 % yearly. This correspond with the efficiency gains obtained in 2011[64].The overall FASK forecast is presented in figure 5.1.2.a below.

**Figure 5.1.2.a FASK forecast**

| FASK | 2012 | Avg. | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Fuel pr. ASK (Swedish Ore) | 24,3 | 21,4 | 23,1 | 21,6 | 20,3 | 19,3 | 18,5 | 17,9 | 18,0 | 18,2 |
| Fuel pr. ASK Growth | 15,6% | 4,7% | -1,5% | -1,5% | -5,0% | -2,0% | 0,0% | 0,0% | 0,0% | 0,0% |
| Oilprice increases % | -3,44% | 12,39% | -3,44% | -4,09% | -3,86% | -2,96% | -2,72% | -1,68% | 2,00% | 2,00% |
| Schedule/Flight optmization gain | N/A | N/A | -1,1% | -2,12% | -1,65% | -0,43% | -0,22% | -0,18% | -0,16% | -0,10% |
| New fleet lower fuel consumption | N/A | N/A | -0,20% | -0,43% | -0,73% | -1,38% | -1,65% | -1,36% | -1,21% | -0,71% |
| Fleet size, number of planes | 204 | N/A | 203 | 211 | 220 | 228 | 237 | 242 | 247 | 252 |
| Expected fleet expansion | | | 10 | 13 | 16 | 21 | 26 | 22 | 20 | 12 |
| Fuel efficiency gains new fleet | | | -4% | -7% | -10% | -15% | -15% | -15% | -15% | -15% |
| Fleet fuel savings % | | | -0,20% | -0,43% | -0,73% | -1,38% | -1,65% | -1,36% | -1,21% | -0,71% |
| **Total fuel efficiency gain** | | | **-1,30%** | **-2,55%** | **-2,37%** | **-1,82%** | **-1,86%** | **-1,55%** | **-1,38%** | **-0,81%** |

Source: Own depiction

[41] KPMG "*Components of Aircraft Acquisition Cost, Associated Depreciation and Impairment Testing in the airline industry*".
[42] http://www.iata.org/pressroom/facts_figures/fact_sheets/Pages/technology.aspx
[43] http://www.boeing.com/boeing/commercial/787family/background.page

The overall fleet and incremental efficiency gains forecast is in accordance with IATA's target of increasing overall fuel efficiency by 1.5% yearly until 2020 . In the short run the efficiencies corresponds to IATA airline fuel improvements of 3 % in 2006-2007[44].

**Salary & wage expenses:**

SAS' expectations in terms of salaries are contradictive. On one hand a capacity increase is expected while cutting full time equivalents (FTE). However, SAS is much behind industry standards why some efficiency gains are expectable.

In the last couple of years (except 2012) SAS has been able to decrease salary pr. employee. This trend is expected to continue in the near future due to the new employee agreements.
SAS is however nationally owned why SAS is expected to have high salaries pr. employee almost regardless of the company's financial health.

In addition FTE cuts are expected from the new centralization of administration in Stockholm. As a matter of SAS' ownership and ability to enforce restructurings only 300 FTEs are expected to be cut over the next three years and not the 1,000 FTEs expected by SAS[45] .
From 2018 the FTEs are expected to increase as a matter of the increased activity.

**Figure 5.1.2.a Decomposition of salaries forecast**

| Forecast Salaries | 2012 | 10-12 Av | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of Employees | 14.897 | 14.967 | 14.847 | 14.597 | 14.597 | 14.597 | 14.597 | 14.743 | 15.038 | 15.339 |
| Salaries pr. Employee | 920.746 | 897.300 | 893.123 | 875.261 | 866.508 | 862.176 | 862.176 | 870.797 | 879.505 | 897.095 |
| ASK pr. Employee in Mio. | 2,60 | 2,46 | 2,59 | 2,74 | 2,85 | 2,97 | 3,08 | 3,11 | 3,11 | 3,11 |
| SASK | 0,355 | 0,4 | 0,345 | 0,319 | 0,304 | 0,291 | 0,280 | 0,280 | 0,282 | 0,288 |
| Salaries & Wages & of Revenues | 32,2% | 32,3% | 32,7% | 32,1% | 31,7% | 30,7% | 29,6% | 28,9% | 28,6% | 28,6% |

Source: Own depiction

**Other expenses**

Forecasting other expenses there are no obvious signs of future cost increases or reductions. This is the case as the nature of the costs related to *other expenses* make changes and efficiency enhancement difficult to obtain. The forecast is therefore an increase to 41 % in 2014, as SAS is expected to lie at peer levels. The long-term forecast (2016 and forth) is however an expected, and minor, decline to 40.5 % of revenues, as the entire airline industry is highly focused on cost levels.

**Figure 5.1.2.b Other expenses as % of revenues**

| Other Operating Expenses % of Rev. | 2012 | 10-12 Av | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Other expenses % of revenues | -39,1% | -41,1% | -40,0% | -41,0% | -41,0% | -40,5% | -40,5% | -40,5% | -40,5% | -40,5% |
| Leases as % of revenues | -3,7% | -4,0% | -3,7% | -4,2% | -4,5% | -4,5% | -4,5% | -4,5% | -4,5% | -4,5% |
| D & A as % of revenues | -4,0% | -4,8% | -4,0% | -3,5% | -3,2% | -3,2% | -3,2% | -3,2% | -3,2% | -3,2% |

Source: SAS Annul Reports 2010-2012 (Own depiction)

[44] http://www.iata.org/whatwedo/ops-infra/Pages/fuel-efficiency.aspx
[45] SAS annual report 2012 p. 6

**Leases, depreciations & amortizations:**

Depreciations and amortizations can be regarded as less important than other items as the deprecations and amortizations are often off-set by the re-investment in capital expenditure if activity levels are not changed.

Currently SAS is running with an old fleet. An older fleet entails low D&A expenses compared to a new fleet. The D&A savings from the leasing transitions are therefore off-set by the renewal of the owned fleet why a steady 3.96 % D&A of revenues is forecasted.

SAS' has announced increased leases activity. As such an increase in leases out of revenue is forecasted. The forecast is based on a slow upgrade on leases as such the percentages are slowly increasing ending in five percent of revenues.

**Taxes**

The taxation percentage used is the corporate taxation percentage in Sweden used as the marginal tax (22%). This is not consistent with the tax rate SAS has paid in recent years as SAS has run with deficits. As deficits are tax deductible in the future this must be taken into account.

Forecasting SAS' net tax deferral is carried on and tax payable computed as;

$$Deferred\ tax_{t=0} = min(Deferred\ Tax_{t-1} + EBIT_{t=0};0)$$

$$Payable\ tax_{t=0} = EBIT - (Deferred\ Tax_{t=0} - Deferred\ Tax_{t-1}) * Tax\ Rate$$

### 5.1.3 Forecast of capital expenditure & changes in net working capital

Figure 4.1.3.j suggested that SAS is currently below industry efficiency in terms of Invested Capital vs. Capacity on the other hand SAS operates with same invested capital turnover as peers.

Fleet is the single most important capital binding and as this follow capacity the forecast will be based on this. However small considerations must be taken as SAS can optimize on invested capital if ticket prices are lowered, fleet utilization is optimized and employee conditions less attractive in the future. This will affect the NWC that will be lowered marginally due to the lower ticket prices and cost cutting initiatives the NWC is assumed to fall in 2013 and 2014.

The operating assets are assumed to follow the capacity. The forecast numbers are shown in figure 5.1.3 below.

**Figure 5.1.3 Operating Assets as % of revenues**

| Operating Asset/ASK | 2012 | 10-12 Avg | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Operating Asset/ASK | 52,1% | 58,8% | 51,0% | 50,0% | 50,0% | 50,0% | 50,0% | 50,0% | 50,0% | 50,0% |
| Operating Assets % of Invested Capital | 132,5% | 122,2% | 130,0% | 128,0% | 128,0% | 128,0% | 128,0% | 128,0% | 128,0% | 128,0% |
| NWC % of Invested Capital | -32,5% | -22,2% | -30,0% | -28,0% | -28,0% | -28,0% | -28,0% | -28,0% | -28,0% | -28,0% |

Source: SAS' annual reports 2010-2012 (own depiction)

## 5.2 Weighted Average Cost of Capital

The reasoning behind WACC is that the underlying operating and financing risk must be incorporated when evaluating the value of a given cash flow. Equation 5.3 shows the WACC calculation.
Using WACC it's important to note is that WACC is forward looking. As such the WACC will naturally be based on a number of assumptions. The assumptions underlying the WACC will be discussed when necessary.

In SAS' case operating leases play an important part of operations. The WACC calculations must take this into account by dividing the capital structure into equity, debt and operational leases.
As the cost of leases and cost of debt are both based on SAS' credit rating the operational leases will be added to debt when calculating the capital structure (Koller et al., 2010 p. 567).
An in depth discussion of the inclusion of operational leases is found in appendix 8.

### 5.2.1 Capital structure & debt/equity

Both current capital structure ratio but also target capital structure can be used when making a valuation of a company or a project.
From the argument of the current picture telling about the future the current capital structure could be an indicator for the debt/equity relation in the future. On the other hand the DCF is forward looking why the current picture can be changed in the future.
Bruner et al. (1998) found that ninety percent of financial advisers use target ratio whereas corporations are more divided between current and target ratio. This can be due to the horizon of the value measurement where corporations have a much shorter horizon when valuating projects.
The use of target ratio is recommended by Koller et al. (2010) and Rosenbaum & Pearl (2009).

As a matter of the academic recommendations SAS' target capital structure is therefore used when computing the WACC.
SAS has publicly revealed that the target capital structure is: ***35 % equity and 65 % debt***.

### 5.2.2 Cost of equity

As with the capital structure Koller et al. and Bruner agree on using the CAPM (capital asset pricing model) as the instrument for estimating the cost of equity. The cost of equity using CAPM can be expressed as in equation 5.2.2.a

$$R_e = R_f + \beta_i * (R_M - R_f) \qquad (5.2.2.a)$$

**Risk free interest rate:**

The first parameter to address is the risk free rate ($R_f$). The horizon of the risk free rate has to match the average lifetime of the investment. The DCF model assumes going-concern, so what is the average of eternity? Brunel et al. argue for a horizon of ten to thirty years. Koller et al. advocate for a ten year bond whereas Rosenbaum & Pearl find twenty years more appropriate. The risk free interest rate will therefore be a ten year Swedish government bond. A Swedish government bond is chosen as the inherent inflation expectations between share and the risk free asset is similar.

As of the 1st of May 2013 the ten years Swedish Government Bond rate was 1.62 %[46]
This is however the lowest price for 6 months why an interest rate of *2 %* is applied.

**Beta SAS AB:**

Second SAS covariance with the overall market ($\beta_i$) must be assessed. The math behind the measure can be found in Brealey, Myers and Allen (2011, p. 87) and expressed as in 5.2.2.b.

$$\beta i = \frac{\sigma_{im}^2}{\sigma_m^2} \qquad (5.2.2.b)$$

The period included in the beta calculations are 60 months return data[47].
Using monthly data solves for short term noise leaving a more pure covariance between the asset and the market portfolio. In this thesis the OMX Nordic 40 is used as the market portfolio[48].
Five year old data might be old in a forward looking context but in order to have enough observations for the beta to statistically robust a five year horizon is chosen. In other words - the disadvantage of old data is more than offset by the clearing for daily trade noise.

The calculations end in a beta of: *1.1533* (see calculations in appendix 6)

**Market risk premium:**

The market risk premium *($R_M$ - $R_f$)* is the last factor to address.
Brunel et al. (1998) found a range of five to seven percent asking practitioners, PWC has made a survey arguing for a market risk premium of 4.9 percent[49]and Koller et al. 5.4 percent in market risk premium as of 2009.
Fernandez & del Campo (2010) have made a survey asking companies, professors and analysts

[46] http://www.bloomberg.com/quote/GSGB10YR:IND/chart
[47] Koller et. al (2010) here through Black, Jensen & Scholes (1972) and Alexander & Chervany (1980)
[48] Prices on OMX Nordic 40 and SAS AB found trough http://www.nasdaqomxnordic.com
[49] http://www.pwc.dk/da/vaerdiansaettelse/assets/prisfastsaettelse-paa-aktiemarkedet.pdf

about the used market risk premium. The average answers range between 5 % and 5.7 %, where 5.7 % is used by European companies. European analysts use 5 % as market risk premium.

As the average of (5+5.7)/2 = 5.375 are close to Koller et. al.'s (2010) suggested 5.4 %, a market risk premium of 5.4 percent will be used.

Having derived the three inputs in equation 5.2.2 the Cost of Equity can now be computed as:

$$R_e = 2.00\ \% + 1.1533 * 5.4\ \% = \underline{8.23\ \%}$$

### 5.2.3 Cost of debt and tax shield

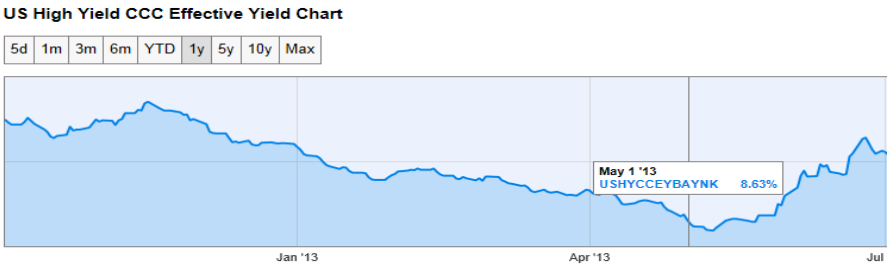
**Cost of debt:**

Normally the cost of debt is found by dividing NIBD with NFE. In SAS' case the results are highly volatile and difficult to forecast based on historic data.

Another way to derive cost of debt (which is used in this thesis) is to find the yield on a bond with the same rating as the company (Koller et al., 2010 p. 233 and Rosenbaum & Pearl, 2009 p. 129). In figure 5.1.2 Merrill Lynch high bond index return is shown. On the 1st of March the yield was 8.63 %. The figure suggests that the yield as of 1st of March is too low.

A weighted average of the CCC bond yield might therefore be a more accurate estimate of the yield over time. A weighted average from 1st of January 2012 to 30th of April is made. The weighted averaged CCC bond yield of *10.6 %* is used as SAS cost of debt when calculating the WACC.

**Figure 5.1.2 CCC bond yield**




Source: Bank of America Merrill Lynch (own depiction below)[50]

| Date | 01-12 | 02-12 | 03-12 | 04-12 | 05-12 | 06-12 | 07-12 | 08-12 | 09-12 | 10-12 | 11-12 | 12-12 | 01-13 | 02-13 | 03-13 | 04-13 | 05-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Yield | 14,00% | 12,61% | 11,90% | 11,90% | 11,57% | 13,29% | 12,00% | 11,75% | 11,92% | 11,05% | 10,95% | 10,92% | 10,42% | 9,77% | 9,65% | 9,34% | 8,63% |
| Average | | 11,27% | | | | | | | | | | | | | | | |
| Weighted average | | **10,60%** | | | | | | | | | | | | | | | |

[50] http://ycharts.com/indicators/us_high_yield_ccc_effective_yield

**Tax rate/tax shield:**

As of 2013 the Swedish corporate taxation is twenty-two percent[51]. The corporate tax rate is not expected to change why twenty-two percent is used throughout the forecast period (later in this chapter tax is explicitly discussed).

### 5.2.4 SAS' WACC

Collecting all the inputs derived in 5.2 SAS' WACC can now be computed using equation 5.3. The WACC over the forecast horizon is presented in figure 5.2.4 below.

$$WACC = D/V*r^{d}*(1-T) + E/V*r^{e} \Rightarrow 0{,}65*10.6\%*(1-0.22)+0.35*8.23 = \underline{\mathbf{8.26\%}}$$

## 5.3 Valuation of SAS AB

Having forecasted SAS' future operations, balance sheet and WACC the enterprise value can now be calculated by inserting in equation 5.1. In figure 5.3.1 the valuation, using the forecasted variables is presented.

**Figure 5.3.1 - Valuation of SAS using the DCF model framework**

| DCF Valuation | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|
| Passsenger Revenue | 29.836 | 29.648 | 29.984 | 30.793 | 32.227 | 33.634 | 34.992 | 36.406 |
| Other Traffic revenues | 5.371 | 5.337 | 5.397 | 5.543 | 5.801 | 6.054 | 6.299 | 6.553 |
| Other revenues | 5.371 | 4.856 | 4.498 | 4.619 | 4.512 | 4.709 | 4.899 | 5.097 |
| Total Revenue | 40.577 | 39.841 | 39.879 | 40.954 | 42.539 | 44.396 | 46.190 | 48.056 |
| Fuel Costs | -8.901 | -8.652 | -8.447 | -8.371 | -8.311 | -8.207 | -8.421 | -8.690 |
| Salaries & Wages | -13.260 | -12.776 | -12.648 | -12.585 | -12.585 | -12.838 | -13.226 | -13.761 |
| Other operating Expenses | -16.231 | -16.335 | -16.350 | -16.586 | -17.228 | -17.981 | -18.707 | -19.463 |
| EBITDAR | 2.185 | 2.078 | 2.433 | 3.412 | 4.414 | 5.371 | 5.836 | 6.143 |
| Leases | -1.513 | -1.673 | -1.795 | -1.843 | -1.914 | -1.998 | -2.079 | -2.163 |
| EBITDA | **672** | **404** | **638** | **1.569** | **2.500** | **3.373** | **3.758** | **3.980** |
| D&A | -1.623 | -1.394 | -1.276 | -1.311 | -1.361 | -1.421 | -1.478 | -1.538 |
| EBIT | -951 | -990 | -638 | 258 | 1.139 | 1.953 | 2.280 | 2.442 |
| Tax on EBIT | 0 | 0 | 0 | 0 | 0 | -261 | -502 | -537 |
| **NOPAT** | **-951** | **-990** | **-638** | **258** | **1.139** | **1.691** | **1.778** | **1.905** |
| + Depreciation & Amortizations | 1.623 | 1.394 | 1.276 | 1.311 | 1.361 | 1.421 | 1.478 | 1.538 |
| - Capital Expenditure | 448 | 1.494 | 2.301 | 2.376 | 2.469 | 1.997 | 2.066 | 2.137 |
| +/- Changes in Net Working Capital | -665 | -285 | 224 | 233 | 242 | 126 | 129 | 131 |
| Free Cash Flow | -441 | -1.375 | -1.438 | -574 | 273 | 1.241 | 1.319 | 1.437 |
| Discount Factor | 0,924 | 0,853 | 0,788 | 0,728 | 0,672 | 0,621 | 0,574 | 9,157 |
| ***PV Free Cash Flow*** | ***-408*** | ***-1.173*** | ***-1.133*** | ***-418*** | ***184*** | ***771*** | ***757*** | ***13.156*** |
| Enterprise value mio. SEK | 11.735 SEKm | | **All numbers in mio. SEK** | | | | | |
| NIBD mio. SEK (2012) | 8.980 SEKm | | | | | | | |
| Value Equity | 2.755 SEKm | | | | | | | |
| Number of shares mio. | 329 mil. | | **PV Cash flow E2020 = Perpetuity discounted 7 years** | | | | | |
| **Estimated Share price** | **8,36 SEK** | | | | | | | |
| Net Working Capital | -5.888 | -5.603 | -5.827 | -6.060 | -6.303 | -6.429 | -6.557 | -6.689 |
| Operating Assets | 25.514 | 25.614 | 26.639 | 27.704 | 28.813 | 29.389 | 29.977 | 30.576 |
| **Invested Capital** | 19.626 | 20.011 | 20.812 | 21.644 | 22.510 | 22.960 | 23.419 | 23.888 |

Source: Own depiction

[51] http://www.kpmg.com/global/en/services/tax/tax-tools-and-resources/pages/corporate-tax-rates-table.aspx

The found value using the DCF valuation framework is **8.36 SEK**.

As such the forecasted value lie below the share price of 14.05 SEK on 1st of May 2013 or in other words an overvaluation of the SAS AB stock. Many variables and estimates are however used in the DCF analysis why precautions must be taken before reaching conclusions or recommendations. A sensitivity analysis and a look at forecasted margins in comparison with actual industry margins are therefore made.

### Valuation margins compared to industry & historic margins

To state whether SAS' forecasted operations are reliably forecasted a comparison with historic and peer margin is made. This is shown in figure 5.3.2 below.

**Figure 5.3.2 Forecasted margins vs. historic margins (SAS & peers)**

| Margin Analysis | EBITDAR | EBITDA | EBITA | EBIT | NOPAT | ROIC b.t |
|---|---|---|---|---|---|---|
| FSC average 2010-2012 | 9,17% | 7,40% | 7,09% | 0,90% | 0,79% | 2,83% |
| LCC average 2010-2012 | 16,62% | 10,44% | 10,23% | 7,33% | 5,57% | 7,86% |
| Best FSC avg. 2010-2012 | 10,13% | 9,61% | 9,32% | 4,02% | 3,62% | 11,68% |
| Best LCC avg. 2010-2012 | 24,33% | 22,73% | 22,73% | 15,20% | 13,49% | 13,87% |
| FSC average 2012 | 9,47% | 7,76% | 7,46% | 1,41% | 0,80% | 3,22% |
| LCC average 2012 | 16,97% | 12,54% | 12,36% | 9,55% | 7,57% | 10,56% |
| Best FSC 2012 | 11,86% | 9,71% | 9,43% | 4,14% | 3,63% | 12,46% |
| Best LCC 2012 | 24,67% | 23,53% | 23,53% | 16,49% | 14,58% | 16,77% |
| SAS Average 2010-2012 | 6,04% | 3,65% | 3,30% | -1,15% | -1,30% | -1,70% |
| SAS 2012 | 6,90% | 4,47% | 3,68% | 0,51% | 0,19% | -0,34% |
| E2013 SAS | 5,39% | 1,66% | 1,58% | -2,34% | -2,34% | -4,85% |
| E 2015 SAS | 6,10% | 1,60% | 1,54% | -1,60% | -1,60% | -1,60% |
| E2020 SAS | 12,78% | 8,28% | 8,22% | 5,08% | 3,96% | 10,23% |

Source: Annual reports SAS & Peer Group 2012-2010 (Own depiction)

The forecasted operating margins in 2013 are worse compared to 2012 operations. As SAS' profitability has improved over the past years this might be a bit surprising. The reasoning behind this is however the lowering of RRPK and cost improvements not having kicked in yet.

In 2015 profitability has improved, as cost cuttings are kicking in and the RRPK stabilizing while. SAS has not yet reached FSC 2012 levels. This is found to be reliable as SAS is currently behind the industry and this gap is not closed in 3 years.

In E2020 SAS has stabilized and has reached an EBITA just below the best FSC in 2012. This is found to be reliable as the cost cutting initiatives in the entire industry is significant why the best FSC is expected to have an improved EBITA margin why SAS is only expected to have closed in on the best FSC. As such the overall assessment is that the forecasted margins are not unrealistic.

## 5.4 Sensitivity analysis

The DCF analysis derived a value pr. share of 8.36 SEK. The DCF analysis has some underlying assumptions that heavily affects the found value. One example is the infinite forecast horizon and steady state. Another is the discount factor that is important for the derived value.

The first sensitivity analysis will be made changing the WACC and the growth factor in the terminal period (as the terminal period account for a significant part of total value, see figure 5.3.1). Besides the general assumptions growth and WACC, fuel is an important input to the industry and as fuel prices are reliant on other industries and macroeconomic factors a sensitivity analysis changing oil prices is also made.

After looking at DCF model input sensitivities, a sensitivity analysis based on multiples is made. The multiples takes a relative approach to the valuation and is therefore a contrast to the DCF valuation framework. As such the DCF and multiples complements each other when assessing the value of SAS.

### 5.4.1 Sensitivity analysis changing model inputs

The first step in the sensitivity analysis in to look at the most essential assumptions and inputs to the DCF model. In figure 5.4.1.a the value of SAS, changing WACC and the growth factor is presented.

**Figure 5.4.1.a Sensitivity analysis changing WACC and growth factor**

| Sensitivity Analysis Changing WACC and Growth Factor | | | | | |
|---|---|---|---|---|---|
| G/WACC | -1% | -0.5% | Base Case | +0.5% | +1% |
| 3,0% | 31,16 | 22,73 | 15,96 | 10,41 | 5,79 |
| 2,5% | 24,58 | 17,57 | 11,83 | 7,05 | 3,02 |
| 2,0% | 19,24 | 13,31 | 8,36 | 4,19 | 0,63 |
| 1,5% | 14,84 | 9,72 | 5,41 | 1,72 | -1,45 |
| 1,0% | 11,14 | 6,67 | 2,86 | -0,43 | -3,28 |
| **Sensitivity Analysis - % change from base case** | | | | | |
| G/WACC | -1% | -0.5% | Base Case | +0.5% | +1% |
| 3% | 273% | 172% | 91% | 24% | -31% |
| 2,5% | 194% | 110% | 41% | -16% | -64% |
| 2% | 130% | 59% | 0% | -50% | -92% |
| 1,5% | 77% | 16% | -35% | -79% | -117% |
| 1% | 33% | -20% | -66% | -105% | -139% |

Source: Own depiction

As seen in figure 5.4.1.a relatively small changes in WACC and growth factor lead to significant changes in the estimated share price. By changing the WACC and the growth parameter by two percent gives totally different scenarios. Here the price ranges from -3.28 SEK to 31.16 SEK.

A change in 0.5 % in WACC will make the SAS share seem fair valued whereas only small changes would even suggest a negative value. As such the derived DCF value is sensitive to the underlying assumption, and the long-term horizon where forecast are of course more difficult to make.

In addition the sensitivity to the overall conclusion (overvalued or undervalued) is more volatile to growth and WACC changes, given SAS' current price range (as the % changes are huge as also suggested in figure 5.4.1.a) compared to a share price of i.e. 500 SEK.

As mentioned oil prices are an external factor highly affecting the airline industry, a sensitive to parallel changes in oil prices is therefore made. In figure 5.4.1.b below the valuation implications from changes in fuel prices are shown.[52]

**Figure 5.4.1.b - Valuation changing oil prices**

| Sensitivity Analysis Changing Fuel prices | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| % change in fuel prices | -2,00% | -1,00% | -0,50% | -0,25% | 0% | 0,25% | 0,50% | 1,00% | 2,00% |
| Value pr. share (SEK) | 39,23 | 24,24 | 16,41 | 12,42 | 8,36 | 4,25 | 0,08 | -8,44 | -24,56 |
| % value change from base value | 216% | 95% | 32% | 0% | -33% | -66% | -99% | -168% | -298% |

Source: Own depiction

Figure 5.4.1.b clearly indicates that fuel in an important value driver in the airline industry. The value of the oil price and airline stocks are therefore expected to be negatively correlated.
As such the oil price expectations should be taken into account when analyzing investment opportunities in the airline industry.

Summing the finding from the input sensitivities a definite finding is that the DCF-model value derived, is easily changed through minor input changes, and as such not better than the forecasted input variables. The overvaluation suggestions from 5.3. should therefore be tested, using other methods than a standalone valuation like the DCF, as to make an ultimate conclusion on SAS' share price. A multiple analysis of SAS is therefore made.

### 5.4.2 Sensitivity analysis using relative valuation methods/multiples

Opposite to the DCF framework multiples are based on comparability among peers. The handy characteristics are that the long-term forecast and underlying forecast uncertainties are avoided. This is the case as investors' current view on SAS and peers based on a given ratio i.e. EBIT, EBITDA or revenue is reflected in the multiples.

Important when using multiples is therefore that company specific characteristics like operating conditions capital structure, exclusion of non-reoccurring items and accounting policy are identical[53]. The basic assumptions is that investors should be willing to pay the same amount for

[52] The percentage changes are structural changes in all years from 2013-2020. Growth and WACC are the ones used in base case leading to 8,36 SEK pr. share.
[53] This holds true as all annual reports are presented under the IFRS accounting rules

one unit EBIT across all airlines, as these share economic outlooks. Differences should therefore be justified be company specific differences, good or bad.

**Choice of multiples:**

The multiples used in this analysis are EV/EBITA and M/B value. Price/Earnings are not used as SAS has operated with deficit all years of the covered period.

The EBITA multiple is used as this includes both revenue differences as well as cost differences which is the actual case in the airline industry. Thereby being able to compare LCCs and FSCs.

The first and most indicative multiple is EV/EBITA. The assumed similarities among the peers are presented in equation 5.5.3 (from Koller et al, 2010, p. 309).

$$\frac{Value}{EBITA} = \frac{(1-T) * (1 - \frac{g}{ROIC})}{WACC - g} \qquad (5.5.3)$$

As seen in 5.5.3 the assumed similarities among the peers are tax rate, growth factor, ROIC and WACC[54]. This should hold as peer group is chosen to match growth outlooks as operating in the same markets. In figure 5.4.2.a below SAS EV/EBITA multiple is shown in comparison with peers.

**Figure 5.4.2.a EV/EBITA multiple SAS & Peer group 2012-2010**[55]

| EV/EBITA Multiple | Including Operating Leases | | | Excluding Operating Leases | | |
|---|---|---|---|---|---|---|
| Company/Year | 2012 | 2011 | 2010 | 2012 | 2011 | 2010 |
| Lufthansa | 2,98 | 2,26 | 3,10 | 2,72 | 2,45 | 2,74 |
| KLM-AF | 9,91 | 8,49 | 9,81 | 6,04 | 4,44 | 20,88 |
| IAG | 9,46 | 4,88 | 11,80 | 6,21 | 3,00 | 10,86 |
| FinnAir | 6,62 | 21,72 | 11,80 | 2,39 | 8,87 | 6,52 |
| Norwegian | 14,59 | 10,87 | 17,35 | 8,13 | 5,18 | 8,75 |
| RyanAir | 7,24 | 8,02 | 9,53 | 6,63 | 7,18 | 8,54 |
| EasyJet | 8,40 | 6,07 | 9,54 | 6,99 | 4,17 | 6,80 |
| AirBerlin | 13,47 | 262,21 | 22,37 | 2,71 | 55,80 | 4,26 |
| SAS | 20,07 | 14,64 | 86,87 | 12,88 | 10,37 | 57,85 |
| Mean All | 10,30 | 37,69 | 20,24 | 6,08 | 11,27 | 14,13 |
| Mean Low Cost Carriers | 10,93 | 71,80 | 14,70 | 6,11 | 18,08 | 7,09 |
| Mean Full-service carriers | 7,24 | 9,34 | 9,13 | 6,05 | 5,83 | 19,77 |
| Median All | 9,46 | 8,49 | 11,80 | 6,21 | 5,18 | 8,54 |
| Median Low cost Carriers | 10,93 | 9,45 | 13,45 | 6,81 | 6,18 | 7,67 |
| Median Full Service Carriers | 9,46 | 8,49 | 11,80 | 6,04 | 4,44 | 10,86 |

Source: Annual reports SAS & Peer Group 2012-2010 + OMXNordic.com (Own depiction)

In 2012 SAS traded on a 20.07 EV/EBITA multiple (14.64 in 2011 with a share price of 6.45 SEK). Both 2012 and 2011 multiple is above the median for industry, LCC and FSC peers (exclude AirBerlin). The reason behind a high multiple can be an extraordinary poor year compared to other years why the stock market still has high expectations for the company.

To SAS both 2012 and 2011 were "stable" years, actually improving 2010-2008, but still with

[54] Multipelværdiansættelse (2012) p. 3 table 4

[55] Excluding Vueling due to availability of information and 2012 using SAS' 1st of May 14,05 share price.

improvement potential however. As the 2012 and 2011 are not significantly poor compared to other years the higher trading multiple therefore suggests an overvaluation of SAS, as it is valued pretty much on Norwegian multiple - a company with far greater profits than SAS.

To take a different approach (equity vs. operations) and in order not to base the conclusion on one multiple, a market to book multiple analysis is made. The M/B multiple will tell how much the market is willing to pay for one unit of book value equity. Having used both EV/EBITA, M/B and DCF-analysis, SAS current share price has been adressed and analyzed from three different perspectives, and the conclusions more robust.

**Figure 5.4.2.b M/B multiple SAS & peer group**

| Market to Book Multiple | 2012 | 2011 | 2010 |
|---|---|---|---|
| | Pensions incl. in Eq. | | |
| SAS | 0,36 | 0,21 | 0,15 |
| Mean All | 1,10 | 0,70 | 1,12 |
| Mean Low Cost Carriers | 1,81 | 1,13 | 1,52 |
| Mean Full-service carriers | 0,53 | 0,36 | 0,81 |
| Median All | 0,78 | 0,52 | 0,90 |
| Median Low cost Carriers | 1,88 | 0,99 | 1,59 |
| Median Full Service Carriers | 0,42 | 0,39 | 0,76 |

Source: Annual reports SAS & Peer Group 2012-2010 + OMXNordic.com (Own depiction)

Figure 5.4.2.b shows that the market will pay less for SAS', than industry averages pr. unit of book equity (0.36 vs. 0.78, and 0.42 FSC). This suggests a slight undervaluation of SAS.
As pension obligations are included in SAS' equity, and not in peers', the suggestion is however arbitrary. In 2012 SAS' pension obligations in equity amounted to 12.1 SEKbn (from section 4.2). Adjusting for pension obligations SAS' equity would be c. 0 SEK, suggesting an overvaluation[56].

The conclusion from the multiples analysis is therefore that the SAS share is overvalued at 14.05 SEK pr. share. The multiples therefore suggest the same as the DCF analysis.
**The conclusion from chapter 5 is therefore that the SAS stock is overvalued**, both as standalone share, and in industry perspective. An investor solely investing in the airline industry from oil price expectations should therefore invest in other airlines than SAS.

Given the finding from previous chapters, the conclusion from chapter 5 and SAS' current share price is low, the share is highly volatile towards minor information, rumors or industry specific changes. A possible M&A and such rumors could therefore affect the share price as well as bankruptcy rumors. The next chapter will analyze SAS in M&A perspective.

[56] Computation excl. pensions are not included as equity would be 0, why the calculations would not make sense.

# Chapter 6 SAS in M&A Perspective

Previous chapters found that SAS is currently behind peers measuring at important parameters. This has worsened SAS' condition both operational and financial. The analysis however also found that SAS still enjoy strong brand awareness and appearance in the European, and especially in the Nordic market. As such much value remain even if SAS is not able or, does not want to continue alone. This chapter will therefore analyze SAS in M&A perspective given precedent M&As in the airline industry and try to assess a possible value creation for both SAS, shareholders and potential buyers. This will hopefully shed light on SAS' future and elaborate on the found value in chapter 5.

## 6.1 M&A motives & previous M&A activity in the airline industry

M&A is not a new discipline in the world economy neither in the airline industry.
This section will therefore look at M&A motives in the airline industry and combine the motives with SAS' current condition. This will make for an improved analysis of potential M&A partners.

**Key assumption:**

The analysis of the M&A universe in the airline industry excludes the possibility of vertical integration. The rationale is that the industry has not seen vertical integration of this scale before, and many experts and executives (even SAS' CEO[57]) believe the European airline industry needs consolidation to be profitable in the future, as seen with the American airline industry[58] (discussed after this). Further there are no signs that suppliers intend to vertically integrate in the value chain. The sole focus will therefore be horizontal mergers in the airline industry.

As a matter of data availability and relevance, only a few, and recent M&As are analyzed. This is the case as the industry has changed overtime and so has the rationales and outcomes.
Further the M&A focus will be on the European airline market as this is where SAS is predominant.

**Why mergers:**

The only focus in the following, is on M&A rationales activities in the airline industry. This is even if alliances are highly predominant the in the airline industry today.
A justification of M&A's relevance in the future is therefore given in the following;

[57] http://www.reuters.com/article/2012/04/18/uk-sas-idUSLNE83H00V20120418
[58] http://www.ft.com/cms/s/0/79458f9a-9d4a-11e2-a8db-00144feabdc0.html#axzz2eyRAeOY4 (and see citations from Rigas Doganis on next page)

Adler & Golany (2001) argue that the deregulation (*Open skies regulatory*) of the airline industry will alone lead to a consolidation of airlines. The increasing number of mergers in recent years can therefore have been driven by the deregulation of the airline industry. Büttner (2008) supports Adler & Golany (2001), and also expect that consolidation is the future of the airline industry.

Before the liberalization of the market, alliances where the only tool in optimizing flight schedules and improve resource utilization (Iatrou & Oretti, 2007 p. 15). Iatrou and Oretti (2007, chapter 5) argue that the efficiency gains from alliances have however not reached the theoretical potential. Iatrou & Oretti (2007) and Chang & Hsu (2005) both point at misalignment of interests, transaction costs and separate ownerships as the primary reason behind the alliances not having reached its, at least, theoretical potential. Managerial misalignment and inefficient resource usage and cooperation was also what Das & Theng (1999) suggested as the most serious threat to airline alliances.

A steadily more liberalized and homogenous market and the entrance of the LCCs means that efficiency improvements and a more strict use of resources is needed especially among the FSCs. One way to this is an alignment of interests and centralized control or in other words a merger of separate entities as discussed by Fama & Jensen (1983).

The expected consolidation in the European airline industry is supported by Professor, and executive at EasyJet, Rigas Doganis. Doganis believes that small- and medium sized airlines in Europe could be doomed as *"They are too small to compete in the long-haul markets against the big players, and have too high cost to compete in the short-haul markets against the LCCs"*[59].

The perhaps most important justification of the M&A analysis is that both the Danish and Norwegian governments have publicly stated a potential interest in selling their stakes in SAS AB[60].

### 6.1.1 M&A rationales

The rationales behind M&As are many . Among these are entrance on new markets, R&D, strategic fit, financial turbulence and/or management problems (Koller et. al. (2012) & Roberts et. al (2010)). In the following Roberts et al.'s (2010) four general M&A rationales are presented.

***Strategic*** - Has a vast number of shapes and initiatives i.e. as a way of entering new market or segment, decrease costs, access to supplier channels.
***Management failure*** - Current management is not capable of adjusting strategy to current demands,

[59] http://www.ft.com/intl/cms/s/0/79458f9a-9d4a-11e2-a8db-00144feabdc0.html#axzz2dd3L6Hs9
[60] https://zephyr2-bvdep-com.esc-web.lib.cbs.dk:8443/version-201395/Report.serv?_CID=60&context=QRUQ94NWWE4EAH7&SeqNr=0&sp_uimode=StreamLined

and a merger can bring new ideas to the table, or maybe merge with a company with an already proven strategy.

**Financial necessity** - If a company can 't see its way out of financial turbulence as standalone entity. Here a merger with a healthy partner can be a way out.

**Political rationale** - A government owned company can be sold of due to efficiency and cost-cutting initiatives on the political scene.

The strategic rationale is the most pre-dominant and has most varieties whereas the others are more straight forward. Below an expansion of the *strategic rationale* based on Bower (2001)is made.[61] [62]

***The overcapacity M&A:*** Experiencing overcapacity/excess supply in an industry a company can gain market shares align supply and demand and/or obtain efficiency gains (37%).

***The geographic Roll-Up M&A:*** Geographical expansion through existing companies (9%).

***M&A as product or market extension:*** Extend the product line or the geographical scope (36%).

***M&A as R&D:*** Instead of having, R&D in house acquisition of already existing companies makes a big player enter a new industry or have access to important inputs (1%).

***The industry convergence M&A:*** Much the same as the former but with a longer perspective (4%).

***Investors***: In the article a sixth rationale is presented but not explicitly discussed. The underlying reason for the M&A is assumed to be "non-strategic", and as such a matter of management failure, financial necessity or political rationales (13%).

Bower's (2001) findings can be directly linked to Merkert & Morrell's (2012) six strategic motives behind M&A activity in the airline industry. Figure 6.1.1 below combines Merkert & Morrell's six airline specific rationales to Bower's general M&A rationales.

**Figure 6.1.1 - Merger rationales airline industry vs. general**

| Airline industry M&A rationales | vs. | M&A rationales in general |
|---|---|---|
| ***Based on Merkert & Morell (2012)*** | | ***Based on Bower (2001)*** |
| Increased efficiency & reduced costs | -> | Overcapacity M&A |
| Increased market share & revenues | -> | Overcapacity M&A & Product/market extension |
| Eliminate competition | -> | Overcapacity M&A |
| Access to airport slots & facilities | -> | Overcapacity M&A & Market extension |
| Access to aircrafts | -> | Market extension & R&D |
| More attractive to customers | -> | Customer extension & Gepgraphic roll-up |

Source: Merkert/Morrell (2012) & Bower (2001) - own depiction

[61] (The numbers in the parentheses are the percentage share of M&As based on the rationale in Bower's survey from 1997-1999)

[62] Identical among (Koller et. al. (2012), Robert et. al (2010) & Bower (2001) but has different names

Important to note is that the connection is only based on strategic rationales. As such *management failure, financial necessity and political rationale* are also M&A rationales in the airline industry.

Merkert & Morrell (2012) found, that efficiency and capacity sources (in terms of slots and fleet), are the most predominant M&A motives in the American and European airline industry. This corresponds with Bower's (2001) findings that the *Overcapacity M&A* is most common M&A rationale in general.

To sum up the academia suggests that most M&As should have been, and maybe also in the future be, driven by a desire to increase efficiency, lower costs, increase market shares and/or eliminate competition. A smaller fraction should be based on access to scarce resources like airport slots, or to enter new markets/regions, as it is seen in other industries i.e. the beverage industry.

### 6.1.2 Theoretical advantages and disadvantages from mergers

If experts' words hold true consolidation is the future of the airline industry. In order to analyze SAS' M&A potential, as well as upsides for a potential investor, the following will discuss the M&A advantages, and how the advantages can be exploited in a joint venture, including SAS.

**Merger advantages**

The introduction briefly touched upon the coordination and trust problems regarding alliances. An, at least theoretical, solution to these problems, is to align interests, by forming a joint venture. Section 4.1 showed that the LCCs hold a significant efficiency advantage over the FSCs. As such, mergers can be a remedy to the unmet efficiency gains in FSC alliances, and a way of securing optimized operations in a market that urges focus on all potential efficiency enhancements.

In addition, the improved control will also enable a potential joint venture, to optimize on route choice. This being both routes shuts, but also optimization of schedules, if/when merging airlines' route networks pre-merger overlap.
Important to note is that the magnitude of the cost savings and revenue synergies is case specific, also given the disadvantages and the size of the merging airlines (Merkert & Morrell, 2012).

**Merger disadvantages**

The most pre-dominant risk in airline M&A also confirmed by Merkert & Morrell (2012) is integration risks in terms of culture, union and employee resistance, different brands, antitrust implications etc.
Bower (2001) supports this, as he found that *Overcapacity M&*A is the most difficult to succeed

with due to cultural differences, mutual acceptance, alignment of processes etc. and Iatrou & Oretti (2007) survey ranked labor issues second, in issues regarding airline mergers.

The collateral risk is also of high importance for the M&A perspective. In the current situation almost all FSCs are experiencing negative or low returns, and pressured financial conditions, why this threat is highly important, and a potential M&A show stopper (see figure 4.2.1.c).
The increased risk and financial constraints are therefore a major issue in the M&A universe.
In figure 6.1.2. the M&A and alliances pros and cons from Chang & Hsu (2005) are presented.

**Figure 6.1.2 Mergers vs. alliances**

| Mergers | | Alliances | |
|---|---|---|---|
| Advantages | Disadvantages | Advantages | Disadvantages |
| • Full integration of network<br>• Control of partner<br>• Concentration on profitable routes<br>• Cost savings<br>• Rapid decision making | • Difficulties in post-merger integration<br>• Antitrust restrictions<br>• Need capital for purchase<br>• High risk | • Undone relatively easily<br>• Easier to find a partner<br>• Low risk | • Consensual decision-making process takes longer<br>• Must remain reversible<br>• Partners' goals may be different<br>• Cannot force partners to accept any particular solution<br>• Partners might be purchased by a rival |

Source: Chang & Hsu (2005)

**Size considerations in relation to M&A**

The academia suggests that the pre-merger size of the airlines is important to M&A rationale and maybe more important to the outcome, especially regarding potential cost synergies.
Small- and medium sized airlines, being acquired by a bigger airline, will often be used as feeder airlines to the big hub from where customers are connected to a much bigger route network. This is the case in both alliances and mergers. The smaller the target, the bigger chance of becoming a feeder airline (Iatrou & Oretti, 2007 pp. 136-137).
The scope of *"smaller-bigger airlines"* mergers will almost always be a geographical expansion, in a region close the bigger airline's home country (i.e. Lufthansa acquiring Austrian).
Examples are Lufthansa's acquisition of Austrian and Swiss and KLM/AF's acquisition of Alitalia.

Mergers, including equally sized airlines of SAS size, will often be a matter of enhancing efficiency while maintaining current route offerings, individual brands and prices, or in other words less integration of the two and there through lower route overlaps but maybe also lower efficiency potentials. Examples of such mergers are the BA/Iberia and the KLM/AF mergers.

Anti-trust problems are mentioned as a merger disadvantage. Under the current market conditions with increased price sensitivity and price transparency, anti-trust awareness on the airline industry is

lowered due to the LCC entrance. However, some focus on this matter might arise as both Norwegian and FinnAir M&As would entails a significant market share for the joint venture, and as with all other parameters, this consideration is case specific[63].

### 6.1.3 Previous M&A activity in the airline industry

In order to state, which airlines are able and willing, to buy SAS, an understanding of the merger universe in the European airline industry and an understanding of the rationales, and a look at the mergers retrospective, is needed.

A closer look at some of the major M&As in the European airline industry is therefore taken. In connection with the transaction multiples (section 6.1.4) this should increase the understanding of why, and how much, bidders pay for different characteristics pre-merger.

**KLM/AirFrance & British Airways/Iberia mergers**

The two most important mergers in the last decade, in the European airline industry, are the AirFrance/KLM and the British Airways/Iberia mergers. Both mergers can be seen as *Overcapacity mergers/Increased efficiency mergers*. This is the case as both mergers had two basic rationales; improved revenue streams and cost structure improvements through efficiency gains post-merger.

**Pre-merger rationales**

From a revenue point of view both cases share good revenue characteristics pre-merger.

In both the KLM/AF and the BA/Iberia cases the European market was common, but the intercontinental scope different (KLM and BA Asia and North America and Iberia and Air France Latin America and Africa). The mergers should therefore not cannibalize revenues, and as such, all four main hubs (LHR, MAD, AMS and CDG), remained pretty much unchanged after the mergers. Further both KLM and Iberia were nationally owned pre-merger, and as such, not different from a M&A case including SAS.

Quickly after acquiring Iberia, IAG started to renew fleet. The reason was that Iberia's fleet was old (like SAS') but also to align fleet across the group to exploit flexibility and maintenance opportunities[64]. This signals that fleet optimization, both in terms of costs, but also load factor, is an important aspect, when assessing potential mergers, as this is a source of improved efficiency.

The expected synergies from mergers are therefore expected to be derived from network and fleet management, as well as sales and distribution post-merger (Iatrou & Oretti, 2007 p. 54).

[63] http://www.airlineleader.com/regional-focus/nordic-region-heats-up-as-all-major-players-overhaul-their-strategies
[64] http://www.flightglobal.com/news/articles/iberia-a340-replacement-is-initial-focus-of-iags-fleet-renewal-plan-353613/

**Post-merger analysis and perception**

The post-merger assessment and perception of the two mergers are different, at least publicly. In the industry the KLM/AF is state of the art example of how big the synergies are in airline mergers (Iatrou & Oretti, 2007 p. 166). This is the fact as the AF/KLM merger quickly gave increased passenger traffic and the cultural differences did not cause implementation issues[65].

The BA/Iberia merger is a different story as the merger has not yet lived up to the expectations. Even IAG CEO, Willie Walsh, has publicly said that the merger would have been delayed had they known the future economic problems in Spain beforehand[66].

The said reason behind the unsuccessful merger is that the working conditions were significantly different in BA and Iberia before the merger. In Iberia captains earned way more than BA captains and had several benefits i.e. luxury hotels when outside Spain, lower work load etc.[67].

In figure 6.1.3.a below operational drivers on IAG and AF/KLM in FSC comparison, are shown.

**Figure 6.1.3.a IAG & AirFrance/KLM vs. industry**

| Operational drivers | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **IAG** | **2012** | **2011** | **2010** | **AF/KLM** | **2012** | **2011** | **2010** | **FSC avg. ex. SAS** | **2012** | **2011** | **2010** |
| **Load Factor** | 80,3% | 79,1% | 78,5% | **Load Factor** | 83,1% | 81,6% | 80,7% | **Load Factor** | 80,0% | 77,0% | 77,9% |
| **RRPK** eurocent | 10,30 | 9,44 | 7,43 | **RRPK** eurocent | 9,02 | 8,84 | 8,03 | **RRPK** eurocent | 10,09 | 9,76 | 8,97 |
| **ASK/Employee** | 3,68 | 3,75 | 3,40 | **ASK/Employee** | 2,67 | 2,46 | 2,40 | **ASK/Employee** | 3,12 | 2,95 | 2,69 |
| **FASK** eurocent | 0,033 | 0,028 | 0,020 | **FASK** eurocent | 0,027 | 0,023 | 0,019 | **FASK** eurocent | 0,028 | 0,024 | 0,020 |
| **SASK** eurocent | -0,018 | -0,015 | -0,012 | **SASK** eurocent | -0,028 | -0,029 | -0,030 | **SASK** eurocent | -0,026 | -0,025 | -0,026 |
| **Margins** | | | | | | | | | | | |
| **IAG** | **2012** | **2011** | **2010** | **AF/KLM** | **2012** | **2011** | **2010** | **FSC avg. ex. SAS** | **2012** | **2011** | **2010** |
| **EBITDAR** | 6,8% | 11,1% | 7,1% | **EBITDAR** | 9,4% | 10,9% | 5,1% | **EBITDAR** | 9,5% | 9,6% | 8,4% |
| **EBITDA** | 5,3% | 9,0% | 6,7% | **EBITDA** | 7,0% | 8,7% | 3,0% | **EBITDA** | 7,8% | 7,4% | 7,0% |
| **EBITA** | 5,1% | 8,7% | 6,4% | **EBITA** | 6,7% | 8,5% | 2,7% | **EBITA** | 7,5% | 7,1% | 6,7% |
| **EBIT** | -2,5% | 2,9% | -2,5% | **EBIT** | 0,2% | 1,8% | -4,8% | **EBIT** | 1,4% | 1,4% | -0,1% |
| **Profit margin** | -2,6% | 3,3% | -2,3% | **Profit margin** | -0,6% | 1,6% | -3,3% | **Profit margin** | 0,5% | 0,7% | -0,3% |

Source: Annual reports (2012-2010) own depiction

From the figure, the AF/KLM merger does not seem "better" than the IAG merger (it should be noted that the pre-merger starting points are not known, why ultimate conclusions are not doable). The only parameter where AF/KLM consistently outperforms IAG is on load factor. Here AF/KLM is 3%-point better than both IAG and FSC on average in 2012. Comparing IAG's and AF/KLM's load factors to FSC average, merged airlines seem capable of obtaining higher load factors.

In terms of productivity IAG actually outperforms both AF/KLM and the FSC peers. This does not suggest high integration problems rather the opposite in terms of productivity.

The area were IAG falls behind in on FASK here the FASK has increased more than industry peers.

[65] http://www.ft.com/intl/cms/s/0/30c211e0-c83b-11d9-87c9-00000e2511c8.html#axzz2cy7KZMyJ

[66] http://www.telegraph.co.uk/finance/newsbysector/transport/10050107/BA-should-have-put-Iberia-merger-on-hold-Walsh-admits.html

[67] http://www.ft.com/intl/cms/s/0/97b37f44-3f9b-11e2-b0ce-00144feabdc0.html#axzz2cy7KZMyJ

Overall, the efficiency and profit gains from the two mergers are difficult to conclude upon. This is argued as neither IAG nor AF/KLM consistently outperform/underperform FSC average, except load factor. The load factor does however suggest that efficiency gains can be obtained through mergers. The magnitude is however questionable, and is matter of the parties and the starting point.

**Lufthansa acquisition of Austrian Air (Swiss & British Midland International)**

Compared to the BA/Iberia and KLM/AF mergers, the Lufthansa mergers are different. The differences are the size of the airlines, as Lufthansa has only acquired smaller airlines.

The rationale behind Lufthansa's Austrian acquisition was to improve East-European appearance, which was seen as a growth market[68]. Simultaneously the two carriers, Lufthansa and Austrian Air, were closely situated (geographically) meaning that cost synergies was easier obtained.

In addition Lufthansa's acquisition of surrounding airlines is argued as avoidance of competitive challenge of the central hubs in Munich and Frankfurt, while also trying to enter the rich segment in Switzerland and Northern Italy (Iatrou & Oretti, 2007).

The rationale behind the mergers seem to be optimization of routes from the important hubs, Munich, Frankfurt and Zurich, while also enhancing position in important markets, like the east-European, North Italian and British and avoiding competitors from entering/approaching Lufthansa's home market through the use of closely located airlines. Instead Lufthansa use the closely located airlines (Swiss Air & Austrian Airlines) as their own feeder airlines.

The Lufthansa mergers should therefore not be seen as a pure *Overcapacity merger* but also as *Market Extension/Increased market share and revenues & Access to airport slots and facilities*.

Compared to the Iberia/BA and the AF/KLM mergers, the Lufthansa mergers are less debated. The mergers must however have been somewhat successful, as it would, if otherwise, have been stated.

**Figure 6.1.3.b Lufthansa vs. industry**

| Operational drivers | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lufthansa** | **2012** | **2011** | **2010** | **FSC avg. ex. SAS** | **2012** | **2011** | **2010** |
| **Load Factor** | 78,8% | 77,6% | 79,6% | **Load Factor** | 80,0% | 77,0% | 77,9% |
| **RRPK** eurocent | 10,63 | 10,25 | 9,87 | **RRPK** eurocent | 10,09 | 9,76 | 8,97 |
| **ASK/Employee** | 2,20 | 2,17 | 2,00 | **ASK/Employee** | 3,12 | 2,95 | 2,69 |
| **FASK** eurocent | 0,028 | 0,024 | 0,021 | **FASK** eurocent | 0,028 | 0,024 | 0,020 |
| **SASK** eurocent | -0,027 | -0,026 | -0,028 | **SASK** eurocent | -0,026 | -0,025 | -0,026 |
| **Margins** | | | | | | | |
| **Lufthansa** | **2012** | **2011** | **2010** | **FSC avg. ex. SAS** | **2012** | **2011** | **2010** |
| **EBITDAR** | 9,9% | 8,4% | 11,0% | **EBITDAR** | 9,5% | 9,6% | 8,4% |
| **EBITDA** | 9,7% | 8,2% | 10,9% | **EBITDA** | 7,8% | 7,4% | 7,0% |
| **EBITA** | 9,4% | 8,0% | 10,6% | **EBITA** | 7,5% | 7,1% | 6,7% |
| **EBIT** | 4,1% | 2,7% | 5,2% | **EBIT** | 1,4% | 1,4% | -0,1% |
| **Profit margin** | 3,6% | 1,8% | 5,4% | **Profit margin** | 0,5% | 0,7% | -0,3% |

Source: Annual reports (2012-2010) own depiction

[68] Lufthansa annual report (2010) p. 89

From figure 6.1.3.b Lufthansa seem very stable, and it is difficult to tell if the Lufthansa mergers have increased efficiency. Lufthansa's stability is however much higher compared to IAG and AF/KLM. This stability has made for positive profit margins in all three covered years, even without having extraordinary margins, load factor or RRPK. The stability in operations can prove to be a game changer in a merger with SAS, as efficiency enhancements might be induced easier.

**Conclusion on rationales behind previous M&A activity in the European airline industry**

The common rationale behind the three mergers is resource optimization of revenues and costs. The denominator in terms of revenue is route/network optimization, either as combined optimization as network have many overlaps, or as to cannibalization least as possible as both airlines are big, have a strong brand awareness different regions and both have a big hub attached. In relation to optimizing revenues the size of the target airline tend to be important. When the merging airlines are equally big the route network post-merger tend to be the same as pre-merger where the merger of a small and bigger airline optimize frequency and load factor on overlapping route network. This corresponds with the size considerations suggested in section 6.1.2.

The primary source of cost efficiency tend to center on fleet maintenance and fleet flexibility improving both load factor and partly fuel consumption. In addition, administrative staff can be cut due to function overlaps. Based on unions and situation the magnitude of this will diverge from case to case. In terms of integration, and solely based on the three cases and public perception, smaller airlines tend to be easier integrated compared to equally big airlines. Or it may be a matter of Lufthansa enjoying good capabilities, as to integrate other airlines in the group.

A final but maybe crucial takeaway is that merged airlines tend to obtain lower EBIT margins (and thereby profit margins). This is stated as KLM/AF and IAG are both below FSC average.
This feature is bad news to mergers in the airline industry, at least in the current situation, and a fact that potential mergers must be take into account before engaging in a joint venture.

Reasons behind the inferior EBIT margins can be, that synergies are not fully obtained within the first five-ten years of the joint venture, or that the actual synergies from mergers, in the airline industry, are overstated by the academia and people in the industry.
A final suggestion is that the lower EBIT margin, may be a matter of *adverse selection.* Adverse selection being that struggling airlines will merge, as to try and close the gap to top-performers.
In the following, the at least theoretically suggested, synergies will be applied to SAS, and the *precedent transaction multiples* to judge if the suggested synergies, and share prices, are unrealistic.

## 6.2 SAS' fit with literature & empiric findings

In order to assess SAS' M&A potential a walkthrough of the six underlying rationales and SAS' fit will be conducted, also given the empiric findings.

***1) Increased efficiency and reduced costs***

Size of the merging airlines play an important role when optimizing schedules, deciding on hubs etc. SAS' size in relation to the partner/acquirer is therefore important here.
This being said SAS is a company with significant potential for cost cuts also beyond staff cost levels i.e. higher fuel costs. SAS could therefore be a partner, if increased efficiency was a goal. Further, SAS enjoys higher prices compared to the competition, why bidder's being able to induce efficiency enhancements, should see SAS as an almost ideal target.

***2) Increased market share and revenues***

SAS has experienced declining market shares but still enjoy a premium brand. SAS' brand could be important for a potential bidder. The question is if SAS' routes, schedule and serviced areas can give synergies. One problem could be that SAS is not specialized on any inter-continental segments but has a dominant position in Scandinavia why a position as feeder airline could be fruitful.
A desire to increase market shares should therefore also be seen in the light of efficiency gains why efficiencies and revenue enhancements go hand in hand. Once again a efficiency inducing bidder would most likely not find a better suited prospect, rather than SAS.

***3) Eliminate competition***

The competition in the European airline industry is intense. However it should once be noted that SAS' only stronghold is the Scandinavian countries, and the question is if elimination of competition is a long-term strategy.
In a broader perspective SAS could be acquired to avoid others from acquiring as Lufthansa has previously been doing with Swiss and Austrian Air. This could end in a similar case with SAS.

***4) Access to airport slots and facilities***

SAS' access to airport slots and facilities is among the best in European business. SAS is an old company with great landing rights and slots in all the biggest airports. This fact will make SAS a valuable partner for a new rich entrant on the European market i.e. a Chinese or Arabian carrier. The question is if SAS is too big just to extract slots and non-aircraft resources but one has to recognize that this is a major advantage for SAS as a potential M&A target.

***5) Access to aircrafts***

SAS' fleet is the oldest among peers why SAS will not be an *"aircraft target*". The size and scale of SAS' fleet can however prove as an important flexibility point in a potential merger with a bigger airline compared to an LCC like RyanAir only operating one aircraft type (appendix 7, figure A.7.7), as it is seen that IAG started to renew Iberia's fleet to fit British Airway's fleet.

***6) More attractive to customers***

SAS' still enjoy a good reputation. As such an acquisition of SAS can improve another airline's attractiveness on the other hand airline brands does not seize to exist after a merger (Iatrou & Oretti, 2007 p. 124).

When assessing which advantages SAS hold as to attract potential M&A partner, other factors affecting the execution of the merger should be kept in mind, as this will undoubtedly be an area of interest for potential partners as well.

***Size:*** SAS' role in a merger is important to analyze for both buyer and SAS. SAS current size could mean that SAS is "caught in the middle" - too small to be equal partners and too big to be a feeder airline (see ASK size in figure 6.1.4.b). This could prove to be a drawback to SAS' M&A potential.

***Implementation Risks:*** SAS' employees are strongly unionized. Many potential buyers can be scared from the Iberia/BA merger which at least publicly has not reached to full potential due to poor implementation. The question is therefore if potential buyers would be willing to take the risk of buying SAS, especially under the roaring economic crisis that has injured SAS' position.

***Corporate governance issues:*** Another problem that might arise is whom SAS' owners are willing to sell to. For example it is difficult to imagine the owners selling SAS to RyanAir who neglects unions and profit maximizes by all means.
In addition to the above SAS current owner's might have to accept cut backs in previous objectives (work places in Copenhagen, Norwegian west coast etc.) if SAS is sold. A final point is that the current owners may be reluctant to sell SAS to a non-NATO party, from a political point of view.

### Conclusion on SAS' fit with literature and empiric findings

SAS has access to important resources and has a great reputation among customers and in the industry. Only looking at resources SAS clearly fits the M&A rationales put forward by Bowers (2001) and Roberts et. al (2010). The main interest would be SAS' premium brand that will last after the merger, the route network and pole position in the Scandinavian market.

SAS heritage and current position however also mean that SAS is *"un-focused"* outside Europe, both connecting to Asia and US. One problem if SAS had to engage in a merger like AF/KLM could be that SAS does not hold a strategic advantage in one single intercontinental area but is instead represented in all. This fact could mean that SAS would be better suited as a SwissAir "replica" rather than a KLM *"replica"*, leading to a SAS being second string to a bigger airline.

Looking beyond strategic revenue implications SAS employee culture and salary levels will be a concern as both academia and the BA/Iberia case point at the vast difficulties entailed by a string labor force with significantly better conditions than the sister airline. This is a serious drawback.

Another drawback is that SAS current fleet is old but on the other hand also diversified. This means that the fuel consumption is hard to bring down in the short run. The diversification could be an advantage in a bigger merger as the different types and size entail high flexibility given demand.
In addition SAS holds scarce resources in terms of landing rights and slots. This could be interesting for a non-European carrier would they want to enter the market. This is however not found as a viable rationale behind acquiring SAS due to SAS' size and as SAS owners will most likely not sell to buyers only wanting to extract such resources.

Extracting the takeaways to SAS situation, combined size of a potential merged airline is important when analyzing the potential M&A partners/acquirers of SAS.
In the BA/Iberia and KLM/AF cases the intercontinental strengths were different leading to small revenue cannibalization and as such also somewhat smaller cost cutting potentials.

The conclusion is therefore that there are pros and cons, should another airline be interested in merging with SAS. Given the pros, cons and rationales discussed in potential buyers of SAS are discussed in 6.3. Important when looking into this part is that *"there is no real precedent in cross-border mergers which enables researchers and analysts - or the carriers themselves - to assess their potential"* (Iatrou & Oretti, 2007). The analysis will therefore be based on previous findings and a subjective, but discussed assessment of the respective buyers/scenarios.

## 6.3 Potential buyers of SAS and/or merger possibilities

After having discussed the implications on SAS business case the implications are incorporated in the valuation (from section 5.3) to see what value a potential buyer will face.
The findings and estimated share values will be sanity checked using transaction multiple analysis from 6.1.4. Mergers are expected to be effectuated as of 1st of January 2014.

### 6.3.1 M&A with Lufthansa

Lufthansa has a strategic target of *"expanding and strengthen the leading market position through organic growth, sensible acquisitions and development of partnerships".* As such Lufthansa is in a strategic position where acquisitions are a possibility.
In addition to this Burger & Büttner (2008) found that Lufthansa has the best starting position to drive consolidation in the European airline industry and a SAS merger will look much like the Swiss and Austrian mergers in terms of ownership and size pre-merger[69] (see appendix 7, A.7.9).

Lufthansa's interest in SAS will be to eliminate competition from both SAS but also enforcing the Central European stronghold and thereby keeping IAG and AF/KLM away from Central Europe while also making a statement to the LCCs in Central Europe.
Further a merger with SAS will hopefully enable to derive efficiency gains and improve cost structure in both SAS and Lufthansa (rationales 1, 2 and 3 based on Merkert& Morrell from 6.1.1.).

**Implications on SAS value given a Lufthansa merger**

*Revenues:* Lufthansa's M&A strategy has been to increase the awareness and synergies in near/existing regions. This strategy comes at a capacity size price why combined capacity decreases are expectable. SAS and Lufthansa has several route overlaps and will as a joint venture enjoy significant landing rights in Europe's biggest airports. The capacity decrease is expected to be 5 %. The decline in capacity is expected to improve load factor. As such SAS' load factor will increase to Lufthansa levels in 2015, and closing in on AF/KLM's 2012 *load factor* of 83 %. The rationale is that route and fleet use are optimized as both aircraft size and frequencies are managed easier. Ticket prices are not expected to change from the base case as brand values remain post -merger.

*FASK:* SAS' and Lufthansa's FASK is almost identical in 2012. This does not suggest FASK synergies.
Based on the combined fleet size of SAS and Lufthansa fuel savings from fleet optimization is

[69] Swiss' capacity of approx.. 40 billion in 2012[69] and Austrian Airlines with a capacity of approx. 20 bn. ASK[69].

however not unrealistic as SAS' fleet can be replaced by newer and more fuel efficient Lufthansa aircrafts and the flexibility of combining the two fleets will expectedly lead to fuel cost efficiencies (size optimized to demand). The extraordinary fleet renewal is expected in 2014 and 2015.

*Salaries:* Problems with unions will most likely lead to same salaries in SAS as if standalone airline. The merger will however entail staff cuts on administration and on maintenance both due to efficiencies but also function overlaps.
The merger is expected to cut FTE's by 5 % (750 FTEs) due to capacity cuts and incremental FTE cuts over a three year period starting from 2014.

*Other costs:* As all FSCs are on level no changes are expected regarding this item.

*Invested Capital:* The invested capital in the industry is much alike across the industry; further no asset specific mergers have been made. The base case assumptions are therefore unchanged.
*Financing:* Being owned by Lufthansa will mean that SAS cost of debt will decrease as Lufthansa's financial stability is much better than SAS'. As such the applied WACC will be based on a BBB. The weighted average cost of debt of a BBB bond is 3.51 %[70] entailing a WACC of *4,66 %.*
By only applying a WACC of 6 % a share price of 41.21 is obtained. The question is if Lufthansa will overall gain from the increased WACC as the entire Lufthansa would face a WACC of 6 %. SAS and Lufthansa are therefore financially treated as two separate entities why SAS' standalone WACC will be applied.

**Figure 6.3.1.a SAS AB with merger with Lufthansa, selected ratios**

| Lufthansa merger impact | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| ASK | -5,00% | | | | | | |
| Load factor | 1,0% | 0,75% | 0,5% | 0,0% | 0,0% | 0,0% | 0,0% |
| Efficiency gains | -0,50% | -0,50% | -0,50% | -0,50% | -0,50% | -0,50% | -0,50% |
| Fleet Contribution | 10 | 20 | - | - | - | - | - |
| FTE savings | -200 | -500 | -50 | | - | - | - |
| Forecasted EBITDAR margin | 5,78% | 7,06% | 9,76% | 11,84% | 13,55% | 14,13% | 14,23% |
| Forecasted EBITDA margin | 1,58% | 2,56% | 5,26% | 7,34% | 9,05% | 9,63% | 9,73% |
| Forecasted EBITA margin | 1,51% | 2,49% | 5,19% | 7,27% | 8,98% | 9,56% | 9,67% |
| Forecasted EBIT margin | -1,92% | -0,64% | 2,06% | 4,14% | 5,85% | 6,43% | 6,53% |
| Forecasted ROIC before Tax | -3,93% | -1,28% | 4,05% | 8,14% | 11,77% | 13,19% | 13,68% |
| Forecasted ROIC after Tax | -3,93% | -1,28% | 4,05% | 6,79% | 9,18% | 10,29% | 10,67% |
| Load Factor | 79,2% | 80,9% | 82,4% | 82,9% | 83,2% | 83,2% | 83,2% |
| FASK | 21,21 | 19,46 | 18,43 | 17,49 | 16,83 | 16,84 | 17,03 |
| SASK | 0,33 | 0,32 | 0,31 | 0,29 | 0,29 | 0,30 | 0,30 |

Source: Own depiction

The forecasted changes on top of the former standalone valuation entail a share price of **31.45 SEK** pr. share. (see appendix 5 for complete valuation overview).
The found share price suggests that Lufthansa should buy SAS almost as soon as possible. Before

[70] http://ycharts.com/indicators/us_corporate_bbb_effective_yield

making a final recommendation a sanity check using precedent transaction multiples must be made. This is the case as the financing and Lufthansa specific value implications are not taken into account in the above analysis. These impacts on value are captured from the multiples analysis.

### 6.3.2 M&A with IAG

The overall purpose of the IAG is to "*both participate and facilitate in the global consolidation of the industry"* and IAG's global strategy is a *"multi-national, multi-brand company…we believe we can add additional brands* [71]". Over the past three years (2012, 2011 and 2010) IAG has bought respectively Iberia, British Midland and Vueling.

IAG's strategy is publicly known and IAG CEO Keith Williams repeatedly state that European airlines must consolidate to cope with the competition from outside Europe in the coming years[72]. The former suggests that IAG might be a company willing to buy SAS and a company who has experience in merging nationally owned companies with different cultures and conditions. Further British Airways/IAG was among Büttner & Burger (2008) preferred airlines to drive consolidation.

Since then IAG has merged with Vueling and Iberia. The question is therefore if IAG will be willing and able to inclusion of a potential problem child like SAS in the current situation where integration of mergers is still in progress. In five years the situation could be the exact opposite.

On a strategic level IAG wants stronger profitability on intra-European flights and improve market position on Europe-Asia flights[73]. Including SAS in IAG would increase the intra-European flexibility both in terms of schedule, maintenance and employee location why the most important rationale would be intra-European schedule and maintenance optimization and as SAS' brand fit IAG's mission; *"winning customers through service and value…"*[74].

**Implications of a SAS and IAG merger**

*Revenues:* Compared to Lufthansa, IAG and SAS has less route overlaps and IAG has historically not included bought airlines as much in the group compared to Lufthansa.
This suggest only minor capacity decreases from a merger. The IAG/SAS merger effect on capacity is expected to be 2 %.
The lower route overlaps will entail lower capacity optimization compared to the Lufthansa case.

[71] IAG annual report 2012 p. 6
[72] http://www.thenational.ae/business/industry-insights/aviation/ba-chief-says-european-airlines-must-consolidate-to-survive
[73] IAG annual report 2012 p. 10
[74] IAG annual report 2012 p. 8

The load factor uplift is expected to be 2/5 of the Lufthansa synergies (based on the capacity reduction). Price levels(*RRPK*) are expected to be maintained as in the Lufthansa/SAS case.

*FASK:* As with load factor the efficiency gains from fleet optimization is expected to be marginal compared the Lufthansa case.. In the current situation IAG's FASK is much lower than SAS' as such advantages from a bigger combined fleet and internal resource optimization is however still expected to influence fuel efficiency positively.

*Salaries:* IAG has struggled to integrate Iberia. This focus and as the distance from Madrid-London and Copenhagen is bigger than Frankfurt the FTE cuts are only expected to 400.
This will lead to a lower SASK in 2020 compared to the Lufthansa case as capacity cuts are smaller. In addition IAG's partners tend to operate more individual compared to Lufthansa's hub and spoke strategy. The FTE overlaps are therefore smaller compared to the SAS/Lufthansa case.
*Other costs:* As all FSCs are on level no changes are expected regarding this item.

*Financing:* IAG is financially struggling. The WACC and financing is therefore not expected to be much improved in SAS given a IAG merger. IAG's credit rating as of 1st of May was S&P BBB-[75]. As with the Lufthansa merger only operational effects on SAS will be discussed as the combined financing is difficult to assess why SAS' standalone WACC is applied.

**Figure 6.3.2.b SAS AB with merger with IAG, selected ratios**

| IAG merger impact | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| ASK | -2,00% | | | | | | |
| Load factor | 0,5% | 0,50% | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% |
| Efficiency gains | -0,50% | -0,50% | 0,00% | 0,00% | 0,00% | 0,00% | 0,00% |
| Fleet Contribution | - | - | - | - | - | - | - |
| FTE savings | -100 | -250 | -25 | | - | - | - |
| Forecasted EBITDAR margin | 5,70% | 6,80% | 9,06% | 11,08% | 12,76% | 13,28% | 13,42% |
| Forecasted EBITDA margin | 1,50% | 2,30% | 4,56% | 6,58% | 8,26% | 8,78% | 8,92% |
| Forecasted EBITA margin | 1,43% | 2,24% | 4,50% | 6,52% | 8,19% | 8,72% | 8,85% |
| Forecasted EBIT margin | -2,00% | -0,90% | 1,36% | 3,38% | 5,06% | 5,58% | 5,72% |
| Forecasted ROIC before Tax | -4,04% | -1,76% | 2,62% | 6,51% | 9,96% | 11,22% | 11,72% |
| Forecasted ROIC after Tax | -4,04% | -1,76% | 2,62% | 6,05% | 7,77% | 8,75% | 9,14% |
| Load Factor | 78,2% | 79,7% | 80,7% | 81,2% | 81,4% | 81,4% | 81,4% |
| FASK | 21,40 | 20,09 | 19,13 | 18,25 | 17,67 | 17,76 | 17,97 |
| SASK | 0,32 | 0,31 | 0,29 | 0,28 | 0,28 | 0,29 | 0,29 |

Source: Own depiction

The merger simulation leads to a share price of **19.53 SEK pr. share** (see appendix 5 for complete valuation overview and comparison with base case). As with Lufthansa, the found value must be sanity checked using precedent transaction multiples, as to state if the found value is reliable.

[75] http://www.bloomberg.com/apps/news?pid=newsarchive&sid=au1KqftISAys&refer=uk

### 6.3.3 Other merger possibilities

The possibilities Lufthansa and IAG is not an exhaustive list of the potential SAS bidders. Should SAS merge with IAG or Lufthansa, SAS would most likely be a feeder airline with limited influence on hub choices, employee location etc. meaning that Copenhagen airport could become less influential and operations on the Norwegian west coast have less interest in the future.
This may be problematic for SAS' current owners as the current ownership is highly based on public interests. Problems related to the above could be solved/less serious if dealing with other M&A partners. A brief perspective on other potential M&A partners are therefore given in the following as these alternatives are not excluded but found less obvious than Lufthansa and IAG.

**FinnAir**

In the light of the above considerations a merger with FinnAir or Norwegian could make sense. The rationale would be to create a stronghold on the Scandinavian market and expand from there. Considering brand, employee conditions etc. FinnAir might be the obvious beneficial partner from both SAS, FinnAir and Norwegian point-of-view.

FinnAir has a strong strategic focus on the Asian market. As such SAS and FinnAir could merge and improve Scandinavian profitability and concentrate on different markets - FinnAir east from Scandinavia and SAS the western part of Europe and Northern America. As such a small scale replica of the BA/Iberia merger.
One complaint to this could be that a FinnAir merger would be driven by revenue synergies not cost-synergies. In the current situation  costs are the most predominant improvement point for SAS. An additional point is that anti-trust will have to approve a SAS/FinnAir merger. The chance of being denied to anti-trusts is present. As such FinnAir merger is not top of mind even if it could be the best alternative from a governance, political and long-term perspective.

An additional upside to a SAS-FinnAir merge could be that a future IAG merger could be even more interesting as SAS/FinnAir could provide IAG on key strategic areas (Scandinavia and Asia in the future). This should however not be the rationale behind a merger rather a potential upside.

**Private Equity**

In the current situation only few European airlines have financial and organizational means and endurance to buy, integrate and induce needed efficiencies into SAS even if the potential advantages are present. The solution to this could be that a Scandinavian private equity fund (PE).

Advantages are that a Scandinavian PE will most likely be approved by the current owners at least from a political point of view. Further PE's are renowned for quick and efficient restructuring before selling the company again. This could be a solution for SAS in the short-run in order to get rid of many diseases and malfunctions that current management can't get rid of.

The drawback could be that PE funds are known as capitalists *"as good as they get"* that will cynically seek yields. This means that a resale to a dubious third party and/or efficiency gains are derived using all means just to extract maximum profits..

Unfortunately the P/E discussion is constrained by private equity information availability on investment criteria and management and the scope of this paper. P/E's are however renowned for corporate turnarounds why P/E could the most likely buyer of SAS. As a matter of the former and as PE deals are rarely/if at all seen in the airline industry the possibility of PE M&A with SAS is not treated in debt.

### 6.3.4 Precedent transaction multiples analysis

M&A cases are often compared to *precedent transactions* with similar characteristics in order to find a fair value. Transaction multiples tell what acquirers have historically been willing to pay for 1 (i.e.) SEK revenue, EBITDA depending on the analyzed ratios (EV/Revenue, EV/EBIT etc.). The following will assess if the suggested values from the IAG and Lufthansa cases are reliable based on transaction multiples from recent M&A activity in the airline industry.

As also discussed in 5.4.2, *comparables* must be selected with care when applying multiples. In terms of transaction multiples, financial distress, world economy, public vs. private auction, number of bidders etc. can have impact on the paid price and must therefore be taken into consideration when applying data on a current case (Rosenbaum & Pearl, 2009 chapter 2).

In the airline industry for the multiples to be fully comparable, NOPAT, EBIT or EBITDAR multiples should be used, EBITDA is less useful as it does not distinguish between leases and owned fleet. Further the EV/revenue multiples must be used with caution, as revenue characteristics diverge across cases, i.e. SAS having higher revenues and costs compared to peers (section 4.1).

In order to compare with SAS, EV/EBIT multiples do not make sense as SAS' EBIT was negative in all years from 2010-2012, and MergerMarket does not disclose deal EV/EBITDAR multiples. The Austrian Air, Aer Lingus and Iberia EV/EBITDAR multiples have however been backtracked from the transaction EV (see figure 6.3.4.b). When comparing SAS to the specific Iberia, Aer

Lingus and Austrian cases, the EV/EBITDAR multiples are used. Initially figure 6.3.4.a. presents EV/revenue and EV/EBITDA multiples for selected M&A deals in the European airline industry.

**Figure 6.3.4.a Selected transaction multiples in the European airline industry**

| Ann. Date | Target Company | Bidder Company | Deal Value EUR(m) | Enterprise Value EUR(m) | Revenue EUR(m) | Revenue Multiple | EBITDA Multiple |
|---|---|---|---|---|---|---|---|
| 16/03/2008 | Alitalia SpA | Air France-KLM | 1418 | 1418 | 4847 | 0,29 | 18,49 |
| 02/07/2007 | Nordic Airlink | Norwegian Air | 6 | 6 | 94 | 0,07 | Not Available |
| 01/07/2011 | Finnish Commute | Finnair Oyj | 25 | 25 | 90 | 0,28 | Not Available |
| 07/07/2011 | Cimber Sterling | Mansvell Ent. | 81 | 81 | 260 | 0,31 | Not Available |
| 02/02/2007 | BMED | British Midland | 46 | 53 | 162 | 0,32 | Not Available |
| 19/06/2012 | Aer Lingus | Ryanair | 547 | 547 | 1288 | 0,42 | 4,13 |
| 25/10/2007 | GB Airways | easyJet | 187 | 187 | 369 | 0,52 | 10,94 |
| 22/12/2011 | British Midland | Int. Airlines Gr. | 538 | 535 | 906 | 0,57 | Not Available |
| 08/04/2010 | Iberia Lineas | British Airways | 3701 | 3701 | 4231 | 0,87 | Not Available |
| 01/12/2008 | Aer Lingus | Ryanair | 1047 | 1270 | 1285 | 0,99 | 8,59 |
| 15/09/2008 | SN Airholding SA | Lufthansa | 65 | 4 | 784 | 0,00 | 0,10 |
| 23/06/2005 | Swiss Int. Air | Lufthansa | 601 | 601 | 2276 | 0,26 | 4,94 |
| 05/12/2008 | Austrian Airlines | Lufthansa | 1268 | 1300 | 2469 | 0,53 | 4,39 |
| | | **Averages** | **733** | **748** | **1.466** | **0,42** | **7,37** |

Source: MergerMarket (own depiction)

The figure clearly states that trading multiples in the European airline industry diverge a lot. This tells that the multiples are highly case specific, and that the timing can be important (as neither Revenue nor EBITDA is normalized). The initial suggestion from the averages is that SAS will most likely trade around 0.42 EV/revenue and 7.37 EV/EBITDA. As stated cases are highly individual, a deep dive in the Austrian and Iberia cases is therefore taken, as to perspective on the intervals suggested by figure 6.3.4.a.

Selected ratios and multiples on Austrian's, AerLingus and Iberia's in years around M&A activity, in comparison with SAS' current is shown (see figure 6.3.4.b). Here ASK ratios are also included as to give an impression of unit profitability.

**Figure 6.3.4.b SAS compared to Austrian Air, Iberia & Aer Lingus**

| | Austrian Airlines | | | Iberia | | | AerLingus | | | SAS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **2008** | **2007** | **2006** | **2010** | **2009** | **2008** | **2012** | **2011** | **2010** | **2012** | **2011** | **2010** |
| **ASK** | 25130 | 26552 | 31374 | 62312 | 62158 | 66098 | 18685 | 18593 | 18269 | 38681 | 37003 | 34660 |
| **Load factor** | 74,4% | 75,1% | 74,1% | 82,2% | 79,8% | 80,0% | 77,7% | 75,6% | 76,1% | 74,4% | 73,4% | 74,2% |
| **RRPK** (eurocent) | 10,71 | 10,03 | 8,67 | 4,42 | 4,03 | 5,89 | 7,99 | 7,60 | 7,20 | 12,84 | 13,13 | 13,62 |
| **RASK** | 7,97 | 7,53 | 6,43 | 5,77 | 5,38 | 6,38 | 6,21 | 5,74 | 5,48 | 9,56 | 9,64 | 10,10 |
| **ASK/Employee** | 3,18 | 3,31 | 3,66 | 3,10 | 3,01 | 3,06 | 5,24 | 5,33 | 5,20 | 2,60 | 2,44 | 2,33 |
| **Fuel pr. ASK** (eurocent) | 2,32 | 1,66 | 1,69 | 1,72 | 1,90 | 2,52 | 1,92 | 1,55 | 1,46 | 2,84 | 2,46 | 2,23 |
| **Salary pr. ASK** (eurocent) | 2,00 | 1,99 | 1,95 | 2,14 | 2,17 | 2,00 | 1,43 | 1,40 | 1,45 | 4,15 | 3,66 | 4,42 |
| **EBITDA margin** | 7,7% | 12,0% | 7,9% | 3,7% | -6,8% | 2,1% | 10,4% | 10,0% | 11,5% | 3,8% | 5,4% | 1,0% |
| **EBITDAR/ASK** | 1,0% | 1,5% | 0,9% | 0,8% | 0,1% | 0,8% | 1,0% | 0,9% | 1,0% | 0,8% | 1,0% | 0,5% |
| **EBITDAR margin** | 10,4% | 15,8% | 10,7% | 10,8% | 1,5% | 9,2% | 13,7% | 13,4% | 15,8% | 6,9% | 7,6% | 3,6% |
| **Transaction multiples** | **Austrian Airlines** | | | **Iberia** | | | **AerLingus** | | | **Avg. in Iberia &** | | **Avg. ex. Iberia*** |
| **Transaction EV/ASK*100** | 5,17 | 4,90 | 4,14 | 5,94 | 5,95 | 5,60 | 2,93 | 2,94 | 2,99 | ***4,51*** | | ***4,51*** |
| **Transaction EV/Revenue** | 0,53 | 0,53 | 0,50 | 0,81 | 0,87 | 0,68 | 0,39 | 0,42 | 0,45 | ***0,58*** | | ***0,58*** |
| **Transaction EV/EBITDAR** | 5,06 | 3,34 | 4,69 | 7,51 | 59,69 | 7,40 | 2,86 | 3,17 | 2,86 | ***10,73*** | | ***3,66*** |
| **Transaction EV/EBITDA** | 6,87 | 4,39 | 6,35 | 21,64 | N/A | 32,46 | 3,77 | 4,13 | 3,91 | ***9,75*** | | ***4,90*** |
| **SAS adj. EV/Revenue (RASK)** | 0,39 | 0,39 | 0,37 | 0,48 | 0,52 | 0,40 | 0,23 | 0,25 | 0,27 | ***0,37*** | | ***0,37*** |
| **SAS adj. EV/EBITDAR (pr. ASK)** | 7,50 | 4,94 | 6,95 | 1,93 | 15,37 | 1,91 | 3,69 | 4,08 | 3,68 | ***5,56*** | | ***5,14*** |
| **SAS adj EV/EBITDAR (margin)** | 10,24 | 6,75 | 9,49 | 3,62 | 28,76 | 3,57 | 6,60 | 7,31 | 6,59 | ***9,21*** | | ***7,83*** |
| **SAS adj. EV/EBITDA (margin)** | 19,14 | 12,24 | 17,69 | 91,17 | N/A | 136,76 | 11,36 | 12,46 | 11,78 | ***36,10*** | | ***14,11*** |

Source: Annual reports (own depiction) - **see Appendix 9 for calculations on adjusted averages**

The first finding from figure 6.3.4.b is that the three cases (four including SAS), are much different, both in terms of size but also regarding margins, value creation and cost structure. The numbers have therefore been adjusted as to account for these difference (see definitions in appendix 9).

The initial multiple to analyze is EV/ASK, which only looks size, neglecting both revenues and costs characteristics. Only looking at ASK, the size could seem to matter, as Iberia trade higher compared to both AerLingus and Austrian Airlines. Based on the transaction multiples from the three cases, SAS is expected to trade in the interval 3-6 EV/ASK, where 4.51 EV/ASK is average.

Extracting the analysis to EV/revenue, where revenue characteristics are taken into account, the tendency of size being somewhat important tend to hold true. This is argued as Iberia traded higher compared to Austrian and AerLingus, even if Austrian and AerLingus enjoyed higher RASK ratios. From figure 6.3.4.b SAS will most likely trade in the region 0.35-0.6 EV/revenue after having corrected for differences in revenue characteristics.
The Iberia 0.87 EV/revenue is assessed as way to high given Iberia's low RASK compared to SAS. Further Iberia was traded in a year of revenue declines, leading to a higher multiple suggestion.

As to simultaneously account for as many variables as possible the transaction multiple EV/EBITDAR is suggested to be the most important. As stated EBITDAR is more accurate than EBITDA, as the multiple distinguishes between owned and leased fleet (EBIT even better).
To close in on SAS' potential transaction multiples, adjustments have been made as to *normalize* the differences, and as to correct for potential extra/less value creation pr. unit (ASK).

The normalized and SAS adjusted EV/EBITDAR is found to be more reliable when adjusting for EBITDAR/ASK rather than EBITDAR margin. This is argued, as the EBITDAR/ASK takes unit profitability into account whereas the EBITDAR margin is based on revenue characteristics, and these diverge across airlines, stated in both figure 6.3.4.b and section 4.1. Given the in-depth multiples the intervals, in which is expected to trade is presented in figure 6.3.4.c below.

**Figure 6.3.4.c Suggested transaction multiple intervals for SAS**

| Transaction multples intervals given Iberia, Austrian & Aer Lingis cases | | | | | |
|---|---|---|---|---|---|
| | Low | Avg. ex. Iberia | Adj. Avg. | Avg. in. Iberia | High |
| Transaction EV/ASK*100 | 2,93 | 4,51 | N/A | 4,51 | 5,95 |
| Transaction EV/Revenue | 0,39 | 0,58 | 0,37 | 0,58 | 0,87 |
| Transaction EV/EBITDAR | 2,86 | 3,66 | 5,14 | 10,73 | 59,69 |
| Transaction EV/EBITDA | 3,77 | 4,90 | 7,83 | 9,75 | 32,46 |

Source: Annual reports (own depiction)

Given the suggested transaction multiples for SAS, the derived values from the merger simulations can now be reality checked. A side note, and a somewhat surprising thing to note is that the adjusted averages in figure 6.3.4.c do not deviate significantly from the averages in figure 6.3.4.a.

### 6.3.5 Sanity check of M&A values using precedent transactions multiples

SAS' value impact from merging, with respectively Lufthansa and IAG, derived at a share value of *31.45 SEK and 19.53 SEK pr. share*. Based on SAS' share price of 14.05 as of 1st of May 2013 both merger simulations suggested an acquisition of SAS by either IAG or Lufthansa - with headroom. As neither of the two has made an actual offer, the found values may be high, and is therefore sanity checked using precedent transaction multiples, based on the discussion from section 6.3.4.

**Figure 6.3.5 SAS' transaction multiples (green = best correspondence with figure 6.3.4.c)**

| | Multiples given different share prices | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Scenario** | **No eq.** | | **DCF** | **Current** | **IAG** | | **Luft.** | | |
| | **Share price** | ***0,00*** | ***5,00*** | ***8,36*** | ***14,05*** | ***19,53*** | ***25,00*** | ***31,45*** | ***35,00*** | ***40,00*** |
| **Base Line** | **Enterprise value SEKm** | 8.980 | 10.625 | 11.730 | 13.602 | 15.405 | 17.205 | 19.327 | 20.495 | 22.140 |
| 2012 | **Transaction EV/ASK*100** | 2,89 | 3,42 | 3,78 | 4,38 | 4,96 | 5,54 | 6,23 | 6,60 | 7,13 |
| - | **Transaction EV/Revenue** | 0,22 | 0,26 | 0,28 | 0,33 | 0,37 | 0,41 | 0,47 | 0,49 | 0,53 |
| 2010 | **Transaction EV/EBITDAR** | 3,71 | 4,38 | 4,84 | 5,61 | 6,36 | 7,10 | 7,98 | 8,46 | 9,14 |
| average | **Transaction EV/EBITDA** | 6,31 | 7,46 | 8,24 | 9,55 | 10,82 | 12,08 | 13,58 | 14,40 | 15,55 |
| | **Transaction EV/ASK*100** | 2,72 | 3,21 | 3,55 | 4,11 | 4,66 | 5,20 | 5,84 | 6,20 | 6,69 |
| 2012 | **Transaction EV/Revenue** | 0,21 | 0,25 | 0,28 | 0,32 | 0,36 | 0,41 | 0,46 | 0,48 | 0,52 |
| only | **Transaction EV/EBITDAR** | 3,40 | 4,02 | 4,44 | 5,15 | 5,83 | 6,51 | 7,31 | 7,75 | 8,38 |
| | **Transaction EV/EBITDA** | 5,61 | 6,63 | 7,32 | 8,49 | 9,62 | 10,74 | 12,07 | 12,80 | 13,82 |

Source: Own depiction

*The conclusion from the precedent transaction multiples is that a share price of 31.45 SEK is not realistic, whereas the 19.53 SEK pr. share is a good estimate for a M&A share price*, at least given SAS' revenue characteristics. Taking SAS' cost characteristics into account a share price closer to the actual share price, 14.05 SEK, is suggested as a fair value of SAS' share in merger perspective.

*In relation to SAS' share price as of 1st of May 2013, based on precedent transaction multiples, the conclusion is somewhat contradictive*. This is the case, as the suggested multiples for SAS, derives at different conclusions depending on the analyzed multiples.

In relation to chapter 3, the precedent transaction multiples confirms that SAS' revenue characteristics are good (tend to be undervalued), whereas the cost structure must be improved.

***As such SAS could be part of an M&A given a price of 14.05 SEK pr. share***, but potential buyer may want SAS to improve a bit more, before being 100 % interested in acquiring SAS.

In broader perspective, M&A cases are highly specific, and as such there are also some intangible characteristics that the multiples cannot fully detect, as a matter of the average approach. This being i.e. route and fleet overlaps, culture/ unions, brand value, efficiency potential and size.

Exactly the size perspective may be what SAS' ultimate price will rely on, as SAS' post-merger role in the joint venture can be important to price. This is suggested as Iberia traded at significantly higher multiples compared to AerLingus and Austrian, and as such equal sized airline post-merger will trade at higher multiples revenues are expected to be stable and cost efficiencies obtainable.

## 6.4 Conclusion on M&A analysis

The M&A analysis clearly states that consolidation is the future of the European airline industry, given the product and customer characteristics and competitors.
SAS may very well be affected by the consolidation. This is the case as multiple airlines are aware of the possible consolidation, and the upsides from M&A activity in terms of joint efficiency gains. The suggested rationale behind a SAS merger, is that the target will value SAS' brand value and strong awareness in the Nordic and European markets, that sustain a significant customer base. The drawbacks for are SAS' high salaries, low productivity, strong employee unions leading to potential integration problems and a difficult financing situation with an old fleet and eroded equity.

Given SAS' characteristics the two most obvious merger partners are, ***Lufthansa***; due to historic rumors, relevant M&A experience and being used to deal with strong unions, and ***IAG*** as the overall aim for IAG is to drive industry consolidation, proven by mergers with Iberia and Vueling. Simulating the potential M&A impacts on SAS, based on M&A rationales and precedent transactions and specific matches with Lufthansa and IAG, entail a SAS buy recommendation for both Lufthansa and IAG given the prices *31.45 SEK (Lufthansa) and 19.43 SEK (IAG) pr. share*.

The precedent transaction multiples analysis only partially supports the found values. This is the case as 19.43 SEK pr. share seem to be a realistic transaction share price based SAS revenue characteristics. The EV/EBITDA multiples, on the other hand, suggested a fair value around 14.05 SEK pr. share, depending on the base line, meaning that ***SAS could very well engage in M&A activity, especially if cost improvements are derived in the near future.***
Conclusion on SAS' share price is more difficult to derive at, and *in relation to the DCF/standalone valuation of 8.36 SEK pr. share, the M&A analysis did not confirm, nor contradict the findings*.

A key take away in relation to SAS' M&A potential is that SAS, as a M&A target, tend to be better in a *smaller-bigger M&A*. This is given from the two M&A simulation, where the Lufthansa value was higher due close relations, both geographically and cultural, and as Lufthansa, at least based on previous M&As tend to integrate acquired airlines, compared to IAG's arm's length relation.

From the *precedent transaction multiples analysis* this feature can be harmful to SAS' trading EV, and as such current shareholders. This is stated as bidders tend to pay acquire at higher multiples when the target airline is seen as an equally sized airline in the joint venture, at least based on the analysis of Iberia, Austrian and AerLingus.

# Chapter 7 Conclusion & Perspective

SAS' share price has declined from 1,815 SEK in 2008 to 14.05 as of 1st of May 2013. The purpose of the paper has been to shed some light on SAS' conditions and evaluate SAS' share price from private investor, institutional investor and M&A perspective.

From a strategic point of view SAS is no longer the company it once was. The brand values in terms of punctuality, frequency and service with higher prices have remained over the past years. Unfortunately for SAS the airline industry has changes radically over the same period. The changes in the industry have primarily been driven by deregulation, spoiling SAS' and other full service carriers' monopolies in home markets. The deregulation has led to the entrance of low cost carriers and increased price sensitivity, and as such the European airline industry seems changed for good.

SAS' lacking strategic fit with the new airline industry characteristics has forced SAS to narrow the strategic scope. Today SAS' mission and vision is centered on the Scandinavian home market, where the strategic objective, only five years ago, was to be one of Europe's biggest airlines.
This development is a clear signal of a wounded SAS. In 2012 SAS however expanded the strategic scope again as new route was opened. This signals that SAS believe that a brighter future lie ahead, or at least that the worst year lies behind SAS.

The financial analysis supports the impression of SAS being a company struggling to gain foothold under the new industry conditions. This is the case as SAS has run with deficit over the past 5 year as a matter of the negative profit margin. In terms of asset turnover SAS in on industry levels.
The reasons behind the negative profit margin is primarily caused by SAS' salary levels and productivity that are significantly inefficient compared to peers. The reason are assessed to be the historic monopoly prices, and entailed salary levels which SAS is now about to improve.
The cost improvement process is however difficult as the employee unions are strong, and SAS' current (national) majority owners focus, almost solely, on society implication.
To make bad, worse SAS, fuel efficiency has also been inferior compared to peers, reasoned by SAS old fleet and fleet optimization.
Positive for SAS is however that unit costs have decreased over the past period. The starting point, was however extremely high, why the current gap to industry peers remain, especially regarding staff costs, and efficiency in terms of employee productivity in terms of ASK pr. employee.
Also positive is that SAS has been able to maintain ticket prices significantly above industry levels, even if price sensitivity has drastically increased leading to lower prices, also for SAS.

Heading into the future SAS is slowly turning around which is positive. The question is if SAS has time to turnaround alone as SAS' financial condition is even worse than the operational conditions as the equity is almost eroded adjusting for pension obligations.
SAS' financial robustness means that SAS' flexibility in terms of following industry transitions by i.e. renewing fleet is far from optimal. In the long run this is problematic and why alternatives in terms of divestments, lease agreements or the like is initiated.

SAS' historical greatness and current struggles from inefficient cost structure is found to be closely connected to SAS' ownership structure. The ownership structure has been (negatively) decisive in negotiating employee conditions and optimizing resources as both work places and infrastructure was important to the owners, and where the historic monopoly prices served as a dummy.

The financial and strategic analysis made way for a forecast of SAS' future operations and financing. *Using the DCF framework, and the forecasts a value of **8.36 SEK pr. share** was derived. The found share price suggests an overvaluation of the SAS stock*.
As to sanity check the conclusion derived from the DCF analysis sensitivities was made in terms of input changes and relative valuation approaches/multiples. *The enterprise value and M/B multiples derived the same conclusion as the DCF analysis - SAS is overvalued in comparison with peers.*
The sensitivity analysis in terms of model inputs showed a minor surprise, namely that oil price changes are even more crucial for SAS' share price than expected. If investments were to be made from oil price expectations one should however invest in other airlines, rather than SAS, based on the regular multiples analysis.

The M&A section was made to analyze SAS' position and possibilities in European airline industry M&A perspective. The analysis should serve as a value indicator, and state whether SAS could be expected to engage in M&A activity in the near future. As such the M&A analysis could maybe reveal why a standalone overvaluation of SAS was derived, and justify a share price of 14.05 SEK.

Initially the M&A analysis supported the M&A perspective, as the future for the European airline industry goes towards consolidation. The reasons driving the consolidation is the high cost focus, given the homogeneous product, and fierce competition leading to increased price sensitivity.
As such the predominant rationale for M&A activity given both the theoretical and empiric analysis is cost efficiencies combined with route combinations either as enhancement or minor cannibalization. As a matter of size, strategic fit and experience in integration of other airlines Lufthansa and IAG was found to be the most obvious buyers of SAS.

The expected implications on SAS given an potential M&A was made. The analysis entailed a SAS share price of respectively *31.45 SEK (Lufthansa) and 19.53 SEK pr. share (IAG)* suggesting a buy recommendation of SAS for both IAG and Lufthansa. The primary value impacts were FTE cuts, enhanced FASK given a more flexible joint fleet and improved load factor from route optimization.

As to sanity check the found values, a precedent transaction multiples was made, primarily based on the Iberia, Austrian and AerLingus acquisitions, adjusted to SAS' current characteristics. In relation to the derived M&A share prices the SAS adjusted multiples were contradictive. This was, as the revenue driven multiples suggested a fair value around 19.53 SEK pr. share, whereas the revenue and cost related multiples suggested a fair price around 14.05 SEK pr. share. Depending on the base line the DCF value 8.36 SEK pr. share was also realistic.
*As such the M&A analysis neither confirmed nor contradicted the overvaluation conclusion derived from the standalone valuation, but did confirm that SAS very well could engage in M&A activity, especially if costs are improved in 2013.*

In a broader perspective an often asked question is; *"who earns from M&A activity - target or bidder?"*. Martynova & Renneboog (2011) have found that the target and not the bidder earn from M&A, at least in the short run (when looking at share prices).
In addition Grossman & Hart (1980) argue that free-rider problems will drive acquirer's cost per share up as the respective shareholders will not be willing to sell below the ex-post value for the acquirer as the respective shareholders do see themselves as pivotal in the acquisition process and as the shareholder could otherwise have kept the share and gained the value afterwards. This suggests that target share prices should be higher under M&A rumors or activity.
The above combined with SAS owners' helping hand, during SAS' bankruptcy problems, the possibility of SAS defaulting may be seen as extremely limited by private minority investors.
The combination of a SAS default not being plausible, and still having upsides (i.e. M&A) may have led to a situation where the upsides are implemented in current share price while the potential downside is not taken fully into account. A such condition will inevitably lead to an overvaluation.
The partially inconsistent conclusions between the standalone analysis and the M&A analysis is somewhat confusing. The reasons behind the inconsistencies can be caused by *winner's curse*, that has historically led to unrealistic high transaction prices, compared to the price in the stock market. Winner's curse meaning that the winner of an auction is the party overvaluing an asset the most, and therefore winning the auction. This could hold true, as SAS would already have engaged in M&A given a share price of 14.05 SEK pr. share, that has been even lower than as of 1st of May 2013.

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http://ycharts.com/indicators/us_high_yield_ccc_effective_yield

http://ycharts.com/indicators/us_corporate_bbb_effective_yield

Zephyr (remote access through e-campus).

https://zephyr2-bvdep-com.esc-web.lib.cbs.dk:8443/version-201395/Report.serv?_CID=60&context=QRUQ94NWWE4EAH7&SeqNr=0&sp_uimode=StreamLined

**Links to Annual reports for SAS & Peer Group**

| | |
|---|---|
| SAS AB: | http://www.sasgroup.net/SASGROUP_IR/CMSContent/Home.htm |
| Lufthansa: | http://investor-relations.lufthansagroup.com/en.html |
| AirFrance/KLM: | http://www.airfranceklm-finance.com/en |
| IAG | http://www.iagshares.com/phoenix.zhtml?c=240949&p=irol-irhome |
| FinnAir: | http://www.finnairgroup.com/investors/investors_2.html |
| Norwegian: | http://www.norwegian.com/dk/om-norwegian/investor-relations/ |
| RyanAir: | http://www.ryanair.com/en/investor/investor-relations-news > |
| EasyJet | http://corporate.easyjet.com/investors.aspx |
| AirBerlin | http://ir.airberlin.com/ |
| Vueling | http://investors.vueling.com/EN |
| Austrian Air | http://www.austrianairlines.ag/InvestorRelations/FinancialReports/FinancialReportsDetails.aspx?sc_lang=en |
| Aer Lingus | http://corporate.aerlingus.com/investorrelations/ |

## Appendix 2 SAS' reformulated Income statement & Balance sheet

| Analytical Income Statement | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Mio. SEK** | **12 Restated** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** | **2005** |
| Passsenger Revenue | 31610 | 26998 | 30497 | 29939 | 32674 | 38103 | 38601 | 44039 | 39346 |
| Charter | 1358 | 1726 | 1872 | 1933 | 2176 | 1663 | 1951 | 4693 | 2190 |
| Mail and freight | 1960 | 1130 | 1449 | 1530 | 1011 | 1509 | 1732 | 2175 | 390 |
| Other traffic revneue | 2409 | 1954 | 2131 | 1906 | 1869 | 2159 | 1539 | 2004 | 6047 |
| Total Traffic revenue | 37337 | 31808 | 35949 | 35308 | 37730 | 43434 | 43823 | 52911 | 47973 |
| In-flight sales | 18 | 18 | 27 | 30 | 457 | 519 | 514 | 589 | 2022 |
| Ground handling services | 1012 | 1012 | 1339 | 1182 | 1349 | 1265 | 1417 | 1181 | 1255 |
| Technical maintenance | 148 | 148 | 243 | 263 | 604 | 792 | 976 | 762 | 1047 |
| Terminal and forwarding services | 315 | 315 | 383 | 219 | 767 | 1916 | 1592 | 1513 | 1023 |
| Sales commisions and charges | 776 | 776 | 955 | 434 | 398 | 668 | 834 | 1026 | 907 |
| Other operating revenue | 2743 | 1909 | 2516 | 3287 | 3613 | 4601 | 3095 | 2795 | 7660 |
| Total other operating revenue | 5012 | 4178 | 5463 | 5415 | 7188 | 9761 | 8428 | 7866 | 13914 |
| Total revenue | 42349 | 35986 | 41412 | 40723 | 44918 | 53195 | 52251 | 60777 | 61887 |
| Payroll expenses | -13716 | -11584 | -13092 | -13473 | -17998 | -18153 | -17271 | -18092 | -20467 |
| Selling costs | | -1994 | -2348 | -465 | -597 | -680 | -705 | -888 | -997 |
| Jet fuel | -9.386 | -8035 | -7769 | -6601 | -7685 | -9637 | -8104 | -10492 | -8123 |
| Government user fees | | -3539 | -4042 | -4198 | -4399 | -4662 | -4574 | -5865 | -5787 |
| Catering Costs | | -780 | -823 | -869 | -1187 | -1346 | -1399 | -1860 | -1821 |
| Handling costs | | -1372 | -1709 | -1712 | -1767 | -1851 | -1931 | -2355 | -2859 |
| Technical aircraft maintainance | | -2025 | -2329 | -2410 | -2938 | -3197 | -3404 | -3660 | -2407 |
| Computer and tele costs | | -898 | -1088 | -1823 | -2130 | -2282 | -2234 | -2967 | -2999 |
| Other | | -3462 | -3633 | -7132 | -5209 | -8136 | -7318 | -7982 | -10310 |
| Total other operating expenses | -26162 | -22105 | -23741 | -25210 | -25912 | -31791 | -29669 | -36069 | -35303 |
| Share of income in affiliated companies | 23 | 32 | 28 | 12 | -258 | -147 | 9 | 59 | 134 |
| Income from the sale of shares in subsidiaries | 400 | 400 | 0 | -73 | 429 | 0 | 0 | 0 | 480 |
| Income from sale of aircraft and buildings | -252 | -247 | 12 | -239 | -97 | 4 | 41 | 88 | 187 |
| Income from holding of securities | 1 | 0 | -1469 | -263 | 0 | 0 | 5 | -47 | 50 |
| EBITDAR | 2643 | 2482 | 3150 | 1477 | 1082 | 3108 | 5366 | 6716 | 6968 |
| Leases | -1605 | -1342 | -1560 | -1815 | -2319 | -2282 | -2578 | -3526 | -3133 |
| Interest on leases | 564 | 469,7 | 655,2 | 762,3 | 973,98 | 958,44 | 1480,92 | 1315,86 | 0 |
| Net Lease Expenses | -1042 | -872,3 | -904,8 | -1052,7 | -1345,02 | -1323,56 | -1097,08 | -2210,14 | -3133 |
| EBITDA | 1602 | 1610 | 2245 | 424 | -263 | 1784 | 4269 | 4506 | 3835 |
| D, A & I | -1708 | -1426 | -2413 | -1867 | -1845 | -1591 | -1478 | -1964 | -2412 |
| **EBIT** | **-107** | **183,7** | **-167,8** | **-1442,7** | **-2108,02** | **193,44** | **2790,92** | **2541,86** | **1423** |
| Tax on EBIT | -178 | -116 | -442 | 374 | 457 | -297 | -778 | -765 | -447 |
| **NOPAT/NOPLAT** | **-285** | **67,9519** | **-610,096** | **-1069,05** | **-1650,86** | **-104,007** | **2012,806** | **1777,15** | **975,585** |
| NFE after tax | -1587 | -1052,95 | -1076,9 | -1191,95 | -969,14 | -911,993 | -1246,81 | -1613,15 | -720,585 |
| **Net Earnings Operations and Financing** | **-1872** | **-985** | **-1687** | **-2261** | **-2620** | **-1016** | **766** | **164** | **255** |
| Income non-recurring items | | 0 | 0 | 43 | -327 | -5305 | -130 | 4576 | 0 |
| **Net Earnings** | | -985 | -1687 | -2218 | -2947 | -6321 | 636 | 4740 | 255 |

2012 re-stated numbers made from Q12013 report downloadable through:

http://www.sasgroup.net/SASGROUP_IR/CMSContent/Interim%20reports.htm

| Analytical balance sheet | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Mio. SEK** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** | **2005** |
| Operating Assets & Liabilities | | | | | | | | |
| Intangible assets | 1922 | 1693 | 1414 | 1296 | 1092 | 1226 | 2932 | 3862 |
| Land & Buildings | 353 | 491 | 375 | 439 | 513 | 568 | 684 | 1257 |
| Aircraft | 11220 | 11866 | 12652 | 13087 | 11037 | 10766 | 11330 | 14681 |
| Spare engines & spare parts | 1349 | 1367 | 1393 | 1299 | 1185 | 1211 | 1383 | 1526 |
| Workshop & Aircraft servicing equipment | 110 | 76 | 90 | 161 | 220 | 226 | 215 | 210 |
| Other equipment and vehicles | 117 | 123 | 130 | 192 | 318 | 308 | 634 | 1213 |
| Investment in progress | 34 | 66 | 118 | 158 | 232 | 172 | 378 | 148 |
| Prepayments relating to intagible assets | 160 | 155 | 24 | 238 | 627 | 185 | 317 | 422 |
| Other long-term receivables | 1250 | 1011 | 2379 | 729 | 410 | 577 | 1331 | 1577 |
| Pension funds, net | 12232 | 11355 | 10512 | 10286 | 9658 | 9496 | 8805 | 8363 |
| Deferred tax assets | 597 | 1340 | 1187 | 1159 | 921 | 690 | 1378 | 1524 |
| Equity in affiliated companies | 325 | 317 | 294 | 358 | 622 | 1063 | 1012 | 1214 |
| Long-term receivables affiliated comp | 0 | 0 | 0 | 0 | 0 | 170 | 189 | 228 |
| Pensions and similar commitments | 0 | 0 | 0 | 0 | 0 | 0 | -57 | -56 |
| Total net operating assets | 26689 | 26033 | 26122 | 24439 | 23079 | 22212 | 26455 | 31855 |
| Net Working Capital | | | | | | | | |
| Expendable spare parts & inventories | 687 | 705 | 678 | 758 | 819 | 849 | 993 | 1038 |
| Prepayments to suppliers | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 27 |
| Accounts receivable | 1311 | 1275 | 1277 | 1581 | 1851 | 1951 | 3918 | 4568 |
| Other receivables | 1399 | 2574 | 2901 | 4780 | 2661 | 2637 | 2767 | 3892 |
| Receivables from affiliated companies | 3 | 6 | 3 | 92 | 479 | 510 | 357 | 1620 |
| Prepayments from customers | 0 | -24 | -16 | -13 | -7 | -20 | -181 | -123 |
| Accounts payable | -1929 | -1540 | -1749 | -1738 | -2068 | -2108 | -3350 | -4358 |
| Liabilities affiliated companies | 0 | 0 | 0 | 0 | 0 | -94 | -169 | -183 |
| Unearned transportation revenue | -4292 | -3453 | -3598 | -3227 | -3299 | -3842 | -3395 | -3038 |
| Other liabilities | -1033 | -1160 | -2070 | -2110 | -2460 | -1580 | -1845 | -1916 |
| Accrued expenses and prepaid income | -3201 | -2934 | -2755 | -3264 | -4274 | -5149 | -4744 | -5326 |
| Tax payable | -32 | -18 | -22 | -27 | -110 | -5 | -43 | -99 |
| Current portion of other provisions | -1186 | -428 | -657 | -852 | -148 | -190 | -318 | -273 |
| Total net working capital | -6553,02 | -3234,76 | -4354,54 | -2063,64 | -4482,1 | -4924,98 | -3657,46 | -1185,26 |
| **Invested capital** | **20135,98** | **22798,24** | **21767,46** | **22375,36** | **18596,9** | **17287,02** | **22797,54** | **30669,74** |
| Net interest bearing debt | | | | | | | | |
| Subordinated loans | 978 | 1019 | 974 | 919 | 953 | 693 | 716 | 771 |
| Bond loans | 2763 | 2809 | 1503 | 0 | 2212 | 2079 | 7135 | 7355 |
| Other loans | 5260 | 6179 | 6866 | 6809 | 10535 | 3936 | 5685 | 11039 |
| Current portion of long-term loans | 1403 | 2309 | 1383 | 5742 | 872 | 1615 | 841 | 3183 |
| Short term loans | 411 | 997 | 1073 | 907 | 1189 | 421 | 2043 | 3828 |
| Other liabilities | 130 | 55 | 143 | 378 | 334 | 120 | 178 | 73 |
| Liabilities assets held for sale | 0 | 0 | 132 | 157 | 2465 | 5323 | 0 | 0 |
| Other holdings of securities | -23 | -23 | -23 | -234 | -5 | -5 | -601 | -214 |
| Short term investments | -366 | -2842 | -3281 | -3691 | -3872 | -7308 | -9117 | -7265 |
| Cash & Bank Balances | -1576 | -138 | -948 | 400 | -847 | -538 | -470 | -181 |
| Assets held for sale | 0 | 0 | -493 | -401 | -3921 | -6198 | 0 | 0 |
| Total Net Interes Bearing Debt | 8979,985 | 10365,24 | 7329,46 | 10986,36 | 9914,9 | 138,02 | 6409,54 | 18588,74 |
| Equity | 11156 | 12433 | 14438 | 11389 | 8682 | 17149 | 16388 | 12081 |
| **Invested Capital** | **20135,98** | **22798,24** | **21767,46** | **22375,36** | **18596,9** | **17287,02** | **22797,54** | **30669,74** |
| Capitalized Operating Leases | 11236,6 | 9394 | 10920 | 12705 | 16233 | 15974 | 24682 | 21931 |
| **Invested Capital Incl. Operating Leases** | **31372,58** | **32192,24** | **32687,46** | **35080,36** | **34829,9** | **33261,02** | **47479,54** | **52600,74** |

## Appendix 3 Peer Group's reformulated Income statement & Balance sheet

### Lufthansa Income Statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. Euro** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Passenger | 21.766 | 20.534 | 18.402 | 15.430 | 16.854 | 14.798 | 12.667 |
| Freight and mail | 3.027 | 3.245 | 3.064 | 2.174 | 3.144 | 2.770 | 2.687 |
| Other Revenue | 5.342 | 4.955 | 4.993 | 4.679 | 4.872 | 4.852 | 4.495 |
| Other operating income | 2.898 | 2.463 | 2.775 | 2.756 | 2.147 | 1.690 | 1.551 |
| Total Revenue | 33.033 | 31.197 | 29.234 | 25.039 | 27.017 | 24.110 | 21.400 |
| Fuel | -7.392 | -6.276 | -4.964 | -3.645 | -5.377 | -3.860 | -3.355 |
| Other supplies | -2.157 | -2.127 | -2.099 | -2.028 | -1.873 | -1.841 | -1.594 |
| Purchased goods | -455 | -432 | -396 | -374 | -541 | -567 | -593 |
| Fee and charges | -5.167 | -5.000 | -4.318 | -3.762 | -3.499 | -3.174 | -2.824 |
| Charter Expenses | -568 | -617 | -683 | -592 | -518 | -485 | -556 |
| External MRO | -997 | -1.105 | -1.080 | -1.066 | -843 | -761 | -667 |
| In flight services | -339 | -342 | -321 | -250 | -213 | -152 | -108 |
| Operating lease payments | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| External IT services | -141 | -129 | -112 | -106 | -94 | -76 | -69 |
| Other services | -617 | -567 | -559 | -539 | -469 | -437 | -386 |
| Cost of purchased services | -17.833 | -16.595 | -14.532 | -12.362 | -13.427 | -11.353 | -10.152 |
| Wages and salaries | -5.735 | -5.380 | -5.296 | -4.909 | -4.685 | -4.468 | -4.007 |
| Social Security | -793 | -766 | -767 | -678 | -639 | -625 | -603 |
| Employee benefits | -524 | -532 | -428 | -409 | -368 | -405 | -419 |
| Total staff costs | -7.052 | -6.678 | -6.491 | -5.996 | -5.692 | -5.498 | -5.029 |
| Other operating expenses | -4.885 | -5.293 | -5.003 | -4.597 | -4.946 | -4.269 | -3.940 |
| EBITDAR | 3.263 | 2.631 | 3.208 | 2.084 | 2.952 | 2.990 | 2.279 |
| Operating lease payments | -113 | -136 | -168 | -338 | -280 | -200 | -150 |
| Operating lease interest | 57 | 71 | 142 | 118 | 84 | 63 | 0 |
| Net Lease Expense | -56 | -65 | -26 | -220 | -196 | -137 | -150 |
| EBITDA | 3.207 | 2.566 | 3.182 | 1.864 | 2.756 | 2.853 | 2.129 |
| D & A | -1.839 | -1.722 | -1.654 | -1.475 | -1.289 | -1.204 | -1.051 |
| EBIT | 1.368 | 844 | 1.528 | 389 | 1.467 | 1.649 | 1.078 |
| Tax on EBIT | -169 | -274 | 52 | -42 | -391 | -370 | -243 |
| NOPAT | 1.199 | 570 | 1.580 | 347 | 1.076 | 1.279 | 835 |
| NFE after Tax | -232 | -281 | -285 | -369 | -467 | -22 | -20 |
| Profit/loss Discontinued | 36 | -285 | -152 | 0 | 0 | 503 | 82 |
| Net earnings | 1.003 | 4 | 1.143 | -22 | 609 | 1.760 | 897 |

## Lufthansa Balance Sheet

| Mio. Euro | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|---|---|---|---|---|---|---|---|
| Investment property | 0 | 0 | 0 | -3 | -3 | -3 | -20 |
| Investments acc | -400 | -394 | -385 | -320 | -298 | -323 | -791 |
| Other Equity Investments | -413 | -898 | -1.128 | -878 | -790 | -777 | -767 |
| NC Assets | 18.659 | 18.627 | 18.963 | 17.696 | 14.975 | 14.076 | 12.969 |
| Non-current Assets | 17.846 | 17.335 | 17.450 | 16.495 | 13.884 | 12.973 | 11.391 |
| Pension Provisions | -2.076 | -2.165 | -2.571 | -2.710 | -2.400 | -2.461 | -3.814 |
| Other Provisions | -586 | -578 | -643 | -620 | -291 | -349 | -329 |
| Advance payments | -1.163 | -1.156 | -1.087 | -1.000 | -1.024 | -66 | -70 |
| Deferred Tax liability | -242 | -364 | -405 | -663 | -710 | -749 | -633 |
| Derivative liabilities NC | -150 | -55 | -111 | -225 | -118 | -371 | -242 |
| Net Non-current Assets | 13.629 | 13.017 | 12.633 | 11.277 | 9.341 | 8.977 | 6.303 |
| Inventory | 639 | 620 | 662 | 646 | 581 | 511 | 457 |
| Trade receivables | 3.578 | 3.437 | 3.401 | 3.033 | 3.015 | 3.448 | 2.917 |
| Derivatives receivable | 215 | 414 | 484 | 252 | 213 | 481 | 93 |
| Prepaid Expenses | 151 | 171 | 146 | 128 | 119 | 110 | 94 |
| Tax receivables | 101 | 128 | 98 | 105 | 130 | 62 | 1 |
| Assets held for sale | 110 | 686 | 186 | 93 | 97 | 25 | 392 |
| Other provisions | -911 | -818 | -881 | -1.122 | -847 | -1.686 | -1.443 |
| Trade payables | -4.231 | -4.227 | -4.193 | -3.796 | -3.626 | -3.959 | -3.223 |
| Liabilities flight documents | -2.612 | -2.359 | -2.389 | -1.906 | -1.693 | -1.546 | -1.115 |
| Advance payments | -933 | -939 | -1.066 | -1.008 | -882 | -289 | -249 |
| Derivatives liability | -2 | -37 | -103 | -106 | -492 | -481 | -278 |
| Tax obligations | -107 | -71 | -237 | -145 | -99 | -51 | -154 |
| Liabilities Assets for sale | 0 | -716 | 0 | | | -12 | 0 |
| Cash for opeartions | 661 | 624 | 585 | 501 | 540 | 482 | 428 |
| Net working capital | -3.341 | -3.087 | -3.307 | -3.325 | -2.944 | -2.905 | -2.080 |
| Capitalized Operating Leases | 791 | 952 | 1.176 | 2.366 | 1.960 | 1.400 | 1.050 |
| **Invested Capital** | **11.079** | **10.882** | **10.502** | **10.318** | **8.357** | **7.472** | **5.273** |
| Equity | 8.298 | 8.044 | 8.340 | 6.202 | 6.594 | 6.900 | 4.903 |
| Borrowings Non-current | 5.947 | 5.808 | 6.227 | 6.109 | 3.161 | 3.098 | 2.730 |
| Other financial Liabilities | 198 | 128 | 110 | 87 | 51 | 55 | 52 |
| Borrowings Current | 963 | 616 | 957 | 693 | 420 | 247 | 226 |
| Investment property | 0 | 0 | 0 | -3 | -3 | -3 | -20 |
| Investments acc | -400 | -394 | -385 | -320 | -298 | -323 | -791 |
| Other Equity Investments | -413 | -898 | -1.128 | -878 | -790 | -777 | -767 |
| Securities | -3.530 | -3.111 | -4.283 | -3.303 | -1.834 | -1.528 | -2.083 |
| Cash & CE | -775 | -263 | -512 | -635 | -904 | -1.597 | -27 |
| NIBD | 1.990 | 1.886 | 986 | 1.750 | -197 | -828 | -680 |
| Capitalized Operating Leases | 791 | 952 | 1.176 | 2.366 | 1.960 | 1.400 | 1.050 |
| **Invested Capital** | **11.079** | **10.882** | **10.502** | **10.318** | **8.357** | **7.472** | **5.273** |

## AirFrance/KLM Income Statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. Euro** | **2012*** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Passenger | 20.186 | 18.103 | 16.267 | 18.832 | 19.165 | 18.366 | 16.942 |
| Cargo | 3.057 | 3.159 | 2.439 | 2.857 | 2.928 | 2.909 | 2.882 |
| Maintenance | 1.096 | 1.029 | 956 | 974 | 969 | 977 | 896 |
| Other Revenues | 1.310 | 1.331 | 1.332 | 1.312 | 1.065 | 825 | 732 |
| Total Revenue | 25.649 | 23.622 | 20.994 | 23.975 | 24.127 | 23.077 | 21.452 |
| Aircraft Fuel | -7.328 | -5.720 | -4.725 | -5.703 | -4.572 | -4.258 | -3.588 |
| Chartering costs | -556 | -513 | -487 | -624 | -658 | -646 | -605 |
| Landing fees & route charges | -1.862 | -1.747 | -1.707 | -1.793 | -1.755 | -1.705 | -1.610 |
| Catering | -595 | -554 | -562 | -483 | -470 | -419 | -405 |
| Handling charges | -1.389 | -1.303 | -1.281 | -1.353 | -1.331 | -1.232 | -1.203 |
| Maintenance | -1.151 | -1.139 | -1.072 | -1.123 | -1.038 | -894 | -777 |
| Commercial & distribution costs | -876 | -896 | -854 | -1.010 | -1.176 | -1.201 | -1.232 |
| Other external expenses | -1.718 | -1.852 | -1.788 | -2.195 | -2.203 | -2.145 | -2.070 |
| Wages and salaries | -5.556 | -5.430 | -5.406 | -5.421 | -5.151 | -4.899 | -4.677 |
| Social Contributions | -1.826 | -1.761 | -1.768 | -1.743 | -1.647 | -1.566 | -1.388 |
| Other salary expenses | -278 | -142 | -260 | -153 | -220 | -224 | -292 |
| Taxes other than income taxes | -184 | -179 | -211 | -250 | -250 | -263 | -228 |
| Provisions | 0 | -52 | -35 | -115 | -17 | -8 | -72 |
| Other income & expenses | 75 | 243 | 238 | 112 | -8 | 5 | -76 |
| EBITDAR | 2.405 | 2.577 | 1.076 | 2.121 | 3.631 | 3.622 | 3.229 |
| Aircraft Lease | -957 | -831 | -721 | -646 | -611 | -600 | -637 |
| Interest on Lease | 349 | 303 | 271 | 257 | 252 | 268 | 0 |
| Net Lease Expense | -608 | -528 | -450 | -389 | -359 | -332 | -637 |
| EBITDA | 1.797 | 2.049 | 626 | 1.732 | 3.272 | 3.290 | 2.592 |
| D &A | -1.748 | -1.624 | -1.640 | -1.604 | -1.606 | -1.782 | -1.656 |
| EBIT | 49 | 425 | -1.014 | 128 | 1.666 | 1.508 | 936 |
| Tax on EBIT | -215 | -55 | 330 | 17 | -484 | -376 | -341 |
| NOPAT | -166 | 370 | -684 | 144 | 1.182 | 1.132 | 595 |
| NFE after Tax | -375 | -501 | -512 | -845 | -250 | -255 | -170 |
| Profit/loss Discontinued | -580 | 764 | -347 | -64 | -133 | -7 | 519 |
| **Net earnings** | **-1.121** | **633** | **-1.543** | **-765** | **799** | **870** | **944** |

## AirFrance/KLM Balance Sheet

| AnalyticalBalance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. Euro** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Non current assets | 19.895 | 20.428 | 19.755 | 20.720 | 20.542 | 18.236 | 17.986 |
| Provisions | -2.287 | -1.930 | -1.432 | -1.334 | -1.439 | -1.387 | -1.453 |
| Deferred tax | -431 | -511 | -418 | -339 | -1.419 | -891 | -839 |
| Other non-current liabilities | -384 | -272 | -818 | -2.170 | -819 | -401 | -417 |
| Net Non-current assets | 16.793 | 17.715 | 17.087 | 16.877 | 16.865 | 15.557 | 15.277 |
| Assets for sale | 7 | 21 | 93 | 93 | 0 | 0 | 0 |
| Other short term financial assets | 933 | 751 | 517 | 580 | 303 | 689 | 932 |
| Inventories | 521 | 558 | 537 | 527 | 507 | 360 | 340 |
| Rade accounts receivable | 1.859 | 1.938 | 2.141 | 2.038 | 2.569 | 2.610 | 2.518 |
| Income tax receivables | 11 | 6 | 1 | 2 | 3 | 7 | 1 |
| Other current assets | 828 | 1.550 | 979 | 1.065 | 2.385 | 1.271 | 1.756 |
| Liability assets for sale | 0 | 0 | -10 | -7 | 0 | 0 | 0 |
| Operating Cash | 513 | 472 | 420 | 480 | 483 | 462 | 429 |
| Provisions | -555 | -287 | -696 | -480 | -441 | -225 | -192 |
| Trade accounts payable | -2.219 | -2.211 | -2.032 | -1.887 | -2.218 | -2.131 | -2.039 |
| Deferred revenue ticket sales | -2.115 | -2.440 | -2.340 | -3.048 | -3.215 | -2.217 | -2.062 |
| Frequent flyer programs | -770 | -806 | -840 | 0 | 0 | 0 | 0 |
| Tax liability | -3 | -3 | -11 | -11 | -25 | -21 | -167 |
| Current liabilities | -2.474 | -2.686 | -2.596 | -4.322 | -3.151 | -2.335 | -2.269 |
| Net working capital | -3.464 | -3.137 | -3.837 | -4.971 | -2.800 | -1.530 | -753 |
| Capitalized Operating Leases | 6.699 | 5.817 | 5.047 | 4.522 | 4.277 | 4.200 | 4.459 |
| **Invested capital** | **20.028** | **20.395** | **18.297** | **16.429** | **18.342** | **18.227** | **18.983** |
| Equity | 4.980 | 6.906 | 5.418 | 5.676 | 9.975 | 8.412 | 7.853 |
| Long-term debt | 9.565 | 8.980 | 9.222 | 7.864 | 6.914 | 7.419 | 7.826 |
| Current portion long term debt | 1.434 | 1.808 | 1.825 | 1.353 | 905 | 1.098 | 1.260 |
| Bank overdraft | 257 | 129 | 116 | 282 | 172 | 133 | 102 |
| Cash and CE | -2.907 | -3.245 | -3.331 | -3.269 | -3.898 | -3.035 | -2.517 |
| NIBD | 8.349 | 7.672 | 7.832 | 6.231 | 4.093 | 5.615 | 6.671 |
| Capitalized Operating Leases | 6.699 | 5.817 | 5.047 | 4.522 | 4.277 | 4.200 | 4.459 |
| **Invested capital** | **20.028** | **20.395** | **18.297** | **16.429** | **18.345** | **18.227** | **18.983** |

## **International Airlines Group Income Statement** *) Before 2010 British Airways

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. £** | **2012** | **2011** | **2010*** | **2009*** | **2008*** | **2007*** | **2006*** |
| Passenger Revenue | 15.372 | 13.496 | 6.980 | 7.836 | 7.600 | 7.263 | 6.924 |
| Cargo Revenue | 1.217 | 1.176 | 550 | 673 | 615 | 618 | 638 |
| Other Revnue | 1.528 | 1.431 | 464 | 483 | 543 | 611 | 651 |
| Total Revenue | 18.117 | 16.103 | 7.994 | 8.992 | 8.758 | 8.492 | 8.213 |
| Wages and salaries | -3.247 | -2.580 | -1.346 | -1.466 | -1.432 | -1.522 | -1.558 |
| Social Security Costs | -425 | -388 | -146 | -158 | -150 | -158 | -161 |
| Other employee costs | -907 | -831 | -506 | -569 | -583 | -597 | -541 |
| Fuel and Oil Costs | -6.101 | -5.088 | -2.372 | -2.969 | -2.055 | -1.931 | -1.581 |
| Handling charges, catering | -1.805 | -1.522 | -997 | -1.021 | -977 | -930 | -915 |
| Landing fees | -1.278 | -1.175 | -608 | -603 | -528 | -517 | -520 |
| Engineering & Other aricraft costs | -1.285 | -1.074 | -505 | -510 | -451 | -414 | -441 |
| Property, IT and other costs | -1.006 | -903 | -656 | -663 | -577 | -618 | -578 |
| Selling costs | -837 | -740 | -290 | -369 | -361 | -436 | -438 |
| Currency differences | 0 | -14 | 2 | -117 | -6 | -18 | 19 |
| EBITDAR | 1.226 | 1.788 | 570 | 547 | 1.638 | 1.351 | 1.499 |
| Lease Costs | -425 | -375 | -69 | -73 | -68 | -81 | -90 |
| Interest on Lease | -158 | -29 | -31 | -29 | -34 | -38 | 0 |
| Net Lease Expenses | -268 | -346 | -38 | -44 | -34 | -43 | -90 |
| EBITDA | 959 | 1.442 | 532 | 503 | 1.604 | 1.308 | 1.409 |
| D &A | -1.414 | -969 | -732 | -694 | -692 | -714 | -715 |
| EBIT | -456 | 473 | -200 | -191 | 912 | 594 | 694 |
| Tax on EBIT | -18 | 58 | 13 | -16 | -191 | -182 | -175 |
| NOPAT | -473 | 531 | -187 | -207 | 721 | 412 | 519 |
| NFE after Tax | -412 | 51 | -238 | -151 | 7 | -20 | -55 |
| Profit/loss Discontinued | -38 | 0 | 0 | 0 | -2 | -88 | 3 |
| Net earnings | -923 | 582 | -425 | -358 | 726 | 304 | 467 |

## **International Airlines Group Balance Sheet** *) Before 2010 British Airways

| Balance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. £** | **2012** | **2011** | **2010*** | **2009*** | **2008*** | **2007*** | **2006*** |
| Non Current Assets | 14.811 | 13.861 | 8.003 | 8.142 | 8.181 | 7.953 | 8.508 |
| Employee Benefit Obligations | -293 | -277 | -208 | -191 | -330 | -1.142 | -1.803 |
| Deferred Tax | -1.202 | -1.274 | -774 | -652 | -1.075 | -930 | -896 |
| Provisions | -1.250 | -1.244 | -159 | -256 | -210 | -153 | -135 |
| Derivative financial instruments | -95 | -55 | -5 | -123 | -4 | 0 | 0 |
| Other long term liabilities | -250 | -384 | -232 | -204 | -168 | -194 | -232 |
| Net Non-current assets | 11.721 | 10.627 | 6.625 | 6.716 | 6.394 | 5.534 | 5.442 |
| Assets held for sale | 3 | 18 | 0 | | | 0 | 0 |
| Inventories | 414 | 400 | 98 | 127 | 112 | 76 | 83 |
| Trade Receivables | 1.149 | 1.175 | 499 | 530 | 586 | 654 | 685 |
| Other current assets | 481 | 445 | 289 | 268 | 308 | 346 | 458 |
| Derivative financial instruments | 70 | 119 | 74 | 40 | 241 | 0 | 0 |
| Operating Cash | 362 | 322 | 160 | 180 | 175 | 170 | 164 |
| Trade and other payables | -6.013 | -5.377 | -2.910 | -2.796 | -2.875 | -2.744 | -2.822 |
| Derivative financial instruments | -66 | -64 | -12 | -471 | -20 | 0 | 0 |
| Current tax payable | -12 | -157 | -2 | -4 | -4 | -54 | -75 |
| Provisions for liabilities | -803 | -352 | -260 | -182 | -170 | -410 | -56 |
| Net working Capital | -4.415 | -3.471 | -2.064 | -2.308 | -1.647 | -1.962 | -1.563 |
| Capitalized Opareting Leases | 2.975 | 2.625 | 483 | 511 | 476 | 567 | 630 |
| Invested capital | 10.281 | 9.781 | 5.044 | 4.919 | 5.223 | 4.139 | 4.509 |
| Equity | 5.055 | 5.686 | 2.113 | 1.846 | 3.262 | 2.411 | 2.074 |
| Interest bearing debt | 4.128 | 4.304 | 3.446 | 3.074 | 2.751 | 2.929 | 3.602 |
| Current portion of debt | 670 | 579 | 556 | 689 | 423 | 417 | 479 |
| Interest bearing deposits | -1.547 | -1.758 | -928 | -979 | -1.181 | -1.642 | -2.042 |
| Cash & CE | -1.000 | -1.655 | -626 | -222 | -508 | -543 | -234 |
| NIBD | 2.251 | 1.470 | 2.448 | 2.562 | 1.485 | 1.161 | 1.805 |
| Capitalized Opareting Leases | 2.975 | 2.625 | 483 | 511 | 476 | 567 | 630 |
| Invested capital | 10.281 | 9.781 | 5.044 | 4.919 | 5.223 | 4.139 | 4.509 |

## FinnAir Income Statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. Euro** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Airline Revenue | 2.449 | 2.258 | 2.023 | 1.838 | 2.263 | 2.181 | 1.990 |
| Other operating income | 45 | 14 | 29 | 53 | 29 | 56 | 22 |
| Total revenue | 2.494 | 2.272 | 2.052 | 1.890 | 2.291 | 2.236 | 2.011 |
| Materials and supplies for maintenance | -55 | -55 | -52 | -42 | -40 | -33 | -46 |
| Ground handling and catering | -224 | -196 | -173 | -130 | -147 | -154 | -139 |
| Fuels for flight | -670 | -555 | -432 | -450 | -568 | -440 | -385 |
| Tour Operations | -97 | -131 | -120 | -131 | -139 | -121 | -112 |
| Aircraft Maintenance | -110 | -68 | -76 | -62 | -56 | -44 | -54 |
| Data adminidtration services | -43 | -37 | -37 | -44 | -50 | -52 | -56 |
| Other items | -52 | -50 | -52 | -53 | -56 | -53 | -47 |
| Wages and salaries | -354 | -375 | -359 | -394 | -428 | -418 | -398 |
| Pension expenses | -62 | -73 | -70 | -77 | -81 | -80 | -73 |
| Other social expenses | -23 | -29 | -17 | -18 | -33 | -44 | -37 |
| Other operating expenses | -507 | -518 | -452 | -355 | -525 | -448 | -459 |
| EBITDAR | 296 | 184 | 214 | 135 | 170 | 350 | 205 |
| Lease Payments | -130 | -142 | -108 | -117 | -112 | -96 | -111 |
| Interest on Leases | 59 | 45 | 49 | 47 | 40 | 47 | 0 |
| Net Lease expenses | -70 | -96 | -59 | -70 | -72 | -49 | -111 |
| EBITDA | 226 | 88 | 155 | 65 | 98 | 301 | 94 |
| D &A | -131 | -131 | -119 | -133 | -110 | -113 | -105 |
| **EBIT** | **95** | **-42** | **36** | **-68** | **-12** | **188** | **-11** |
| Tax on EBIT | -24 | 6 | -8 | 15 | 3 | -50 | 1 |
| **NOPAT** | **71** | **-36** | **28** | **-53** | **-9** | **139** | **-10** |
| NFE after Tax | -59 | -51 | -51 | -42 | -33 | -36 | -3 |
| Profit/loss Discontinued | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Net earnings** | **12** | **-88** | **-23** | **-95** | **-42** | **102** | **-13** |

## FinnAir Balance Sheet

| Balance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. Euro** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Non-current assets | 1.511 | 1.622 | 1.514 | 1.596 | 1.398 | 1.248 | 1.108 |
| Deferred tax liability | -95 | -99 | -103 | -99 | -121 | -143 | -116 |
| Pension obligations | -1 | 0 | -3 | 0 | -6 | -16 | -7 |
| Provisions | -82 | -87 | -73 | -59 | 0 | 0 | 0 |
| Net non-current assets | 1.333 | 1.436 | 1.336 | 1.438 | 1.271 | 1.089 | 985 |
| Inventories | 17 | 49 | 48 | 37 | 35 | 36 | 39 |
| Trade receivables | 251 | 283 | 252 | 198 | 232 | 287 | 212 |
| Assets - held for sale | 32 | 0 | 71 | 19 | 19 | 35 | 8 |
| Current Tax liabilities | 0 | 0 | -0 | 0 | -2 | -12 | -3 |
| Opearting Cash | 50 | 45 | 41 | 38 | 46 | 45 | 40 |
| Provisions | -38 | -46 | -28 | -53 | -62 | -54 | -56 |
| Trade payables | -650 | -627 | -576 | -582 | -804 | -610 | -534 |
| Liabilities - held for sale | -2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Net working capital | -341 | -296 | -192 | -344 | -535 | -273 | -294 |
| Operating Leases | 907 | 991 | 757 | 821 | 785 | 669 | 778 |
| **Invested Capital** | **1.899** | **2.131** | **1.901** | **1.915** | **1.521** | **1.484** | **1.469** |
| Equity | 786 | 753 | 853 | 825 | 773 | 987 | 602 |
| Long term liability | 414 | 516 | 678 | 637 | 261 | 270 | 287 |
| Borrowings | 174 | 230 | 99 | 202 | 49 | 55 | 57 |
| Other financial assets | -364 | -354 | -485 | -583 | -374 | -519 | -269 |
| Cash & CE | -17 | -4 | -0 | 13 | 28 | 23 | 15 |
| NIBD | 207 | 388 | 290 | 270 | -37 | -171 | 89 |
| **Invested Capital** | **1.899** | **2.131** | **1.901** | **1.915** | **1.521** | **1.484** | **1.469** |

## Norwegian Income Statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| NOK 1000 | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Passenger | 11.201.072 | 9.097.288 | 7.210.161 | 6.389.406 | 5.641.533 | 4.048.922 | 2.879.431 |
| Ancillairy | 1.405.495 | 1.224.744 | 1.034.006 | 788.655 | 463.609 | 0 | 0 |
| Other | 234.624 | 206.688 | 162.172 | 131.129 | 121.271 | 177.280 | 61.969 |
| Revenue | 12.841.191 | 10.528.720 | 8.406.339 | 7.309.190 | 6.226.413 | 4.226.202 | 2.941.400 |
| Other income | 17.851 | 3.471 | 191.328 | 0 | 0 | 0 | 0 |
| **Total Rev** | **12.859.042** | **10.532.191** | **8.597.667** | **7.309.190** | **6.226.413** | **4.226.202** | **2.941.400** |
| Sales & Distribution | -274.954 | -198.930 | -167.859 | -149.415 | -115.251 | -94.162 | -92.889 |
| Aviation Fuel | -3.740.508 | -3.093.514 | -2.092.859 | -1.423.328 | -2.006.248 | -990.741 | -703.889 |
| Airport charges | -1.730.217 | -1.561.369 | -1.295.913 | -1.037.716 | -841.999 | -601.780 | -417.942 |
| Handling charges | -1.077.334 | -982.191 | -863.551 | -722.658 | -615.740 | -404.275 | -306.825 |
| Technical Maintenance | -792.565 | -711.597 | -697.196 | -659.796 | -574.077 | -412.837 | -306.333 |
| Other Aircraft Expenses | -482.932 | -441.657 | -405.787 | -325.371 | -312.815 | -371.623 | -360.498 |
| **Total Operational Exp** | -8.098.510 | -6.989.258 | -5.523.165 | -4.318.285 | -4.466.130 | -2.875.418 | -2.188.376 |
| Wages & Salary | -1.125.536 | -1.070.267 | -988.527 | -762.772 | -682.882 | -462.575 | -315.228 |
| Social security tax | -226.133 | -198.496 | -169.173 | -138.472 | -121.525 | -78.454 | -47.372 |
| Pension Expenses | -253.871 | -210.730 | -153.827 | -138.485 | -120.894 | -55.966 | -35.379 |
| Employee Stock Options | 0 | -8.844 | -7.100 | -8.437 | -6.232 | -1.559 | -1.989 |
| Other Benefits | -74.591 | -65.823 | -39.533 | -39.439 | -31.448 | -23.635 | -12.972 |
| Hired Crew Personnel | -388.071 | -282.034 | -173.051 | -215.695 | -113.087 | 0 | 0 |
| **Total Payroll** | -2.068.202 | -1.836.194 | -1.531.211 | -1.303.300 | -1.076.068 | -622.189 | -412.940 |
| Other Operating Expenses | -534.336 | -472.908 | -397.735 | -396.058 | -318.094 | -224.200 | -139.264 |
| Other losses/gains - net | -336.385 | 305.720 | 29.732 | 49.315 | -147.768 | 10.800 | 0 |
| Associated profit/loss | 32.840 | 19.518 | 6.328 | 3.200 | -8.773 | -1.821 | 0 |
| **EBITDAR** | 1.854.449 | 1.559.069 | 1.181.616 | 1.344.062 | 209.580 | 513.374 | 200.820 |
| Aircraft Leases | -1.032.915 | -829.667 | -778.411 | -620.114 | -426.597 | -296.400 | -180.277 |
| Interest on Leases | 348.460 | 326.933 | 260.448 | 179.171 | 124.488 | 75.716 | 0 |
| Net Lease Expenses | -684.455 | -502.734 | -517.963 | -440.943 | -302.109 | -220.684 | -180.277 |
| **EBITDA** | 1.169.994 | 1.056.335 | 663.653 | 903.119 | -92.529 | 292.690 | 20.543 |
| D,A & I | -385.244 | -293.950 | -186.707 | -148.882 | -129.611 | -74.044 | -51.070 |
| **EBIT** | **784.750** | **762.385** | **476.946** | **754.237** | **-222.140** | **218.646** | **-30.527** |
| Tax on EBIT | -211.775 | -211.252 | -137.691 | -213.524 | 62.300 | -57.988 | 9.374 |
| **NOPAT** | **572.975** | **551.132** | **339.254** | **540.713** | **-159.840** | **160.658** | **-21.153** |
| NFE after tax | -116.332 | -429.007 | -168.370 | -94.462 | 163.784 | -76.079 | -861 |
| **Net Earnings** | **456.646** | **122.125** | **170.884** | **446.251** | **3.944** | **84.580** | **-21.997** |

## Norwegian Balance Sheet

| Balance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NOK 1000** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Total Non-Current | 9.013.047 | 6.501.638 | 4.490.405 | 2.719.084 | 1.604.395 | 1.068.393 | 367.103 |
| Pension obligations | 0 | -151.187 | -121.672 | -97.558 | -61.815 | -33.310 | -30.794 |
| Provision | -175.306 | -81.865 | -94.961 | -70.336 | -114.090 | -101.042 | -81.734 |
| Deferred tax | -301.042 | -134.646 | -89.483 | -17.806 | -9.695 | -19.740 | 0 |
| Net Non-current assets | 8.536.699 | 6.133.940 | 4.184.289 | 2.533.384 | 1.418.795 | 914.301 | 254.575 |
| Inventory | 68.385 | 81.994 | 66.191 | 40.825 | 34.214 | 28.000 | 19.341 |
| Trade and other receivables | 1.096.558 | 1.072.497 | 842.143 | 829.893 | 914.379 | 491.543 | 443.492 |
| Opearting Cash | 257.181 | 210.644 | 171.953 | 146.184 | 124.528 | 84.524 | 58.828 |
| Trade and other payables | -1.564.955 | -1.230.935 | -1.063.436 | -746.549 | -694.832 | -644.837 | -395.850 |
| Air traffic settlement | -1.739.681 | -1.208.326 | -954.232 | -792.713 | -598.162 | -536.548 | -291.795 |
| Tax payable | 0 | -488 | -976 | -111.158 | -267 | -1.212 | -30 |
| Dereivatives Liability | -190.356 | -539 | -15.003 | -1.227 | -104.325 | -34.375 | -1.014 |
| Derivatives Asset | 0 | 242.790 | 43.395 | 23.688 | 18.360 | 25.993 | 298 |
| Total NWC | -2.072.868 | -832.363 | -909.965 | -611.057 | -306.105 | -586.912 | -166.730 |
| Capitalization Opeating Leases | 7.230.405 | 5.807.669 | 5.448.877 | 4.340.798 | 2.986.179 | 2.074.800 | 1.261.939 |
| **Invested Capital** | **13.694.236** | **11.109.246** | **8.723.201** | **6.263.125** | **4.098.869** | **2.402.189** | **1.349.784** |
| Equity | 2.420.651 | 1.945.589 | 1.795.904 | 1.601.607 | 897.368 | 508.273 | 260.727 |
| Borrowings | 4.166.854 | 2.682.888 | 1.943.903 | 878.878 | 440.873 | 297.697 | 0 |
| Financial Lease | 10.853 | 15.485 | 20.007 | 28.829 | 0 | 154.333 | 0 |
| Short term borrowings | 1.349.359 | 1.551.918 | 520.972 | 675.303 | 257.456 | 0 | 0 |
| Cash and CE | -1.483.886 | -894.302 | -1.006.463 | -1.262.291 | -483.008 | -632.914 | -172.882 |
| Capitalization Opeating Leases | 7.230.405 | 5.807.669 | 5.448.877 | 4.340.798 | 2.986.179 | 2.074.800 | 1.261.939 |
| **Invested capital** | **13.694.236** | **11.109.247** | **8.723.200** | **6.263.124** | **4.098.868** | **2.402.189** | **1.349.784** |

## RyanAir Income Statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. Euro** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Scheduled Revenues | 3.504 | 2.828 | 2.325 | 2.344 | 2.226 | 1.875 | 1.433 |
| Ancillary Revenues | 886 | 802 | 664 | 598 | 488 | 362 | 259 |
| Total Revenue | 4.390 | 3.630 | 2.988 | 2.942 | 2.714 | 2.237 | 1.693 |
| Staff Costs | -415 | -376 | -335 | -309 | -285 | -227 | -171 |
| Fuel & Oil | -1.594 | -1.227 | -894 | -1.257 | -791 | -693 | -462 |
| Maintenance | -104 | -94 | -86 | -67 | -57 | -42 | -37 |
| Route Charges | -461 | -411 | -336 | -287 | -259 | -199 | -165 |
| Airport & Handling Charges | -554 | -492 | -459 | -443 | -396 | -274 | -216 |
| Marketing, distribution and other | -180 | -167 | -145 | -152 | -139 | -129 | -94 |
| EBITDAR | 1.083 | 863 | 733 | 427 | 786 | 673 | 547 |
| Aircraft Rentals | -91 | -97 | -96 | -78 | -73 | -58 | -47 |
| Interest on Leases | 41 | 40 | 33 | 31 | 24 | 20 | 0 |
| Net Lease Expenses | -50 | -57 | -63 | -48 | -48 | -38 | -47 |
| EBITDA | 1.033 | 806 | 670 | 379 | 737 | 635 | 499 |
| D &A | -309 | -278 | -235 | -256 | -176 | -144 | -124 |
| EBIT | 724 | 528 | 435 | 123 | 562 | 491 | 375 |
| Tax on EBIT | -84 | -60 | -47 | -27 | -64 | -55 | -37 |
| NOPAT | 640 | 469 | 388 | 97 | 498 | 437 | 338 |
| NFE after Tax | -80 | -94 | -82 | -266 | -107 | -36 | -32 |
| Profit/loss Discontinued | 0 | 0 | 0 | 0 | 0 | 34 | 1 |
| Net earnings | 560 | 375 | 305 | -169 | 391 | 436 | 307 |

## RyanAir Balance Sheet

| Balance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. Euro** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Non-current assets | 5.125 | 5.118 | 4.500 | 3.845 | 3.940 | 3.337 | 2.581 |
| Provisons | -103 | -90 | -103 | -72 | -45 | -29 | -17 |
| Derivative liabilities Non-currrent | -54 | -8 | -35 | -54 | -76 | -59 | -82 |
| Deferred tax | -319 | -268 | -200 | -156 | -148 | -151 | -127 |
| Other Creditors | -146 | -127 | -137 | -107 | -100 | -112 | -46 |
| Net non current assets | 4.503 | 4.626 | 4.026 | 3.457 | 3.572 | 2.986 | 2.309 |
| Inventories | 3 | 3 | 3 | 2 | 2 | 2 | 3 |
| Other assets | 65 | 99 | 81 | 91 | 170 | 78 | 29 |
| Current tax | 9 | 1 | 0 | 0 | 2 | 0 | 0 |
| Trade Receivables | 52 | 51 | 44 | 42 | 34 | 23 | 30 |
| Derivative financial instruments | 232 | 384 | 123 | 130 | 10 | 53 | 19 |
| Restricted cash | 35 | 43 | 68 | 292 | 292 | 259 | 204 |
| Opearting Cash | 88 | 73 | 60 | 59 | 54 | 45 | 34 |
| Trade paybles | -181 | -151 | -154 | -133 | -129 | -55 | -79 |
| Accrued expenses | -1.237 | -1.224 | -1.088 | -906 | -919 | -807 | -571 |
| Current tax | 0 | 0 | -1 | -0 | 0 | -21 | -15 |
| Derivatives Current Liability | -28 | -125 | -41 | -137 | -142 | -56 | -27 |
| NWC | -963 | -848 | -907 | -561 | -626 | -479 | -373 |
| Capitalized Operating Leases | 635 | 680 | 669 | 547 | 509 | 407 | 332 |
| **Invested Capital** | **4.174** | **4.459** | **3.787** | **3.443** | **3.455** | **2.915** | **2.267** |
| Equity | 3.307 | 2.954 | 2.849 | 2.425 | 2.502 | 2.540 | 1.992 |
| Debt non-current | 3.257 | 3.313 | 2.691 | 2.195 | 1.900 | 1.683 | 1.524 |
| Debt current | 368 | 337 | 266 | 203 | 367 | 179 | 153 |
| Financial assets | -772 | -869 | -1.268 | -403 | -406 | -593 | -329 |
| Cash & CE | -2.620 | -1.956 | -1.418 | -1.524 | -1.417 | -1.302 | -1.405 |
| NIBD | 233 | 824 | 270 | 471 | 444 | -32 | -56 |
| Capitalized Operating Leases | 635 | 680 | 669 | 547 | 509 | 407 | 332 |
| **Invested Capital** | **4.174** | **4.459** | **3.787** | **3.443** | **3.455** | **2.915** | **2.267** |

## EasyJet Income Statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. £** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Seat Revenue | 3.794 | 3.389 | 2.973 | 2.667 | 2.363 | 1.797 | 1.620 |
| Non seat Revenue | 60 | 63 | 0 | | 0 | 0 | 0 |
| **Total Revenue** | **3.854** | **3.452** | **2.973** | **2.667** | **2.363** | **1.797** | **1.620** |
| Fuel | -1.149 | -917 | -733 | -807 | -709 | -426 | -388 |
| Ground Operations & Airport charges | -955 | -923 | -804 | -737 | -609 | -462 | -403 |
| Crew | -432 | -407 | -336 | -307 | -263 | -204 | -160 |
| Navigation | -280 | -285 | -256 | -232 | -196 | -142 | -121 |
| Maintenance | -203 | -179 | -177 | -162 | -148 | -98 | -110 |
| Selling and marketing | -104 | -102 | -92 | -81 | -80 | -59 | -56 |
| Other costs | -200 | -171 | -207 | -105 | -110 | -109 | -104 |
| **EBITDAR** | **531** | **468** | **368** | **236** | **248,6** | **298,2** | **278,5** |
| Aircraft Leasing | -95 | -109 | -116 | -116 | -111 | -92 | -133 |
| Interest on Leasing | 46 | 49 | 49 | 46 | 39 | 56 | 0 |
| Net Lease Expense | -49 | -60 | -67 | -70 | -72 | -36 | -133 |
| **EBITDA** | **482** | **408** | **301** | **167** | **177** | **262** | **146** |
| D & A | -105 | -90 | -79 | -60 | -47 | -34 | -28 |
| **EBIT** | **377** | **318** | **222** | **107** | **130** | **228** | **118** |
| Tax on EBIT | -76 | -41 | -52 | 2 | -33 | -57 | -32 |
| **NOPAT** | **300** | **276** | **171** | **109** | **97** | **170** | **86** |
| NFE after tax | -45 | -51 | -49 | -37 | -14 | -18 | 8 |
| **Net Earnings** | **255** | **225** | **121** | **71,2** | **83,2** | **152,2** | **94,1** |

## EasyJet Balance Sheet

| Balance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mio. £** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Non Current Assets | 2.968 | 2.731 | 2.488 | 2.191 | 1.681 | 1.350 | 1.036 |
| Non-current deriva. Lia. | -24 | -27 | -4 | -3 | -0 | -6 | -15 |
| NC Deferred income | -46 | -59 | -57 | -53 | -69 | -87 | -75 |
| Provisons Non-current | -141 | -177 | -144 | -169 | -160 | -136 | -73 |
| Deferred tax NC | -198 | -179 | -148 | -77 | -108 | -35 | -32 |
| Net Non Current Ass | 2.559 | 2.289 | 2.135 | 1.890 | 1.343 | 1.086 | 841 |
| Trade and other rec. | 241 | 165 | 194 | 242 | 237 | 224 | 213 |
| Restricted Cash | 130 | 90 | 23 | 24 | 23 | 16 | 12 |
| Current derivatives | 73 | 83 | 53 | 68 | 97 | 14 | 1 |
| Operating Cash | 77 | 69 | 59 | 53 | 47 | 36 | 32 |
| Trade and other pay. | -1.021 | -916 | -829 | -751 | -653 | -462 | -414 |
| Deriv. Current liability | -26 | -52 | -10 | -91 | -76 | -27 | -5 |
| Current tax liabilities | -29 | -9 | -28 | -58 | -75 | -90 | -47 |
| Provisions Current | -59 | -45 | -71 | -45 | -49 | -3 | - |
| Assets held for sale | - | - | 73 | 73 | 196 | | - |
| Net working capital | -614 | -615 | -535 | -484 | -253 | -291 | -207 |
| Capitalized Operational Leases | 665 | 763 | 810 | 813 | 775 | 644 | 928 |
| **Invested Capital** | **2.610** | **2.437** | **2.410** | **2.220** | **1.865** | **1.439** | **1.562** |
| Equity | 1.794 | 1.705 | 1.501 | 1.307 | 1.278 | 1.152 | 983 |
| Borrowings Non current | 828 | 1.145 | 1.085 | 1.003 | 570 | 479 | 33 |
| Borrowings Current | 129 | 155 | 127 | 118 | 57 | 41 | 447 |
| Money market deposits | -238 | -300 | -260 | -286 | -230 | -193 | 0 |
| Cash and CE | -568 | -1.031 | -852 | -735 | -585 | -683 | -828 |
| NIBD | 151 | -31 | 100 | 99 | -188 | -357 | -349 |
| Capitalized Operational Leases | 665 | 763 | 810 | 813 | 775 | 644 | 928 |
| **Invested capital** | **2.610** | **2.437** | **2.410** | **2.220** | **1.865** | **1.439** | **1.562** |

## AirBerlin Income Statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| **EURO ´000** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Flight revenue | 4.006.684 | 3.857.022 | 3.407.516 | 2.966.493 | 3.092.487 | 2.314.614 | 1.457.823 |
| Ground and other services | 272.975 | 331.704 | 277.858 | 240.768 | 260.879 | 194.370 | 101.236 |
| In flight sales | 32.017 | 38.592 | 38.204 | 33.083 | 35.154 | 27.516 | 16.336 |
| Other revenue | 264.192 | 10.113 | 53.775 | 42.443 | 38.621 | 14.575 | 30.867 |
| Net revenue | 4.575.868 | 4.237.431 | 3.777.353 | 3.282.787 | 3.427.141 | 2.551.075 | 1.606.262 |
| Wages and Salaries | -402.823 | -396.899 | -392.627 | -370.081 | -377.352 | -262.513 | -139.885 |
| Pension Expenses | -43.638 | -38.926 | -33.459 | -30.601 | -29.714 | -23.735 | -4.831 |
| Social Security | -42.300 | -39.619 | -45.685 | -40.040 | -39.198 | -25.554 | -18.577 |
| Fuel for aircraft | -1.128.625 | -1.048.134 | -787.449 | -715.352 | -874.336 | -561.751 | -345.839 |
| Airport and handling charges | -864.547 | -916.597 | -837.510 | -697.098 | -710.087 | -596.184 | -412.104 |
| Navigation charges | -260.650 | -285.648 | -275.166 | -219.745 | -227.896 | -186.666 | -123.012 |
| Air transportation tax | -154.727 | -165.639 | 0 | 0 | 0 | 0 | 0 |
| Catering costs | -128.830 | -143.326 | -131.344 | -108.284 | -123.978 | -85.708 | -59.897 |
| Other expenses for materials | -159.220 | -158.189 | -111.018 | -86.662 | -64.025 | -42.283 | -25.493 |
| Maintenance and repairs | -215.771 | -234.106 | -195.640 | -187.313 | -186.777 | -125.094 | -58.352 |
| Hardware and software expenses | -96.925 | -71.050 | -71.050 | -53.057 | -44.510 | -42.627 | -18.752 |
| Advertising | -59.423 | -67.017 | -67.017 | -53.548 | -56.480 | -51.701 | -34.751 |
| Other | -281.927 | -246.361 | -210.940 | -217.363 | -228.130 | -168.225 | -108.233 |
| Gains/Losses hedging positions | 2.822 | -38.910 | -23.663 | -12.130 | -28.998 | 1.016 | 15.465 |
| EBITDAR | 739.284 | 387.010 | 594.785 | 491.513 | 435.660 | 380.050 | 272.001 |
| Leases | -592.164 | -587.002 | -535.028 | -366.032 | -359.523 | -263.843 | -128.156 |
| Interest on Leases | 246.541 | 224.712 | 153.733 | 151.000 | 110.814 | 53.826 | 0 |
| Net Lease Expenses | -345.623 | -362.290 | -381.295 | -215.032 | -248.709 | -210.017 | -128.156 |
| EBITDA | 393.661 | 24.720 | 213.490 | 276.481 | 186.951 | 170.033 | 143.845 |
| D & A | -74.145 | -85.943 | -92.761 | -109.144 | -103.142 | -93.772 | -64.232 |
| EBIT | 319.516 | -61.223 | 120.729 | 167.337 | 83.809 | 76.261 | 79.613 |
| Tax on EBIT | -85.142 | -404 | -32.694 | -43.423 | -58.923 | -55 | -18.247 |
| **NOPAT** | **234.374** | **-61.627** | **88.036** | **123.914** | **24.886** | **76.206** | **61.366** |
| NFE after tax | -227.561 | -210.211 | -185.195 | -133.382 | -108.404 | -55.229 | -21.290 |
| **Net Earnings** | **6.813** | **-271.838** | **-97.159** | **-9.468** | **-83.518** | **20.977** | **40.076** |

## AirBerlin Balance Sheet

| Balance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| **EURO ´000** | **2012** | **2011** | **2010** | **2009** | **2008** | **2007** | **2006** |
| Equity | 130.175 | 253.739 | 505.336 | 610.014 | 372.020 | 317.300 | 219.853 |
| Interrest bearing aircraft NC | 267.044 | 471.775 | 439.782 | 583.158 | 610.463 | 0 | 0 |
| Interest bearing debt NC | 621.066 | 470.193 | 370.886 | 273.355 | 302.783 | 184.007 | 0 |
| Interrest bearing aircraft current | 158.946 | 53.123 | 79.617 | 77.228 | 73.011 | 0 | 0 |
| Interest bearing debt current | 51.084 | 57.504 | 10.056 | 13.580 | 44.012 | 100.000 | 0 |
| Cash and CE | -236.419 | -154.858 | -335.546 | -307.577 | -199.744 | -124.211 | -33.518 |
| NIBD | 861.721 | 897.737 | 564.795 | 639.744 | 830.525 | 159.797 | -33.518 |
| Capitalized Opearting Leases | 4.145.148 | 4.109.014 | 3.745.196 | 2.562.224 | 2.516.661 | 1.846.901 | 897.092 |
| Invested capital | 5.137.044 | 5.260.490 | 4.815.327 | 3.811.982 | 3.719.206 | 2.323.998 | 1.083.427 |

## Vueling Income statement

| Income Statement | | | | | | | |
|---|---|---|---|---|---|---|---|
| '000 Euros | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
| Net Turnover | 983.883 | 766.043 | 703.152 | 527.670 | 376.838 | | |
| Other Revenue | 118.703 | 97.414 | 93.363 | 73.914 | 71.647 | | |
| Net Turnover | 1.102.586 | 863.457 | 796.515 | 601.584 | 448.485 | | |
| Consumpotion of raw materials | -339.996 | -253.540 | -183.624 | -104.443 | -152.745 | | |
| Salaries wages etc. | -95.001 | -80.817 | -75.036 | -67.094 | -55.612 | | |
| Ground handling | -122.190 | -105.081 | -106.667 | -69.396 | -33.021 | | |
| Aircraft Maintenance | -115.439 | -84.548 | -77.492 | -66.026 | -31.030 | | |
| Air Traffic Control | -78.360 | -65.236 | -62.528 | -45.436 | -35.435 | | |
| Airport Fees | -96.958 | -80.252 | -61.335 | -50.941 | -41.599 | | |
| Supplies & other expenses | -38.920 | -24.530 | -26.192 | -28.125 | -21.618 | | |
| Indenpendent prof. Services | -22.327 | -17.325 | -14.198 | -21.828 | -17.173 | | |
| Advertising | -19.568 | -15.548 | -17.215 | -10.737 | -13.806 | | |
| Insurance etc. | -11.737 | -9.392 | -9.365 | -11.552 | -11.841 | | |
| Taxes | -218 | -360 | -213 | -221 | -259 | | |
| Result trade of securities | 12.813 | 6.704 | 7.187 | 135 | -755 | | |
| EBITDAR | 174.685 | 133.532 | 169.837 | 125.920 | 33.591 | | |
| Leases | -121.478 | -108.786 | -96.574 | -76.880 | -69.945 | | |
| Interest on leases | 45.690 | 40.561 | 32.290 | 29.377 | 0 | | |
| Net Lease Expenses | -75.788 | -149.347 | -128.864 | -106.257 | -69.945 | | |
| EBITDA | 98.897 | -15.815 | 40.973 | 19.663 | -36.354 | | |
| D & A | -6.415 | -6.616 | -5.787 | -4.136 | -2.642 | | |
| EBIT | 92.482 | -22.431 | 35.186 | 15.527 | -38.996 | | |
| Tax on EBIT | -27.279 | -17.619 | -29.869 | -21.252 | 47.256 | | |
| NOPAT | 65.203 | -40.050 | 5.318 | -5.725 | 8.260 | | |
| NFE after Tax | -36.130 | -30.660 | -23.699 | -20.712 | 279 | | |
| Profit/loss Discontinued | -741 | -28 | -203 | -4.540 | 0 | | |
| Net earnings | 28.332 | -70.738 | -18.584 | -30.977 | 8.539 | | |

## Vueling Balance sheet

| Balance Sheet | | | | | | | |
|---|---|---|---|---|---|---|---|
| '000 Euros | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
| Equity | 237.244 | 241.607 | 199.376 | 147.359 | 46.154 | | |
| Long term debt | 193.450 | 151.996 | 129.848 | 111.825 | 21.001 | | |
| Short term debt | 6.708 | 0 | 25.138 | 14.918 | 2.338 | | |
| Debts with credit institutions | 0 | 2.294 | 23.926 | 12.966 | 0 | | |
| Cash & CE | -300.325 | 2.322 | -20.042 | -109.250 | -11.888 | | |
| Capitalized Operational Leases | 850.346 | 761.502 | 676.018 | 538.160 | 489.615 | | |
| NIBD | -100.167 | 156.612 | 158.870 | 30.459 | 11.451 | | |
| Invested capital | 987.423 | 1.159.721 | 1.034.264 | 715.978 | 547.220 | | |

## Appendix 4 DCF model input overview

| Revenue Forecast | 10-12 Av | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|
| ASK | 37003 | 36559 | 36120 | 35687 | 35259 | 34835 | 33756 | 32709 | 31695 |
| Load Factor | 74,0% | 77,9% | 81,2% | 83,2% | 84,7% | 85,2% | 85,4% | 85,4% | 85,4% |
| RRPK SEK | 1,13 | 1,02 | 0,96 | 0,92 | 0,90 | 0,90 | 0,92 | 0,93 | 0,95 |
| RASK SEK | 0,84 | 0,80 | 0,78 | 0,766 | 0,76 | 0,77 | 0,78 | 0,80 | 0,81 |
| ASK Growth | 2,9% | 4,0% | 4,0% | 4,0% | 4,0% | 4,0% | 2,0% | 2,0% | 2,0% |
| Load Factor Growth | 1,5% | 1,5% | 1,25% | 1,0% | 1,0% | 0,5% | 0,25% | 0,0% | 0,0% |
| RRPK growth | -5,3% | -7,0% | -6,0% | -4,0% | -2,5% | 0,0% | 2,0% | 2,0% | 2,0% |
| RASK Growth | -3,8% | -2,6% | -5,0% | -3,5% | -2,5% | 0,6% | 2,3% | 2,0% | 2,0% |
| **Passenger Revenues** | **30.682** | **29.091** | **28.144** | **27.351** | **26.823** | **26.657** | **26.425** | **26.118** | **25.814** |
| Other Traffic Rev. % of Passenger Rev. | 17,98% | 18% | 18% | 18% | 18% | 18% | 18% | 18% | 18% |
| Other Revenues % of Passenger Rev. | 16,38% | 18% | 16% | 15% | 15% | 14% | 14% | 14% | 14% |

| FASK | Avg. | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|
| Fuel pr. ASK (Swedish Ore) | 21,4 | 23,0 | 20,9 | 19,3 | 18,3 | 17,3 | 16,6 | 16,6 | 16,8 |
| Fuel pr. ASK Growth | 4,7% | -1,5% | -1,5% | -5,0% | -2,0% | 0,0% | 0,0% | 0,0% | 0,0% |
| Oilprice increases % | 12,39% | -3,44% | -4,09% | -3,86% | -2,96% | -2,72% | -1,68% | 2,00% | 2,00% |
| Schedule/Flight optmization gain | N/A | -1,6% | -2,90% | -2,27% | -0,95% | -0,76% | -0,71% | -0,70% | -0,11% |
| New fleet lower fuel consumption | N/A | -0,21% | -2,45% | -1,60% | -1,53% | -1,96% | -1,60% | -1,47% | -0,81% |
| Fleet size, number of planes | N/A | 193 | 190 | 188 | 186 | 184 | 178 | 173 | 167 |
| New fleet from partner | | 0 | 25 | 10 | 0 | 0 | 0 | 0 | 0 |
| Expected fleet expansion | | 10 | 13 | 15 | 19 | 24 | 19 | 17 | 9 |
| Natural expansion | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced fuel new fleet | | -15% | -15% | -15% | -15% | -15% | -15% | -15% | -15% |
| Reduced fuel natural progression | | -4% | -7% | -10% | -15% | -15% | -15% | -15% | -15% |
| **Fleet fuel savings %** | | **-0,21%** | **-2,45%** | **-1,60%** | **-1,53%** | **-1,96%** | **-1,60%** | **-1,47%** | **-0,81%** |

| Forecast Salaries | 10-12 Av | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|
| Number of Employees | 14.897 | 14.847 | 14.407 | 14.537 | 14.257 | 14.437 | 14.403 | 14.732 | 14.704 |
| Salaries pr. Employee | 897.300 | 893.123 | 875.261 | 866.508 | 862.176 | 862.176 | 870.797 | 879.505 | 897.095 |
| ASK pr. Employee in Mio. | 2,46 | 2,46 | 2,51 | 2,45 | 2,47 | 2,41 | 2,34 | 2,22 | 2,16 |
| SASK | 0,4 | 0,363 | 0,349 | 0,353 | 0,349 | 0,357 | 0,372 | 0,396 | 0,416 |
| Salaries & Wages & of Revenues | 32,30% | 33,5% | 33,3% | 34,6% | 34,5% | 35,4% | 36,0% | 37,6% | 38,7% |

| Other Operating Expenses % of Rev. | 10-12 Av | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|
| Other expenses % of revenues | -41,1% | -40,0% | -41,0% | -41,0% | -40,5% | -40,5% | -40,5% | -40,5% | -40,5% |
| Leases as % of revenues | -4,0% | -3,7% | -4,2% | -4,5% | -4,5% | -4,5% | -4,5% | -4,5% | -4,5% |
| D & A as % of revenues | -4,8% | -4,0% | -3,5% | -3,2% | -3,2% | -3,2% | -3,2% | -3,2% | -3,2% |

| Operating Asset/ASK | 10-12 Av | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|
| Operating Asset/ASK | 58,8% | 51,0% | 50,0% | 50,0% | 50,0% | 50,0% | 50,0% | 50,0% | 50,0% |
| Operating Assets % of Invested Capital | 122,2% | 130,0% | 128,0% | 128,0% | 128,0% | 128,0% | 128,0% | 128,0% | 128,0% |
| NWC % of Invested Capital | -22,2% | -30,0% | -28,0% | -28,0% | -28,0% | -28,0% | -28,0% | -28,0% | -28,0% |

| Deferred Tax | 2012 | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|---|
| **Accumulated Tax deficit EoY** | 416 | -576 | -1.334 | -2.166 | -2.429 | -2.680 | -2.768 | -3.295 | -4.152 |
| **Payable Tax** | | 0 | 0 | 0 | 0 | 0 | 0 | -0 | -0 |
| **SwedishTax Rate Applied** | 26% | 22% | 22% | 22% | 22% | 22% | 22% | 22% | 22% |

## Appendix 5 Valuation in Merger Perspectives

### SAS/Lufthansa M&A valuation base case

| Lufthansa DCF Valuation | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|
| Passsenger Revenue | 30.229 | 28.895 | 28.012 | 28.931 | 30.270 | 31.588 | 32.864 | 34.192 |
| Other Traffic revenues | 5.441 | 5.201 | 5.042 | 5.208 | 5.449 | 5.686 | 5.916 | 6.155 |
| Other revenues | 5.441 | 4.733 | 4.202 | 4.340 | 4.238 | 4.422 | 4.601 | 4.787 |
| Total Revenue | 41.112 | 38.830 | 37.256 | 38.478 | 39.957 | 41.697 | 43.381 | 45.134 |
| Fuel Costs | -8.856 | -8.065 | -7.310 | -7.202 | -7.106 | -6.975 | -7.116 | -7.343 |
| Salaries & Wages | -13.260 | -12.601 | -12.042 | -11.939 | -11.939 | -12.185 | -12.566 | -13.088 |
| Other operating Expenses | -16.445 | -15.920 | -15.275 | -15.584 | -16.183 | -16.887 | -17.569 | -18.279 |
| EBITDAR | 2.551 | 2.243 | 2.629 | 3.754 | 4.730 | 5.649 | 6.129 | 6.424 |
| Leases | -1.533 | -1.631 | -1.677 | -1.732 | -1.798 | -1.876 | -1.952 | -2.031 |
| EBITDA | 1.018 | 613 | 952 | 2.022 | 2.932 | 3.773 | 4.177 | 4.393 |
| D&A | -1.644 | -1.359 | -1.192 | -1.231 | -1.279 | -1.334 | -1.388 | -1.444 |
| EBIT | -627 | -746 | -240 | 791 | 1.653 | 2.438 | 2.789 | 2.949 |
| Tax on EBIT | 0 | 0 | 0 | 0 | -274 | -536 | -613 | -649 |
| **NOPAT** | -627 | -746 | -240 | 791 | 1.379 | 1.902 | 2.175 | 2.300 |
| + Depreciation & Amortizations | 1.644 | 1.359 | 1.192 | 1.231 | 1.279 | 1.334 | 1.388 | 1.444 |
| - Capital Expenditure | 470 | 178 | 900 | 2.193 | 2.279 | 1.854 | 1.919 | 1.985 |
| +/- Changes in Net Working Capital | -665 | -565 | -64 | 210 | 219 | 114 | 116 | 118 |
| Free Cash Flow | -117 | -131 | -12 | 40 | 597 | 1.496 | 1.761 | 1.877 |
| Discount Factor | 0,924 | 0,853 | 0,788 | 0,728 | 0,672 | 0,621 | 0,574 | 9,157 |
| ***PV Free Cash Flow*** | ***-108*** | ***-112*** | ***-9*** | ***29*** | ***402*** | ***929*** | ***1.010*** | ***17.189*** |
| Enterprise value mio. SEK | 19.329 SEKm | | **All numbers in mio. SEK** | | | | | |
| NIBD mio. SEK (2012) | 8.980 SEKm | | | | | | | |
| Value Equity | 10.349 SEKm | | | | | | | |
| Number of shares mio. | 329 mil. | | **PV Cash flow E2020 = Perpetuity discounted 7 years** | | | | | |
| **Estimated Share price** | **31,45 SEK** | | | | | | | |
| Net Working Capital | -5.888 | -5.323 | -5.259 | -5.469 | -5.688 | -5.802 | -5.918 | -6.036 |
| Operating Assets | 25.514 | 24.334 | 24.042 | 25.003 | 26.003 | 26.524 | 27.054 | 27.595 |
| **Invested Capital** | 19.626 | 19.011 | 18.783 | 19.534 | 20.315 | 20.721 | 21.136 | 21.559 |
| **Forecasted EBITDAR margin** | 6,20% | 5,78% | 7,06% | 9,76% | 11,84% | 13,55% | 14,13% | 14,23% |
| **Forecasted EBITDA margin** | 2,48% | 1,58% | 2,56% | 5,26% | 7,34% | 9,05% | 9,63% | 9,73% |
| **Forecasted EBITA margin** | 2,40% | 1,51% | 2,49% | 5,19% | 7,27% | 8,98% | 9,56% | 9,67% |
| **Forecasted EBIT margin** | -1,52% | -1,92% | -0,64% | 2,06% | 4,14% | 5,85% | 6,43% | 6,53% |
| **Forecasted ROIC before Tax** | -3,19% | -3,93% | -1,28% | 4,05% | 8,14% | 11,77% | 13,19% | 13,68% |
| **Forecasted ROIC after Tax** | -3,19% | -3,93% | -1,28% | 4,05% | 6,79% | 9,18% | 10,29% | 10,67% |

## SAS/IAG M&A valuation base case

| IAG DCF Valuation | E2013 | E2014 | E2015 | E2016 | E2017 | E2018 | E2019 | E2020 |
|---|---|---|---|---|---|---|---|---|
| Passsenger Revenue | 30.033 | 29.431 | 29.349 | 30.133 | 31.533 | 32.908 | 34.237 | 35.620 |
| Other Traffic revenues | 5.406 | 5.298 | 5.283 | 5.424 | 5.676 | 5.923 | 6.163 | 6.412 |
| Other revenues | 5.406 | 4.821 | 4.402 | 4.520 | 4.415 | 4.607 | 4.793 | 4.987 |
| Total Revenue | 40.845 | 39.550 | 39.034 | 40.077 | 41.623 | 43.438 | 45.193 | 47.019 |
| Fuel Costs | -8.856 | -8.392 | -8.031 | -7.953 | -7.891 | -7.793 | -7.991 | -8.244 |
| Salaries & Wages | -13.260 | -12.689 | -12.345 | -12.262 | -12.262 | -12.512 | -12.896 | -13.424 |
| Other operating Expenses | -16.338 | -16.215 | -16.004 | -16.231 | -16.857 | -17.593 | -18.303 | -19.043 |
| EBITDAR | 2.391 | 2.253 | 2.654 | 3.631 | 4.613 | 5.542 | 6.003 | 6.308 |
| Leases | -1.523 | -1.661 | -1.757 | -1.803 | -1.873 | -1.955 | -2.034 | -2.116 |
| EBITDA | 867 | 592 | 898 | 1.827 | 2.740 | 3.587 | 3.969 | 4.192 |
| D&A | -1.634 | -1.384 | -1.249 | -1.282 | -1.332 | -1.390 | -1.446 | -1.505 |
| EBIT | -766 | -792 | -352 | 545 | 1.408 | 2.197 | 2.523 | 2.688 |
| Tax on EBIT | 0 | 0 | 0 | 0 | -101 | -483 | -555 | -591 |
| **NOPAT** | -766 | -792 | -352 | 545 | 1.307 | 1.714 | 1.968 | 2.096 |
| + Depreciation & Amortizations | 1.634 | 1.384 | 1.249 | 1.282 | 1.332 | 1.390 | 1.446 | 1.505 |
| - Capital Expenditure | 459 | 972 | 1.731 | 2.306 | 2.396 | 1.943 | 2.011 | 2.080 |
| +/- Changes in Net Working Capital | -665 | -397 | 105 | 224 | 233 | 121 | 123 | 126 |
| Free Cash Flow | -257 | -777 | -728 | -255 | 476 | 1.281 | 1.527 | 1.647 |
| Discount Factor | 0,924 | 0,853 | 0,788 | 0,728 | 0,672 | 0,621 | 0,574 | 9,157 |
| ***PV Free Cash Flow*** | ***-237*** | ***-663*** | ***-574*** | ***-185*** | ***320*** | ***796*** | ***876*** | ***15.077*** |
| Enterprise value mio. SEK | 15.410 SEKm | | | | | | | |
| NIBD mio. SEK (2012) | 8.980 SEKm | | | | | | | |
| Value Equity | 6.430 SEKm | | | | | | | |
| Number of shares mio. | 329 mil. | | | | | | | |
| **Estimated Share price** | **19,53 SEK** | | | | | | | |
| Net Working Capital | -5.888 | -5.491 | -5.597 | -5.820 | -6.053 | -6.174 | -6.298 | -6.424 |
| Operating Assets | 25.514 | 25.102 | 25.584 | 26.607 | 27.672 | 28.225 | 28.790 | 29.365 |
| **Invested Capital** | 19.626 | 19.611 | 19.988 | 20.787 | 21.619 | 22.051 | 22.492 | 22.942 |
| **Forecasted EBITDAR margin** | 5,85% | 5,70% | 6,80% | 9,06% | 11,08% | 12,76% | 13,28% | 13,42% |
| **Forecasted EBITDA margin** | 2,12% | 1,50% | 2,30% | 4,56% | 6,58% | 8,26% | 8,78% | 8,92% |
| **Forecasted EBITA margin** | 2,04% | 1,43% | 2,24% | 4,50% | 6,52% | 8,19% | 8,72% | 8,85% |
| **Forecasted EBIT margin** | -1,88% | -2,00% | -0,90% | 1,36% | 3,38% | 5,06% | 5,58% | 5,72% |
| **Forecasted ROIC before Tax** | -3,90% | -4,04% | -1,76% | 2,62% | 6,51% | 9,96% | 11,22% | 11,72% |
| **Forecasted ROIC after Tax** | -3,90% | -4,04% | -1,76% | 2,62% | 6,05% | 7,77% | 8,75% | 9,14% |

**All numbers in mio. SEK**

**PV Cash flow E2020 = Perpetuity discounted 7 years**

## Appendix 6 Beta calculations

Returns calculated as: $\ln(x_t/x_{t-1})$

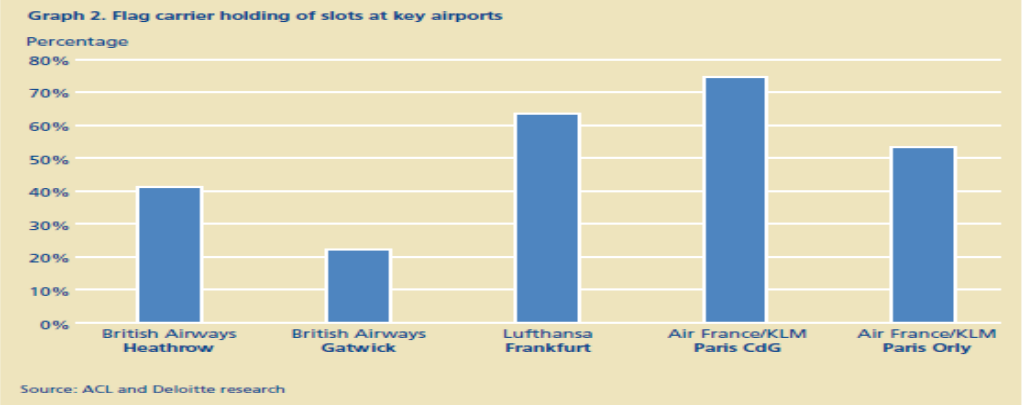
$x_t$ = Share price on day x

| Beta Value | 1,153 | | | |
|---|---|---|---|---|
| Formula | =COVAR(D6:D65;E6:E65)/VAR(D6:D65) | | | |
| Date | Price OMX | Price SAS | Ret. OMX | Ret. SAS |
| 01-05-2013 | 1.148,44 | 14,05 | 4,34% | 13,71% |
| 18-04-2013 | 1.099,71 | 12,25 | -6,61% | -15,82% |
| 18-03-2013 | 1.174,90 | 14,35 | 2,18% | 6,11% |
| 18-02-2013 | 1.149,61 | 13,5 | 4,62% | 29,02% |
| 18-01-2013 | 1.097,74 | 10,1 | 3,78% | 18,43% |
| 18-12-2012 | 1.057,07 | 8,4 | 4,56% | 19,67% |
| 19-11-2012 | 1.009,95 | 6,9 | -3,36% | 9,10% |
| 18-10-2012 | 1.044,42 | 6,3 | 0,11% | -15,42% |
| 18-09-2012 | 1.043,26 | 7,35 | -2,10% | 21,97% |
| 17-08-2012 | 1.065,35 | 5,9 | 8,24% | 3,45% |
| 18-07-2012 | 981,13 | 5,7 | 7,53% | 6,34% |
| 18-06-2012 | 909,94 | 5,35 | 2,66% | -18,70% |
| 18-05-2012 | 886,07 | 6,45 | -9,71% | -26,42% |
| 18-04-2012 | 976,45 | 8,4 | -6,41% | -4,08% |
| 19-03-2012 | 1.041,05 | 8,75 | 1,72% | 8,34% |
| 17-02-2012 | 1.023,29 | 8,05 | 6,99% | -11,16% |
| 18-01-2012 | 954,21 | 9 | 11,62% | 18,23% |
| 19-12-2011 | 849,5 | 7,5 | -0,33% | -20,97% |
| 18-11-2011 | 852,32 | 9,25 | 0,79% | -17,78% |
| 18-10-2011 | 845,59 | 11,05 | 4,09% | -25,78% |
| 18-08-2011 | 811,69 | 14,3 | -17,06% | 4,29% |
| 18-07-2011 | 962,69 | 13,7 | -3,27% | -13,63% |
| 17-06-2011 | 994,71 | 15,7 | -9,67% | -24,21% |
| 18-05-2011 | 1.095,71 | 20 | 3,39% | -1,98% |
| 18-04-2011 | 1.059,18 | 20,4 | 0,65% | -1,46% |
| 18-03-2011 | 1.052,28 | 20,7 | -4,30% | -10,54% |
| 18-02-2011 | 1.098,50 | 23 | -3,14% | -9,53% |
| 18-01-2011 | 1.133,54 | 25,3 | 3,44% | 15,81% |
| 17-12-2010 | 1.095,26 | 21,6 | 6,64% | -13,41% |
| 18-11-2010 | 1.024,91 | 24,7 | 0,88% | -5,51% |
| 18-10-2010 | 1.015,91 | 26,1 | 0,69% | 1,54% |
| 17-09-2010 | 1.008,90 | 25,7 | 4,42% | -4,56% |
| 18-08-2010 | 965,25 | 26,9 | 3,13% | 7,33% |
| 19-07-2010 | 935,48 | 25 | -3,33% | -14,15% |
| 18-06-2010 | 967,19 | 28,8 | 3,01% | 347,69% |
| 18-05-2010 | 938,49 | 0,89 | -3,84% | -28,20% |
| 19-04-2010 | 975,2 | 1,18 | 3,31% | -83,88% |
| 18-03-2010 | 943,41 | 2,73 | 7,90% | 12,05% |
| 18-02-2010 | 871,75 | 2,42 | 0,72% | -51,25% |
| 18-01-2010 | 865,51 | 4,04 | 7,05% | -5,07% |
| 18-12-2009 | 806,62 | 4,25 | -4,15% | -12,79% |
| 18-11-2009 | 840,77 | 4,83 | 2,66% | -5,44% |
| 19-10-2009 | 818,73 | 5,1 | -2,88% | 6,48% |
| 18-09-2009 | 842,69 | 4,78 | 8,00% | 19,07% |
| 18-08-2009 | 777,9 | 3,95 | 8,55% | 10,11% |
| 17-07-2009 | 714,18 | 3,57 | 2,67% | -2,49% |
| 18-06-2009 | 695,35 | 3,66 | -3,15% | -12,32% |
| 18-05-2009 | 717,58 | 4,14 | 6,06% | 5,97% |
| 17-04-2009 | 675,4 | 3,9 | 15,94% | -35,28% |
| 18-03-2009 | 575,87 | 5,55 | -2,51% | -174,57% |
| 18-02-2009 | 590,49 | 31,8 | -1,85% | -39,49% |
| 19-01-2009 | 601,54 | 47,2 | -5,18% | 23,01% |
| 18-12-2008 | 633,5 | 37,5 | -0,44% | 27,44% |
| 18-11-2008 | 636,3 | 28,5 | -7,54% | -27,71% |
| 17-10-2008 | 686,15 | 37,6 | -21,50% | -29,50% |
| 18-09-2008 | 850,77 | 50,5 | -12,05% | 7,61% |
| 19-08-2008 | 959,76 | 46,8 | -3,63% | -7,11% |
| 18-08-2008 | 995,27 | 50,25 | 0,76% | 31,70% |
| 18-07-2008 | 987,73 | 36,6 | -5,12% | -9,13% |
| 18-06-2008 | 1.039,66 | 40,1 | -6,33% | -13,73% |
| 02-06-2008 | 1.107,60 | 46 | | |

## Appendix 7 Other figures

**Figure A.7.1**

**Section 3.2 - Percentage of slots given trough Grand-father rights to the local FSC in the biggest European airports**




Source: Deloitte *"Open skies, Open for business?"*

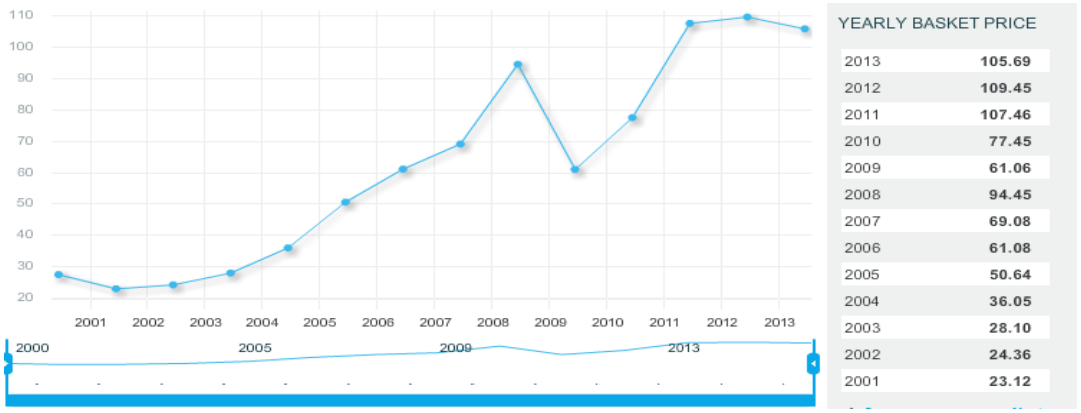
**Figure A.7.2**

**Section 3.2 - Number of new airlines formed**


Source: IATA Financial Forecast December 2012

**Figure A.7.3**

**Sections 3.2 - Oil price development 2000-2013**

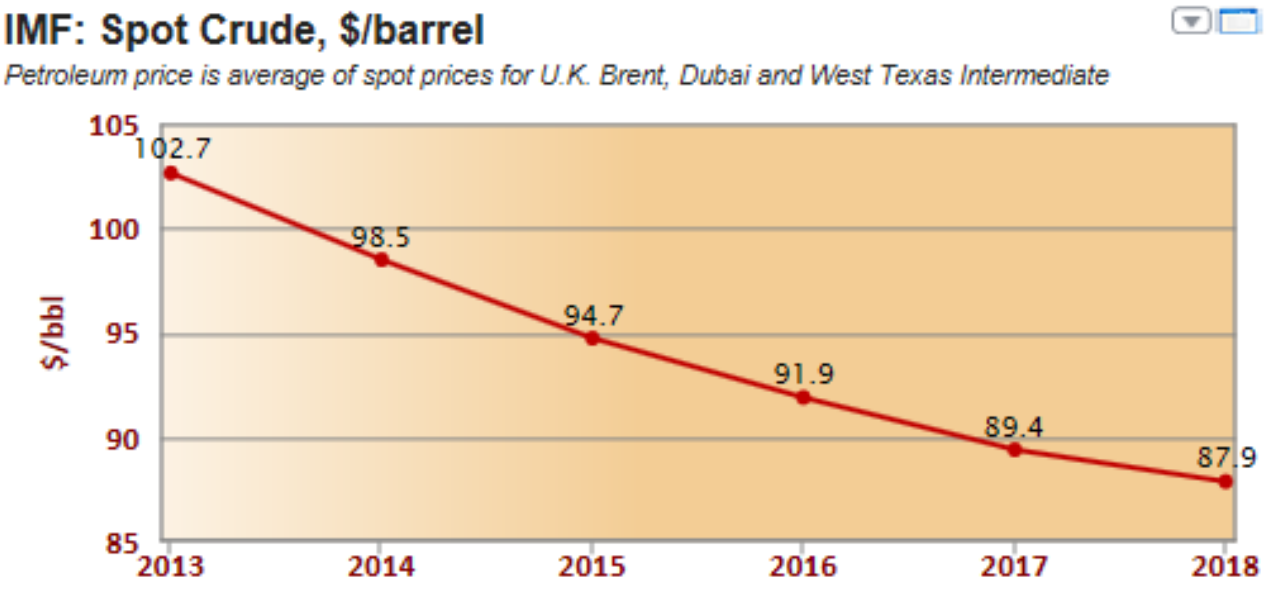



| YEARLY BASKET PRICE | |
|---|---|
| 2013 | 105.69 |
| 2012 | 109.45 |
| 2011 | 107.46 |
| 2010 | 77.45 |
| 2009 | 61.06 |
| 2008 | 94.45 |
| 2007 | 69.08 |
| 2006 | 61.08 |
| 2005 | 50.64 |
| 2004 | 36.05 |
| 2003 | 28.10 |
| 2002 | 24.36 |
| 2001 | 23.12 |

Source: OPEC

**Figure A.7.4**

**Section 3.2 and 5.1.2 - Expected future oil prices used in forecast**




Source: IMF Commodity Price Forecasts, May 2013

Falling oil prices in 2013-2014 supported by Forbes

http://www.forbes.com/sites/billconerly/2013/05/01/oil-price-forecast-for-2013-2014-falling-prices/

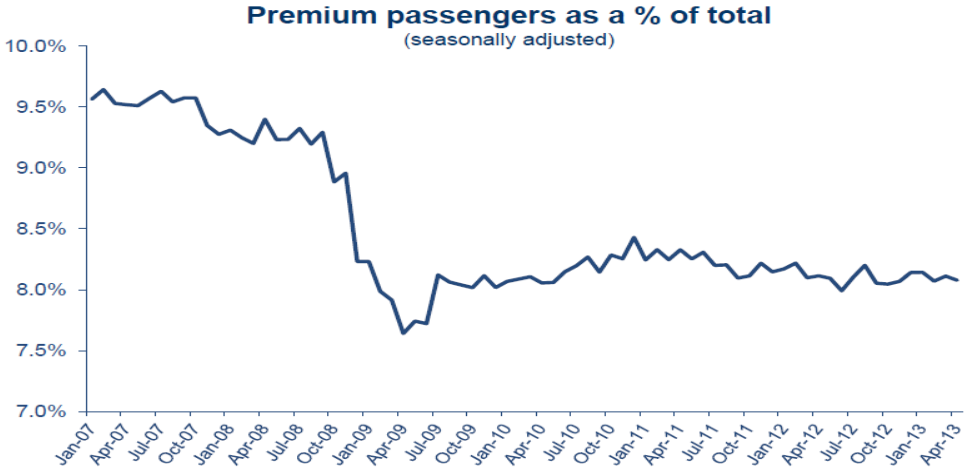
**Figure A.7.5**

**Section 5.1 IATA future expectations Passengers and RPK growth**


Source: IATA Financial forecast 2013

**Figure A.7.6**

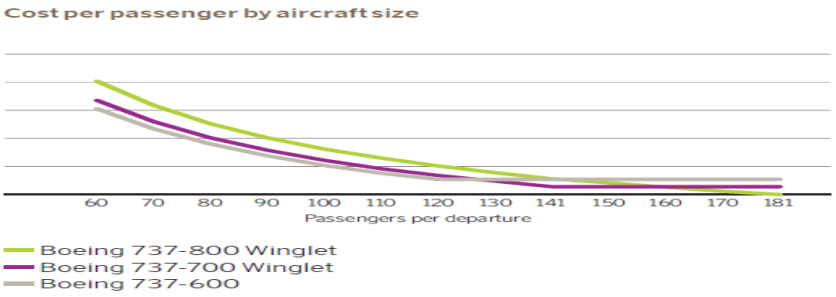
**Section 3.2 & 3.3 Premium passengers as a % of total**




Source: IATA premium traffic monitor April 2013

## Figure A.7.7

## Section 4.2. Illustration of unit cost from optimizing Load Factor




Source: SAS annual report 2012 p. 11

## Figure A.7.8

## Section 5.1 Fleet differences SAS vs. RyanAir

RyanAir had a year-end fleet of 294. The fleet only consisted of Boeing 737-800‘s.. RyanAir Annual report 2012 p.4. In comparison SAS fleet as shown below

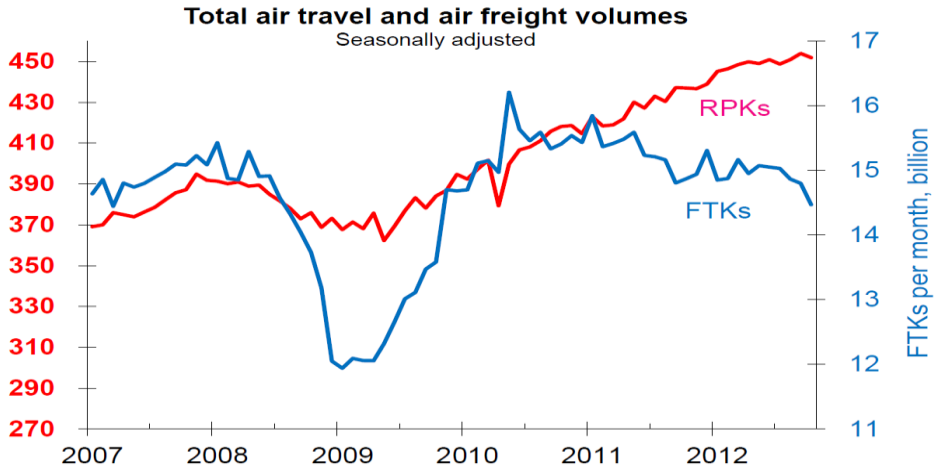
**The SAS Group's fleet of aircraft at October 31, 2012[1]**

| | Age | Owned | Leased | Total | In service | Leased out | On order |
|---|---|---|---|---|---|---|---|
| Airbus A330/A340 | 10.4 | 5 | 6 | 11 | 11 | 0 | |
| Airbus A319/A320/A321 | 8.8 | 4 | 10 | 14 | 12 | 0 | 30 |
| Boeing 737 Classic | 19.4 | 0 | 10 | 10 | 10 | 0 | |
| Boeing 737NG | 11.4 | 23 | 49 | 72 | 72 | 0 | |
| Boeing 717 | 12.2 | 0 | 9 | 9 | 9 | 0 | |
| McDonnell Douglas MD-80-serien | 23.1 | 13 | 8 | 21 | 19 | 0 | |
| McDonnell Douglas MD-90-serien | 0.0 | 8 | 0 | 8 | 0 | 8 | |
| Avro RJ-85 | 0.0 | 0 | 5 | 5 | 0 | 1 | |
| deHavilland Q-serien | 14.7 | 32 | 10 | 42 | 39 | 0 | |
| Bombardier CRJ900NG | 3.4 | 12 | 0 | 12 | 12 | 0 | |
| **Total** | **13.1** | **97** | **107** | **204** | **184** | **9** | **30** |

Source: SAS annual report 2012 p. 91

## Figure A.7.9

## Section 5.1 The expected future relation between RPKs and FTK (freight tonne kilometres)




Source: IATA Financial forecast December 2012

**Figure A.7.9**

**Section 6.3 Consolidation index for European airlines (readiness)**

Exhibit 1: Consolidation Index for European Airlines (Analytical Calculation)


Sources: Annual reports 2007/2008, FAZ stock index, ESMT analysis.

The consolidation competences have been specified as follows:

- *Competitive competence*
  revenues per employee and market capitalization based on annual reports and stock indices
- *Financial competence*
  earnings before interest and tax (EBIT) and return on equity (RoE before tax) based on annual reports
- *Internationalization competence*
  share of "non-home market" revenues and "non-domestic board" representation based on expert judgments
- *Change competence*
  scale and number of reorganizations and integrations within the last five years based on expert judgments

Source: Büttner & Burger (2008)

## Appendix 8 Accounting policies & discussion of assumptions and reasoning

*New accounting period*

In 2012 the income statement only covers 10 months data. Therefore precautions must be made to make the 2012 annual report comparable both across time and peers.

In terms of percentage measures this will not have an effect (i.e. on Common Size analysis).

Using absolute numbers (i.e. ASK, Revenue etc.) the numbers cannot be directly derived. A close approximation is therefore made. The approximation is done by adding a factor of (61 days/92 days)*2013[76] Q1 result to the 2012 ten month revenue.

This may be a slight overestimation as the period November-December generally has low activity in terms of transported passengers compared to other months[77].

The approximation approach is used with ASK, RPK, Revenues, Fuel expenses, lease expense, taxes and financial income and expenses.

As the balance sheet is "status" and not accumulated measure the Oct 2012 balance sheet numbers are used (a small bias can be argued for. The significance is assessed small enough to use Oct 2012)

*Fuel hedges:*

The industry is hugely affected by fuel prices and currency changes (as previously discussed). This has led several companies to hedge for the price risk of the two. The financial expense/income of hedges is therefore added as operational in the analytical income statement. This will equal the income for airlines that hedge and airlines that don't. As such the hedging positions are also included in the operational assets/net working capital in the analytical balance sheet.

*Adjusting for operating leases:*

Reorganizing the balance sheet into invested capital the NPV of operating leasing has been added. This is done in order to assess the profitability of the operations across airlines that lease their fleet and airlines owning the fleet.

Not all airlines have the same maturity on operational lease and not the consistency in terms of computing the NPV of the lease obligations. As the computation of capitalized operational leases can become complicated and the correctness and relevance of the precise number relatively low, a more simple approach is used to derive an approximation of the capitalized operating leases (the computations of operational leases NPV used in the thesis are therefore not consistent with the NPV

[76] 61 days = November (30 days) + December (31 days). 92 days = January (31 days) + November (30) + December (31)

[77] See SAS annual report p. 38

presented in the respective annual reports).
The capitalized operating leases are found by multiplying 2012 lease expenses by a factor of seven. Koller et al.[78] argues for at factor of eight. When assessing credit worthiness Danske Bank multiply yearly rental with a factor of seven to find NPV of operating leases[79]. In the Annual report SAS capitalize operating leases by multiplying this year's rental with seven. As both SAS and Danske Bank use a factor of seven this the approach used to derive NPV of operating leases in this paper.

The capitalization of leases complicates the operations as the liability side of capitalization must be treated as inter bearing debt and the inherent interest in leasing expenses must therefore be excluded from lease expenses and added to the financial expenses to insure consistency in income and balance. Equation 4.1 shows how the interest on leases is derived.

$$\textit{Interest on Lease exp.} = \textit{NPV Operating Leases}_{t-1} * \textit{Cost of Debt} \qquad (4.1)$$

As the cost of debt ($NFE/NIBD_{t-1}$) is volatile for all ten airlines the cost of debt is derived from the respective airline's credit rating. All airlines are situated just at or below investment grade why a common debt rate of 6 % is used. This measure should improve cross-sectional consistency.

*Invested capital used as an average in computations with invested capital*:
The computation of ROIC has been made using averages of invested capital for the year and the previous year. This is done in order to find the average invested capital over the year, and not end of year which does not take the yearly development into account[80].
One drawback of this method is that the impact of divestments or acquisitions end of year will disturb the picture. As SAS is often benchmarked against the averages of the industry the use of average invested capital is therefore not found to be inadequate for this purpose.

*Deriving operating profit from standard income statement (adjusting for taxes)*:
Finding the operational income after tax the literature suggests two different approaches. Koller et al. argue for a use of marginal taxes as the tax rate on EBIT without adding the income contribution from the tax shield. This is based on the argument of not letting capital structure and financing interfere with operations[81].
On the other hand Plenborg & Petersen (2012) argue for a use of the tax shield in the computation

[78] Koller et al. (2012) p. 567-568
[79] Interview with employee at Danske Bank Credit Risk
[80] Petersen & Plenborg (2012) p. 96
[81] Koller et al. (2012) p. 133-135

of "NOPAT" - Net Operating Profit after Tax.
In this thesis the Petersen/Plenborg approach has been used. This is not because the writer finds one approach more valid than the other but to have consistency and as one approach must be chosen. The marginal tax rate in the home country of the airline has been used to derive NOPAT (i.e. Swedish corporate tax rate for SAS, Irish for RyanAir etc.) as described below.

*Same currency used across time*:
Computing the historical financials and ratios for SAS and the peers the currencies pr. 1st of May 2013 is used to transfer local currencies into a comparable (Euros) across the peers. This is done in order to remove the currency insecurity risk over time instead showing the pure operations.

*Computing total passenger revenues;*
Some airlines have on-board services like coffee, newspapers, meals etc. free of charge (usually FSCs). Other airlines have cloud shops selling meals and drinks. As the revenue from included services lies intrinsic in the ticket price the revenue from on-board sales is added to passenger revenue when possible/stated in the annual report. This is used when computing the RASK.
Some airlines present on-board sales in other revenues in the annual report. Here it is not possible to find the true revenue from on-board sales. This gives rise to uncertainties when comparing peers.

*Taxes:*
Reorganizing the income statement to analytical use marginal taxes are used as prescribed in Koller et al.[82]. The marginal tax rates used for the respective airlines are the home country's marginal tax rate. This excludes transfer pricing and other strategic tax savings. This simplifies the computations and as taxes has no direct effect on operations but of course on the relation between EBIT and NOPAT. In the peer-group analysis where this is relevant only pretax measures are used.
The used marginal tax rates are collected from KPMG tax rate table[83].

*New accounting rules concerning pension obligations*
As of 1st of January 2013 SAS are no longer allowed to include pension obligations using the "corridor method" why a onetime loss of twelve billion SEK eroding the equity.[84] As this matter has no cash flow effects this will not be included in the DCF valuation model. In the relative valuation approach one must take the loss into account when looking at the Market to book value multiple.

[82] Koller et al. (2012) p. 149
[83] http://www.kpmg.com/global/en/services/tax/tax-tools-and-resources/pages/corporate-tax-rates-table.aspx
[84] https://markets.sydbank.dk/PublicationsWebHandler/Sydbank.aspx?ID=0036696-007496

## Appendix 9 Definitions to figure 6.1.4.b

**Suggested average adjusted EV/revenue for SAS in 2012 =**

$$Average\ (Austrian\ adj.2008 + Iberia\ adj.2010 + Aer\ Lingus\ adj.2012)$$ based on

**Austrian SAS' adjusted EV/Revenue 2012 based on RASK =**

$$Austrian\ RASK\ 2008/Average\left(\frac{SAS\ RASK\ 2012}{Austrian\ RASK\ 2008} + \frac{SAS\ RASK\ 2011}{Austrian\ RASK\ 2007} + \frac{SAS\ RASK\ 2010}{Austrian\ RASK\ 2006}\right)$$

For Iberia & AerLingus replace Austrian with the respective airline

---

**SAS adjusted EV/EBITDAR (pr. ASK) 2012 =**

$$Average\ (Austrian\ adj.2008 + Iberia\ adj.2010 + Aer\ Lingus\ adj.2012)$$ based on

**Austrian SAS' adjusted EV/Revenue 2012 based on RASK =**

$$Austrian\ EBITDAR\ pr.ASK\ 2008/$$

$$Average\left(\frac{SAS\ EBITDAR\ pr.ASK\ 2012}{Austrian\ EBITDA\ pr.ASK\ 2008} + \frac{SAS\ EBITDAR\ pr.ASK\ 2011}{Austrian\ EBITDAR\ pr.ASK\ 2007} + \frac{SAS\ EBITDAR\ pr.ASK\ 2010}{Austrian\ EBITDAR\ pr.ASK\ 2006}\right)$$

For Iberia & AerLingus replace Austrian with the respective airline

---

## Appendix 10 Airline definitions & abbreviations

**ASK (Available Seat Kilometre):** Measure of capacity, is one available seat flown one kilometre. An aircraft with 10 available seat, flying 100 km will have an ASK of 100x100 = 10,000 ASK

**RPK (Revenue Passenger Kilometre):** Measure of how many seat with a passenger is carried one kilometre. An aircraft with 90 passengers, flying 100 km will have an RPK of 90x100 = 90,000

**Load Factor:** Shows an airlines' capacity exploitation in percentages. Can be computed as RPK/ASK. From the above examples the aircraft with 100 seats, transporting 90 passengers 100 km, will have a load factor of 90,000 RPK/10,000 ASK = 90 %

**RRPK (Revenue pr. Revenue Passenger Kilometre):** Is a measure of ticket prices. If the total revenue from the above example is 900,000 SEK -> RRPK = 900,000/90,000 = 10 SEK.

**FASK (Fuel pr. Available Seat Kilometre):** Measure of fuel efficiency, as it measure the fuel price pr. capacity unit.

**SASK (Salary pr. ASK):** Measure of the staff cost of producing one unit capacity.

**LCC (Low costs-carrier):** A low-cost carrier or low-cost is an airline that offers generally low fares in exchange for eliminating many traditional passenger services like passenger classes, pay for food on-board, pay for forgotten boarding passes. Often the LCC is a continental player, using smaller and cheaper airports.

**FSC (Full Service Carrier):** Often old and experienced carrier with long heritage in the industry. The FSCs are known for connecting routes through bigger hub, and is as such intercontinental players. The FSCs offer *all included services*, i.e. offering food on longer flights, newspapers and coffee. The FSCs typically connects with the biggest airports, and with smaller cities, compared to the LCC.