

**FINANCIAL EVALUATION OF A PUBLIC FIRM, THEORY AND
PRACTICE: FINNAIR**



Bachelor's thesis

Valkeakoski Campus – Degree in International Business

Autumn Semester 2018

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Name of degree programme: International Business

Campus: Valkeakoski

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Subject	Financial Evaluation of a Public Firm, Theory and Practice: Finnair	
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ABSTRACT

This Bachelor Thesis aims to present a complete financial valuation of Finnair by utilizing Discounted Cash Flows method and by analysing Finnair's business as well as its operating environment. In line with the aim of this study the authors will attempt to answer the following thesis question:

"What is the fair value for Finnair and how does it compare to the current market value?".

Finnair is the national airline of Finland; its headquarters reside in Vantaa on the grounds of Helsinki Airport – its hub. Finnair's focus lies in transporting passengers and cargo between Europe and Asian megacities thanks to its favourable geographical location, which provides the fastest routes between two continents. In line with this strategy, Finnair applies a typical full-service carrier (FSC) business model where the airline uses Helsinki Airport as the transferring point for its long-haul intercontinental flights.

2017 was particularly a good year for Finnair as the airline gained more than double profit and a 300% increase in share price comparing to the previous year. However, it is thoroughly explained in this thesis that Finnair operates in the aviation industry that is heavily influenced by external factors. The airline business is cyclical, and revenue fluctuates during the year, from political and economic upswing to downturn periods, from holiday to business seasons. Therefore, it is doubtful that Finnair's business will be able to be striking at the same rate in the next five years.

The outcome of both internal and external analysis, as well as many forecasts concerning the aviation industry and the economy are incorporated in the Discounted Cash Flows Valuation to determine a fair price for Finnair. This results in a calculated share price of € 9.48 (as of May 14, 2018), which suggests that Finnair's share price is overvalued by € 1.99

or 20.96% comparing to its actual share price of €11.47 (as of April 27, 2018).

Keywords Financial Valuation, Discounted Cash Flows, Operating Environment, Business Models, Forecast

Pages 119 pages including appendices 34 pages.

Management Summary

Valuation | Release: 11 May 2018, 13:00 CEST | Reporting Currency: EUR | Exchange: XHEL

Finnair Oyj FIA1S - Member of Oneworld Alliance.

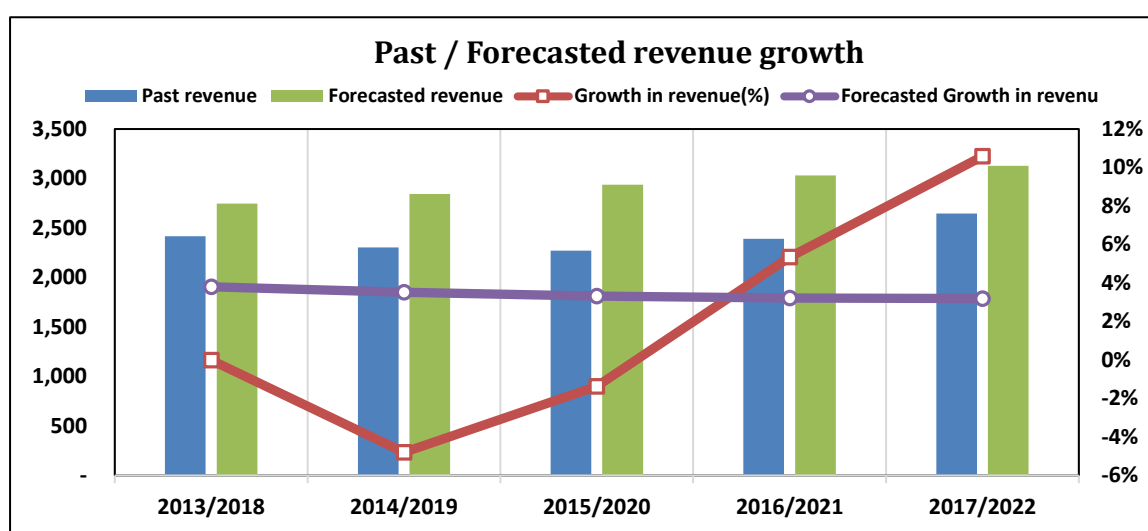
Last Close	Fair Value	Market Cap	Industry	Country of Domicile
27 April 2018	28 April 2018	28 April 2018	Airports & Air Services	Finland
€ 11.47	€ 9.48	€ 1'469.72 Mill.		

Company Profile

Finnair Oyj is the national airline of Finland. The airline operates within the domestic and international airline sector. It provides passenger and air freight services.

Prospects

Despite its rapid growth in year 2017, Finnair is expected to grow at a rate of 3.41%. The steady increase in revenue is caused by a weak expected GDP growth in its traffic areas. The net profit will decrease due to increase in operating expenses.



Valuation results

Undervalued Fairly Valued Overvalued

The valuation methodology (DCF) resulted that Finnair's share price is overvalued by 20.96%. The main reason for this overvaluation is that Finnair meet all its forecasted growth prospects during fiscal year of 2017. Finnair's management reached the promised figures in the earning statements, hence

Financials Health

Return on Equity	18.10%	6.52%
Return on Assets	5.87%	1.95%
Return on capital employed	13.60%	6.36%
Revenue/Employee ('000)	471.71	356.59
Current ratio	1.26	1.05
Long-term debt to Equity	0.58	0.60

Valuation methodology inputs

Revenue growth rate	3.41%
COGS / Revenue	73.02%
Gross margin / Revenue	31.00%
NWC turnover	5.8
PP&E turnover	1.86
TAX rate	19.20%
BETA	1.36
WACC	5.66%
Long-Term Growth Rate	2.00%

Share price - Finnair 2013-2017



Finnair - Operational metrics	2013	2014	2015	2016	2017
Unit cost (Euro)	€ 0.066	€ 0.064	€ 0.070	€ 0.067	€ 0.065
ASK (seats available x kilometres flown - million)	31'162	30'889	31'836	33'914	36'922
Load factor (filled seats on all departures - %)	79.50%	80.20%	80.40%	79.80%	83.30%
RPK (paying passengers x kilometres flown- million)	24'776	24'772	25'592	27'066	30'750

Disclaimer: No guarantee is implied as to the accuracy of the forecasts and projected cash flows. You must not rely on the information in this thesis as an alternative to a financial advice.

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List of Abbreviations

ACI EUROPE	Airports Council International Europe
AGM	Annual General Meeting
ASK	Available Seat Kilometers
ATAG	Air Transport Action Group
CAGR	Compound Annual Growth Rate
CAPA	Center for Aviation
CASK	Cost per Available Seat Kilometers
DCF	Discounted Cash Flow
EBIT	Earnings Before Interest & Taxes
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization
FSC	Full-Service Carrier
GDP	Gross Domestic Product
IAS	International Accounting Standards
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFRS	International Financial Reporting Standards
KPI	Key Performance Indicator
LCC	Low-Cost Carrier
NASDAQ	National Association of Securities Dealers Automated Quotations
NPS	Net Promoter Score
PESTEL	Political, Economic, Social, Technological, Environmental and Legal
PLF	Passenger Load Factor
ROA	Return on Assets
ROCE	Return on Capital Employed
ROE	Return on Equity
RPK	Revenue Passenger Kilometers
SARP	Standards and Recommended Practices
SWOT	Strengths, Weaknesses, Opportunities, and Threats
WACC	Weighted Average Cost of Capital

Glossary

Airports slot - A scheduled time of flight available for allocation by a coordinator of an aircraft movement on a specific date at a coordinated airport.

Business Finland - Is the most important public funding agency for research funding in Finland, and is directed by the Finnish Ministry of Employment and the Economy

Finavia – Is a public limited company owned wholly by the Finnish government.

1 INTRODUCTION

1.1 Topic

This Bachelor Thesis presents a complete financial valuation of Finnair by tackling the most prominent issues on the subject and explaining key terms thoroughly. Finnair is the largest airline of Finland; its headquarters reside in Vantaa on the grounds of Helsinki Airport, its hub. Finnair's focus lies in transporting passengers and cargo between Europe and Asian megacities thanks to its favourable geographical location, which provides the fastest routes between two continents.

Finnair dominates in its home market and "is among the top 5 airlines in terms of market share on the routes it operates" (Finnair - Annual Report, 2017). In 2017, Finnair generated € 2.568 billion revenue and a comparable profit of € 170.4 million which is more than doubled comparing to the previous year. Currently, Finnair is listed on the NASDAQ OMX Helsinki Ltd (FIA1S).

1.2 Central Issue

The value of a business is a central issue in many types of stockholder disputes, ranging from a conflict over the fair value of the business to the determination of value in a merger or other form of corporate transaction. According to IFRS 13, the fair value of an asset is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When measuring fair value, the appraiser uses the same assumptions that market participants would use to price the asset (IFRS, 2017). Whereas, market value is the price at which the underlying financial asset is traded on stock exchanges. Calculating the fair value of a financial asset, helps investors to support decisions upon the acquisition of a target company or its liquidation.

The central issue of this bachelor thesis is the financial valuation of Finnair which is publicly traded on the market. Hence the stock price of the company represents the market value. As the company is public, the authors can easily access their financial data to determine the book value of the company. The market value and book value are different because they are measured from a different perspective. Therefore, a financial valuation can result in an undervalued or overvalued company. Following the mentioned definitions, this bachelor thesis aims to determine the fair value of Finnair.

1.3 The relevance of the issue

Valuation is “the act or process of determining the value of a business, business ownership interest, security, or intangible asset” (James, 2017, p.24). In a financial valuation, the firm’s long-term performance is comprehensively measured, hence a financial valuation is crucial for both, the company and its stakeholders. An integral part of the valuation process is to avoid gathering just internal information on the company but also assess the external factors, such as the industry outlook.

1.4 Main Question

In line with the aim of this study the authors will attempt to answer the following thesis question:

“What is the fair value for Finnair and how does it compare to the current market value?”.

To answer this question, a comprehensive understanding of Finnair and the industry in which it operates must be achieved.

1.5 Limitations and Demarcations

Demarcations and limitations for this bachelor thesis are as follow:

- The analysis part is based only on public information. The public information is available in the form of annual reports and quarterly financial reports.
- The valuation method used in this bachelor thesis is introduced in the Bachelor of Business Administration at Bern University of Applied Sciences.
- This bachelor thesis is conducted as part of the bachelor studies. Hence, the outcomes of this thesis should not be considered as an investment recommendation to anyone reading this thesis.

1.6 Theoretical basis

In this thesis, a variety of external and internal analysis tools will be used. These tools include SWOT, PESTEL, Porter’s five forces, business model valuation, financial and operating assessment.

The purpose of conducting internal and external analysis is to understand Finnair’s internal operations and the impact of external factors in the airline industry. In order to take advantage of opportunities, it is crucial to identify the strengths and weaknesses of Finnair. By using the Discounted Cash Flow (DCF) method, this bachelor thesis will present the financial valuation of Finnair. The mentioned method has been introduced in the Merger and Acquisition course by Prof. Alberto Rascón and Prof. Dr. Andreas Gubler. Furthermore, the authors consult several articles and

books regarding the use of DCF model as disclosed in the bibliography under the literature section.

1.7 Valuation Methodology

There are several valuation methods, however, the only one accepted by the correspondent university where this bachelor thesis is being written is the Discounted Cash Flow method (DCF).” The DCF method attempts to determine the value of the company by computing the present value of cash flows over the life of the company” (Schill, Chaplinsky, & Doherty, 2008). Because companies are assumed to have an infinite life, the DCF method is divided into two parts: the forecast period and the terminal value.

- The forecast period:
 - Economic costs and benefits of the transaction must be incorporated into the forecasts of free cash flows.
 - Forecast period must take transition state, where the company is enjoying a temporary competitive advantage, into consideration.
 - Typically, the forecasted period is 5 to 10 years. The length of the forecasted period depends on the type of industry.
- The terminal value:
 - Terminal value translates the value of future cash flows, which exceed the forecast period, into present value; hence it occurs in the last year of the forecast period.
 - During this stage, the company is assumed to be in a steady-state growth.

After creating the cash flow timetable for the company, it is essential to apply the right discount rate. In this study, the Weighted Average Cost of Capital (WACC) is used to discount the future cash flows then determine the overall present value. It is considered that the overall present value is the estimation of the enterprise value. In cases where we have stock, the ratio of the estimated enterprise value to the outstanding shares provides an estimated fair price of enterprise stock.

1.8 Construction of the Bachelor Thesis

To avoid overlapping in writing this thesis, the authors will follow a chronological structure; each chapter will serve as a basis for the following one. The word “chapter” is used for describing the chapters of this thesis, avoiding any other meaning.

Chapter 1 presents a thorough explanation of how this thesis is structured and methodologies used. In chapter 2 the authors will examine the governance bodies at Finnair to understand the impacts caused by the

state-owned structure. In chapter 3 a brief description of Finnair's evolution is presented, to see how the company has been growing. After knowing the history and governance of Finnair, the authors focus on presenting the business overview in chapter 4. This chapter is an exploration of structure and strategy at Finnair; it tackles issues regarding the operating environment and its strategic focus. Since the airline industry is getting more and more regulations regarding the environmental responsibilities, chapter 5 shows the influence of these regulations on Finnair's operations. It also explains the reason why Finnair generates so much economic value for the country of Finland.

Chapter 6 presents the sales of Finnair and assesses if its strategy in Asia is paying off. Whereas chapter 7, through the BCG matrix, shows Finnair's positioning in different markets. These two chapters help in understanding the fundamental driver behind Finnair's growth/success. Then the financial assessment in chapter 8 tells us Finnair's financial health, with focus on its profitability and liquidity. In addition to the understanding of Finnair's financial health, a financial comparison with Finnair's competitors is presented in chapter 9.

After understanding Finnair's operational environment, its growth and financial health, the authors focus on the external features of the airline industry and the internal features of Finnair. Hence chapter 10 looks at the development of the airline industry and its outlook. Whereas, chapter 11 focuses on the internal operating at Finnair, with focus on its business model and operating drivers. Chapter 12 presents a SWOT analysis of Finnair.

By using the information from the preceding twelve chapters, it is possible to apply the DCF method. The application of DCF method is explained in chapter 13. Chapter 14 is an interpretation of results from the DCF method; it compares the outcomes of DCF method with the market value of Finnair.

Chapter 15 presents a conclusion with regards to potential causes for having an overvalued stock and explains the future of Finnair.

2 FINNAIR

Finnair is known as the largest airline of Finland, dominating the domestic and international air travel in Finland. It offers flights to Europe, Asia, Middle East and Americas for both business and leisure travellers. Being a member of Oneworld alliance since 1998 has given Finnair the chance to cooperate with some leading airlines like American Airlines, British Airways and Japan Airlines.

Finnair's long-term strategy is to increase revenue from the Asian traffic due to its geographical location, meanwhile creating added value for its customers and shareholders. Finnair's ownership constitutes of 55.81% held by the Finnish government, giving them a strong influence in the voting rights, the rest is owned by the governing bodies, management and investors, each of them not exceeding more than 5% ownership (Finnair - Annual Report, 2017). In general, the aviation industry plays a crucial role in the Finnish economy, generating 3-5% of its GDP. Just Finnair's Asian strategy has contributed with an estimated value of € 12 billion to the Finnish GDP (Çalıyurt & Yüksel, 2017).

2.1 Executive Board

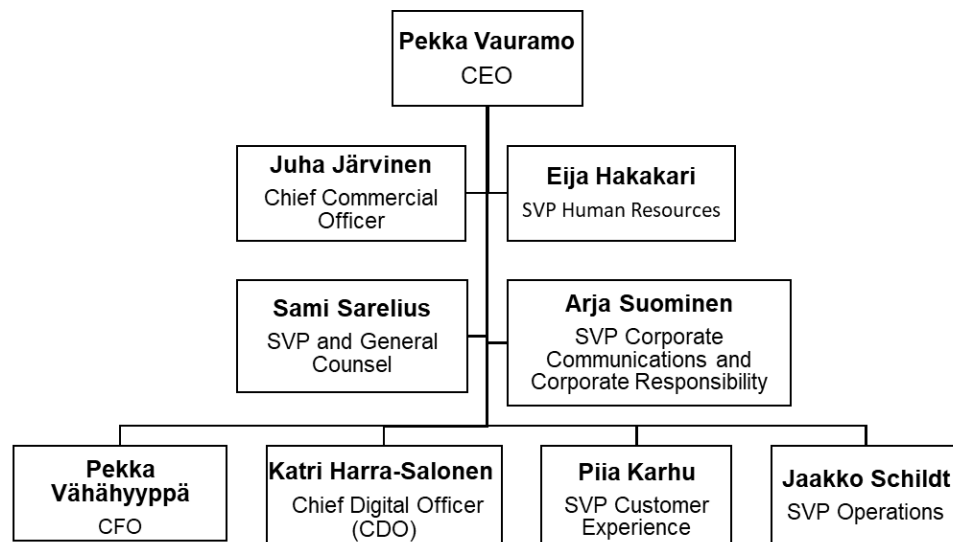


Figure 1. Executives

Source: Own illustration adapted from Finnair Annual report (2017)

As shown in Figure 1 the executive board is led by the CEO. It also includes the senior management that is responsible for overseeing Finnair's operations and overall activities. Since some executives play critical roles in Finnair's strategy development, the authors consider that Finnair's success is influenced by executives' experience. Furthermore, some executives currently own a considerable number of shares which might

also affect their commitment towards creating shareholder values (Finnair - Annual Report, 2017).

2.2 Board of Directors

Table 1. Board of Directors – Finnair

Name	Year of Birth	Position/Role
Jouko Karvinen	1957	Chairman since 2017 Member since 2016
Colm Barrington	1946	Vice chairman and Member since 2017
Mengmeng Du	1980	Member since 2017
Maija-Liisa Friman	1952	Member since 2012
Jussi Itävuori	1955	Member since 2012
Jonas Mårtensson	1977	Member since 2017
Jaana Tuominen	1960	Member since 2014

Source: Own illustration adapted from Finnair Annual Report (2017)

Finnair's board of directors are elected during the Annual General Meeting (AGM). According to the Articles of Association (AOA)¹, the board should include a chairman and four to seven other members. Currently, Finnair's board of directors consists of seven members, with Jouko Karvinen being the chairman since 2017. The primary purpose of the board of directors is representing the interest of Finnair's shareholders.

It is important to mention that Finnair sets diversity principles which apply to the selection of board members. As a result, the current board members are nationals of three different countries and speak four different languages. This represents diverse work experiences and women represent 43% of the board members. Nevertheless, Finnair has strict regulations with regards to ownership. None of the members or companies under their control holds any shares or any rights relating to shares in any company within Finnair group. This confirms the fact that Finnair aims to grow shareholders value (Finnair - Annual Report, 2018).

2.3 The Committees of the Board

As it was explained in subchapter 2.2, the board of directors holds high responsibility towards the way business is conducted within the entire

¹ AOA is a document that contains the purpose of the company as well as the duties and responsibilities of its members defined and recorded clearly (investopedia.com, 2018).

company. Hence some of the directors' delegate certain duties and responsibilities to committees of which they are a member. Currently, the company has the **audit committee** and the **compensation and nomination committee**, members of which are appointed by the board of directors. Each committee is required to report to the board on a regular basis, leaving the decision-making power on board's side (Finnair - Annual Report, 2017).

2.3.1 Audit Committee

Table 2. Audit Committee – Finnair

Name	Year of Birth	Position/Role
Maija-Liisa Friman	1952	Chairman since 2017
Colm Barrington	1946	Member since 2017
Mengmeng Du	1980	Member since 2017

Source: Own illustration adapted from Finnair Annual Report (2017)

Finnair's audit committee was elected during the AGM 2017, giving the lead to Maija-Liisa Friman followed by Colm Barrington and Mengmeng Du as new members of the committee. Finnair's audit committee assists the board of director by conducting accounting and financial reporting, overseeing internal control systems and the work of external auditors. Its main duties include monitoring the financial status of Finnair and assessing the group's compliance with laws and regulations.

2.3.2 Compensation and Nomination Committee

Table 3. Compensation and Nomination Committee – Finnair

Name	Year of Birth	Position/Role
Jussi Itävuori	1955	Chairman since 2017
Jonas Mårtensson	1977	Member since 2017
Jaana Tuominen	1960	Member since 2017

Source: Own illustration adapted from Finnair Annual Report (2017)

The compensation and nomination committee at Finnair is responsible for issues related to the compensation and benefits of the CEO and other senior management. The committee reviews and confirms the remunerations for the CEO and other top administration, then approves the payments of the incentives. The committee also deals with nominations of the CEO and other senior executives; it also does proposals

for awards like honorary decorations and titles. The board receives information from this committee on a regular basis related the topics that were just mentioned. (Finnair – Annual Report, 2017)

3 THE EVOLVEMENT OF FINNAIR

This chapter presents an overview of Finnair’s history with regards to its growth. The authors state that the country of Finland has gone through many difficult times until it became independent. These events had an impact on the way the economy of the country was shaped. Hence, the authors will present the evolvement of Finnair in two stages: the early one when the name “Finnair” did not exist, but the company operated and after Finnair was officially named and grew into a leading airline.

The history of Finnair starts with Aero being founded in November 1923 by Consul Bruno Lucander, Gustaf Snellman, and Fritiof Ahman. At that time the company was operated under Aero OY so basically its current name did not exist. In 1924, Aero received its first aircraft, a German-made Junkers F 13 and at that time there were no commercial airfields in Finland. Its first commercial flight was carrying 162 kilos of mail from Helsinki to Tallinn. Later, it started operating flights from Helsinki to Stockholm, and during its first year, Aero carried 269 passengers (Çalıyurt & Yüksel, 2017).



Figure 2. Aero using the name Finnish Air Lines on its fleet livery in 1947

Source: Finnair official website (2018)

The Winter War (1939-40) significantly impacted the operations of Aero because during the wartime the military control took over the civil aviation. Since air routes were closed and fuel was scarce, Aero was forced to operate temporarily from Vaasa and later from Pori, two Finnish cities

with advantageous geographical location. After the war in 1946, the Finnish government changed the legal structure of the company by acquiring a majority holding in Aero, which has not changed since then. The first time Aero started using the name Finnish Air Lines was in 1947. (Finnair, 2018).

The company started to shape its structure into a real airline in 1949 when it became a member of the International Air Transport Association (IATA) and received the official airline code AY. The number of passengers increased to more than 100,000 during the Helsinki Olympic games in 1952, the same year the Helsinki Airport was opened. Finnair received its official name in 1953, and afterward, it started growing through new air routes.

Finnair became aware of innovation and air route expansion; therefore during 1964 and 1967, it acquired several new aircraft in response to the expanding route network. One year later, Finnair reached one million passengers for the first time, meanwhile proving the successful expanding strategy. During the expansion period, Finnair implemented a new strategy which included flights to other continents. During 1970 and 2000 Finnair had a tremendous expansion with flights to New York via Copenhagen, direct flights to Bangkok, Tokyo and Beijing. In 1983 Finnair was the only airline to offer direct flights between Western Europe and Japan (Finnair, 2018). This expansion would not be possible without continuous innovation and investment in its fleet. In 1986, Finnair was the first airline to offer calls from the aircraft to anywhere in the world, and the same year it received its first Airbus. As part of innovation, Finnair's website was operating since 1995, making it a leading airline with regards to services. Lastly, Finnair was granted full membership in the Oneworld Alliance in 1999 (Finnair, 2018).

As it was mentioned before, Finnair's Asian strategy dates back in the 80ties; there are few reasons related to that. According to a report from IATA, (2017) the airline industry is highly influenced by macro events like terrorism. This is also proven by the fact in 2001 Finnair shifted its focus towards Asia due to the decreasing demand for air travel after the terrorist attacks in the US. After this point, Finnair was highly focused on the Asian traffic. Therefore, it started offering daily flights to Bangkok, direct flights to Shanghai making it the only Oneworld airline to provide this service. Meanwhile, in 2011 the company implemented a major restructuring and cost savings program to build a base for future growth. In 2014, Finnair reached 90 years of operations as a commercial airline, and by that time the restructuring and savings program was completed successfully. Today Finnair's fleet counts for more than 65 aircraft, most them being Airbuses. The fleet is the most modern in Europe with regards to in-flight experiences, services and operations (Finnair, 2018)

4 BUSINESS OVERVIEW

4.1 Structure

Finnair focuses on “its core business and businesses close to it” (Finnair - Annual Report, 2017). In addition to transportation services for passengers and cargo, Finnair offers package tours under its brands Aurinkomatkat-Suntours and Finnair Holiday. Finnair’s core business activities take place within its parent company, Finnair Plc. On the other hand, additional services such as travel services, catering, financial business and technical services are offered by wholly owned subsidiaries. Finnair’s Group has a total of 19 subsidiaries which are presented in Appendix 1.

4.1.1 Management Structure

As seen in Figure 3, the executive management comprises of eight functions, in which customer experience, operations and commercial are carried out by Finnair. The remaining functions, such as digitalization, people & culture, finance & control, legal affairs, communications and corporate responsibility, are shared with Finnair’s group administration aiming to create synergy.

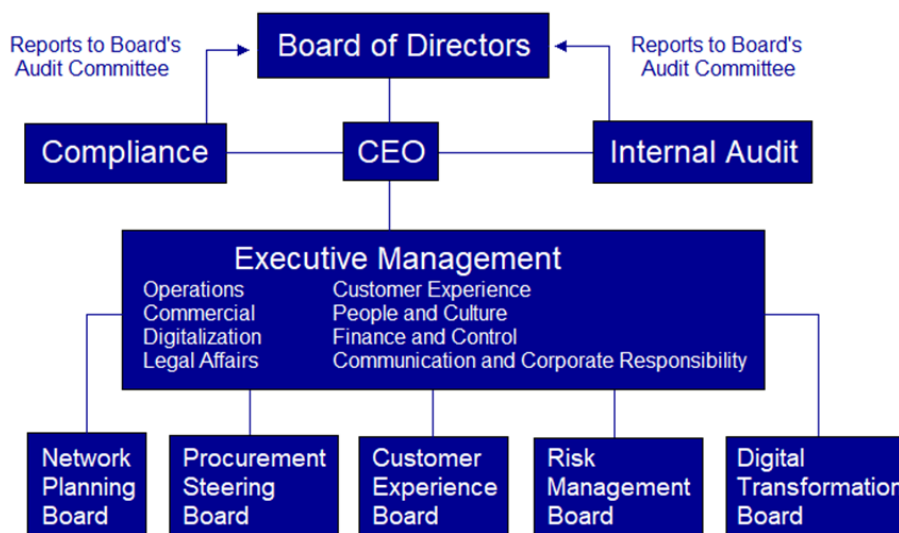


Figure 3. Finnair’s management structure

Source: Own illustration adapted from Finnair Annual report (2017)

The executive board assigns its authority and responsibility to five of its subsets. One of the subsets is network planning board which plans Finnair’s traffic schedule and proposes fleet and network strategy. Another subset is responsible for procurement process and Finnair’s procurement guidelines. The third one customer experience board makes decisions that concern customer experience. Risk management steering board is the

fourth subset, and it implements risk measures and makes risk assessments. Lastly, digital transformation board's primary task is to plan and execute digital strategy and technology projects.

4.2 Strategy

Finnair's core business relies on carrying passengers and cargo between Asia and Europe. The company considers as its mission to provide the smoothest, fastest connections in the northern hemisphere. Helsinki's favourable geographical position allows Finnair's hub – Vantaa Airport in Helsinki – to be the perfect connecting point for travellers to any of their final destinations in Europe or Asia.

Finnair's vision is to provide a unique Nordic experience to its customers. According to Finnair, this experience implies "the fresh interior of their flagship Airbus A350 XWB, business class menus emphasizing the Nordic roots, the user-friendly digital services and the punctuality and reliability of their operations" (Finnair, 2017).

Sustainability plays a critical role in Finnair's strategy and business performance. The airline believes that there is a rising demand for sustainable practices in the aviation industry. Consequently, Finnair engages in activities set by the United Nations with the goal of realizing sustainable development.

4.2.1 Operating Environment

Finnair closely observes the environment in which it operates because the aviation industry is heavily influenced by external factors. The airline business is cyclical, and revenue fluctuates during the year, from economic upswing to downturn periods, from holiday to business seasons.

Furthermore, the industry is getting more competitive with pressures from competitors' behaviours and the increasing customer's purchasing power. As an illustration, in Finnair's short-haul point-to-point traffic within Europe where competition is mainly driven by price, airlines, which have the lowest cost structures, are strong players. Whereas in long-haul transfer traffic between Europe and Asia, customers appreciate quality service with comfort and smooth transfers. As in today's world, air travel is becoming more and more common, flights are getting more affordable, and customers are continually asking for more values.

Consequently, travellers are looking for the optimal price-performance ratio. Airlines typically have low margin, high fixed costs and high capital expenditure due to substantial investments. These investments include fleet investment that needs to be made at a very early stage before price-performance conscious customers make their purchase as the process can

take years. The fierce competition also resulted in more cooperation and consolidation in the industry to enhance profitability, capacity discipline and to expand the network.

4.2.2 Megatrends and Finnair's Strategic Focus Areas

Since 2013, Finnair has identified and examined four megatrends that deeply affect its business and developed a proper strategy in response. These megatrends include a shift in economic and political power to Asia, urbanization, technological development and sustainability. Hence, Finnair focuses on four strategic areas: profitable growth, customer experiences, people experiences and transformation.

4.2.2.1. Profitable Growth

In order to grow profitably and sustainably, Finnair relies on its modern wide-body fleet Airbus A350 XWB aircraft which are believed to reduce the fuel costs by 25%. By 2022, Finnair will have a total of 27 aircraft for its wide-body fleet needed for long-haul flights. As for the short-haul network, the company also added seven more new narrow-body aircraft. Investing new fleets helps Finnair to enhance productivity, capacity growth and cost position by reducing its unit costs.

To accelerate growth, Finnair focuses on the selected global market with only 30 cities of which many are in Asia. The company aims to continue developing in both Asia and North America. However, the current ratio of traffic between two markets will be kept the same. From the airline's perspective, China, Northeast and Southeast Asia are among the most potential for long-term market development. Hence, it is expected that Finnair will continue to add new air routes and increase the frequency of flights to megacities in the mentioned markets. Finnair's growth strategy also relies on additional services, which allow customization according to customer's needs, package tours and air cargo. In 2017, Finnair established its own COOL Nordic Cargo Terminal which is the most modern air cargo terminal in Europe. In contrast to typical bulk cargo, the new terminal handles specialty cargo such as pharmaceuticals and perishables.

4.2.2.2. Customer Experience

Customer experience is crucial to any service provider and plays a critical role in differentiating from competitors. The investment in new modern fleet and custom-made services along with digital solutions help Finnair to enhance customer experiences. Experience enhancement process takes place at various stages of customer's journey, from online interaction through social media channels to the airport and in-flight experiences. Moreover, Finnair aims to provide even more personalized service by increasingly utilizing customer analytics.

4.2.2.3. People Experience

Behind the success of Finnair is its people. “Excellent employee experience is a prerequisite for customer experience” (Finnair, 2018). Finnair focuses on the wellbeing of its personnel to ensure that they feel inspired and engaged and to reduce the amount of sick leave. Furthermore, Finnair provides training and coaching for its people to help them develop fundamental competencies in service management and digitalization. Additionally, strategic personnel planning including attracting new talents and retaining the right people has a significant impact on Finnair’s growth.

4.2.2.4. Transformation

Finnair is taking a big step in digital transformation. The company invested in digital services to meet the rising demand of customers for online services. The digital products and services include Finnair.com, Mobile App, Nordic Sky and SkyPay. Finnair implemented an omnichannel strategy to boost ancillary revenue which allows customers to book flights and purchase additional services via many channels. For instance, thanks to Finnair’s partnership with Skyscanner, customers can now complete all the booking procedures without having to leave the site. Consequently, at the end of 2017, ancillary and retail services is the fastest growing product in term of revenue with a growth rate of 15.2% comparing to last year’s result.

In summary, Finnair’s strategic focus areas are closely related and interdependent. It can be seen that customer experience lies at heart of Finnair. The company aims to provide customers with comfort and smooth traveling, customized services that are boosted by digital transformation. Customer behaviours and activities on digital platforms are recorded and analysed to present customers with personalized services according to their preferences. Digital transformation plays a crucial role in generating revenue that undoubtedly contributes to Finnair’s profitable growth. On the other hand, by improving people experiences, Finnair ameliorates employee’s satisfaction and working environment, to delivers better performance, that in a way helps to enhance customer experiences.

4.3 Value creation & Performance assessment

Finnair creates values for a shareholder with its accelerated growth strategy. In 2017, the strategy generated an operating result of € 224.8 million which is nearly doubled comparing to previous year’s result of € 116.2 million. Return on capital employed (ROCE) witnessed a considerable rise and reached 13.6% that far exceeds the stated objective of 7%. The company’s strong financial performance is also reflected in its share price which experienced 310% increase during the year 2017 on the Nasdaq Helsinki stock exchange.

Finnair creates value not only for shareholders but also for customers and its people by strengthening their experiences. Key Performance Indicators (KPIs) for customers experiences and people experiences are customer satisfaction Net Promoter Score (NPS). As mentioned, customer experiences are enhanced at various stages. As a result, NPS rose from 43% in 2016 to 47% in 2017. In term of punctuality, Finnair failed to achieve the target of 89% with only 83.2% punctuality.

In conclusion, Finnair was able to create values for its stakeholders and the community by implementing and concentrating on its strategic focus areas. On the one hand, most objectives for KPIs were achieved. On the other hand, in order to provide better experiences for customers, minor improvements in punctuality and work-related accidents could be made.

5 CORPORATE RESPONSIBILITY

Corporate Social Responsibility has become an inevitable part of the annual reporting in the airline industry. It happened mainly because of strict regulation in the industry and the criticism for topics like CO2 emission. As a result, there has been positive responsiveness from the airlines. Airlines focused on reducing jet fuel consumption and modernization of fleets regarding the new-efficiency approaches. It has been proven scientifically that aviation is a significant contributor of emissions in the atmosphere. According to the Air Transport Action Group (ATAG), 2% of all CO2 emissions are produced by the global aviation industry, just in 2015 worldwide flights produced 781 million tons of CO2. On the other hand, around 62.7 million jobs are supported in aviation and traveling contributes towards the enhancement of multicultural societies. Based on this evidence currently, it seems fair to suggest that the airline industry is an excellent source of economic and social benefits. Still, measures should be taken to neutralize its harmful impact towards the society.

This is just a brief description of how important is to recognize the impact of aviation on the society. The following subchapters will present Finnair's approach to the corporate responsibility issues and the effect they had on its brand image.

5.1 Economic responsibility

As mentioned previously, Finnair significantly impacts the Finnish economy. Aviation counts for 3-5 % of Finland's GDP, this is proved by Finnair's effective Asian strategy contributing with an estimated 1-2 billion euros. Therefore, the airline aims to create a sustainable economy by generating profits through and still maintaining its harmony with the

environment and society. It also focuses on maintaining its relationships with local suppliers, hence its majority of sourcing is located near to the Helsinki Airport area. Just in 2017, Finnish suppliers provided 39% of Finnair's goods and services. Even when it comes to the major cost in the industry – the jet fuel, Finnair's global fuel purchases were refined locally.

Table 4. Direct economic value distributed

€ million	2017	2016	2015	2014
Cash paid outside the company, materials and services, other operating expenses	1901.40	1939.00	1802.30	1905.40
Payments to personnel	374.00	341.60	335.60	344.30
Payments made to shareholders and loan providers				
• Dividend	12.80	0.00	0.00	0.00
• Interest and other financial expenses	13.40	11.50	9.70	26.90
Payments to governments	7.50	8.10	9.60	7.60
Donations and other charitable payments	n/a	n/a	n/a	n/a
Distributed, total	2'309.10	2'300.20	2'157.20	2'284.20

Source: Own illustration adapted from Finnair's Annual report (2017)

The table above presents the economic value distributed by Finnair from the year 2014 to 2017. It shows that on average Finnair paid 8.2 million euros as income taxes, social security payments and taxes on property to the Finnish government. This does not include the 60 million euros traffic charges and rents paid to Finavia which is an airport operator 100% owned by the government (Finnair, 2017). One can assume that most of the generated revenue remains in Finland due to the government's decision-making power.

5.2 Social responsibility

According to ACI's Europe² analysis on competition in the European aviation sector, the competition in the airline business in Europe resulted in being ferocious. Hence the authors assume that employees play a crucial role towards creating added value for customers. As an employer, Finnair must ensure decent working conditions and provide professional development for its employees. As a supplier, the company has a social responsibility to provide products and services that ensure consumer satisfaction and safety.

By the end of 2017, Finnair had 5,444 active employees due to the employment of 1,051 new employees that year, the graph is disclosed in Appendix 2. Of that, 55.5% of Finnair staff are women and 44,5% men.

² ACI EUROPE is the only worldwide professional association of airport operators (www.aci-europe.org/)

When it comes to the employee training on occupational safety and health, Finnair spent 322,580 hours in training in total just during 2017, on average it is about 57 hours of training per employee (Finnair – Annual Report, 2017). This shows that Finnair complies with industry trends like taking care of your employees, women's being equally treated in the workplace and the avoidance of discrimination. At Finnair, the overall customer experience is highly influenced by the monthly customer feedback received and reported. On a survey regarding flight experiences, it was seen that Finnair maintained its overall customer satisfaction close to previous levels. Of all respondents, 77% of them rated 8 to 10 on a scale of 1 to 10, showing a high satisfaction with regards to their experiences with Finnair. Results are disclosed in Appendix 3.

5.3 Environmental responsibility

Finnair's operations are by nature susceptible to the environment due to the use of jet fuel as the only source of fuel consumption. Since Finnair's strategy implies growth, the consumption of jet fuel will grow proportionately. In general, 95% of an airline's emissions derive from the aircraft's engine while flying. Therefore, it is vital for airlines to increase the fuel efficiency. This implies substantial financial investments towards the modernization of the fleet, due to the fuel efficiency provided by the next-generation type of airplanes.

In 2007 Finnair made an order for 19 Airbus A350 XWB aircraft, which was one of the most significant investments in its history and highly risky for its future financial circumstances. Since 2015, the company has been replacing its Airbus A340 wide-body aircraft with next-generation Airbus A350 XWB which on average are 25% more fuel-efficient, offer 20% more cargo and passenger capacity. These investments can be seen as a win-win deal for Finnair. By operating in a more environmental-friendly way, the airline reduces its fuel costs due to the increase in fuel efficiency. It is estimated that a 2% increase in fuel efficiency in Finnair's operations leads to 15 million kg of fuel being saved, corresponding to a reduction of 50 million kg of carbon dioxide emissions CO₂. (Finnair – Sustainability, 2017). According to Kuisma (2017), the geographical location of Helsinki airport does not provide just the shortest route between Europe and Asia but also the most ecological one. It is estimated that flying from Berlin via Helsinki to Tokyo produces 84 kg less CO₂ emissions per passenger than flying via Frankfurt.

In conclusion to this chapter, the authors state that Finnair is aware of its growth in air traffic and the growth of waste and fuel consumption. Therefore, the airline set milestones regarding its environmental responsibility. Since 2016, Finnair has been part of a nation-wide energy efficiency agreement with the ministry of economic affairs. The agreement implies that Finnair must reduce its energy consumption by 7% in a period of seven years starting from 2017. What's more, Finnair has strong

cooperation with local partners and the Finnish ministry of transport and communications, for the development of biofuel as a source of fuel consumption in the aviation industry.

6 SALES ANALYSIS

This chapter presents a detailed analysis of sales from the year 2013 to 2017 based on Finnair's consolidated financial statements. The purpose of this chapter is to show Finnair's market focus, whether the Asia strategy is working and to identify the potential driver behind Finnair's growth. The authors will focus primarily on the Asian, European and the domestic market because of their significant impact on Finnair's revenue. Since Finnair operates in domestic and international markets, the authors will present sales based on revenues generated by traffic area and by product.

6.1 Revenue by traffic area

Apart from its domestic market, Finnair's destination map includes flights to over 100 European cities, 19 Asian, 7 North Atlantic and the unallocated part. If measured by the number of destinations one can say that Europe is the most prominent market for Finnair, but since the focus is on revenues generated by traffic area the graph below shows a different story. The raw data for the graph is disclosed in Appendix 4.

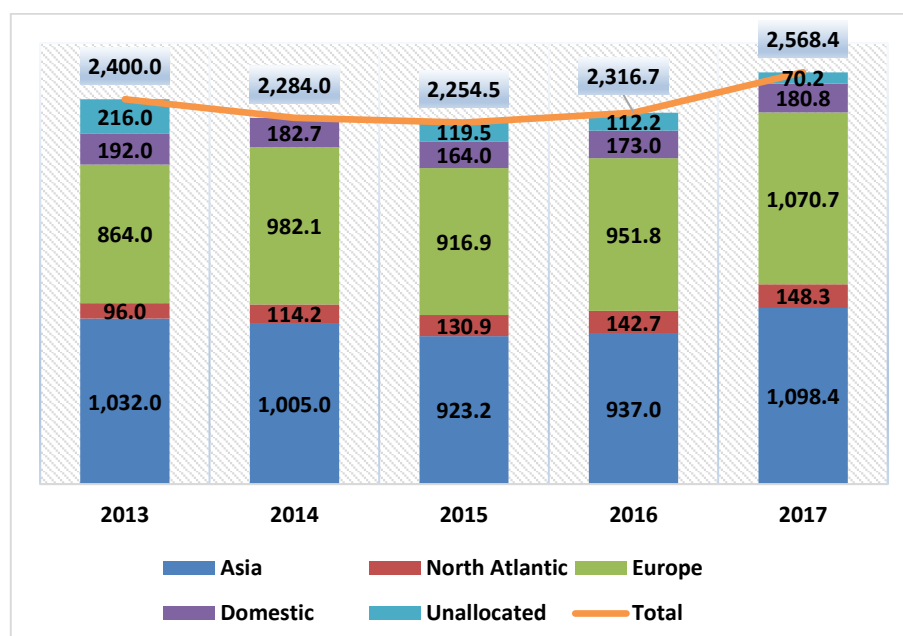


Figure 4. Revenue by traffic area in € million

Source: Own illustration adapted from Finnair – Annual reports 2013 to 2017

The results in Figure 4 provide confirmatory evidence that Finnair's biggest market is Asia, followed by Europe, then the domestic market and lastly the North Atlantic area. As for the unallocated market, it is the smallest market and covers places where Finnair flies infrequently, but still generates a modest revenue. Percentage-wise it is evident that on average the Asian area counts for 42.2% of Finnair's income, followed by Europe with 40.5%, the domestic market making 7.6% and lastly the North Atlantic with 5.4% and the unallocated market with 5.5%. The graph is disclosed in Appendix 4.

According to the Centre For Aviation (2014), there is a high positive correlation (0.7) between the GDP of a country and its increase in air travel demand (the graph is disclosed in Appendix 6). Based on this evidence, it seems fair to suggest that a higher income level is associated with a higher level of air travel. On these grounds, the authors in accordance with the World Bank data for the GDP growth rates of traffic areas where Finnair operates, found out that from 2013 to 2016 there had been a decline in the GDP growth of these areas. Hence it is assumed that this was one the reason for the decrease in revenues from 2014 to 2016. Another reason for this decline was also the terrorist attacks, especially during 2015/16 the air traffic from Asia to European destinations was low.

Notice that the Asian revenues beat the European ones even though there are more destinations offered in for Europe. And this can be justified by the continuous growth in the air traffic between Europe and Asia and Finnair's quick responsiveness. Another reason is the high price for long-haul to Asia. Also, the demand for flights to Asia has been higher, respectively China. Hence most of Finnair's flights to Asia include major Chinese cities, which increases Finnair's market share in Europe to Asia traffic up to 5.9%.

A recent report by IATA (2016) claims a growth rate of 7% in the global passenger traffic, where Asia counted for 35% of the worldwide share. Just in Asia, the passenger traffic grew by 8.1%. Therefore, the authors believe that the increase in Asian air traffic was the main factor for Finnair's high revenue in 2017. To meet this demand, Finnair introduced the A350 aircraft in Asian traffic and increased the flight frequency on the Tokyo and Hong Kong air routes during summer and the routes to Bangkok, Hong Kong and Singapore during the winter. So, during summer 2017 Finnair offered 87 flights to Asia per week. With regards to the routes expansion, it depends on which alliance the airline is a member of and the type of joint business it takes part. But the importance of alliance membership will be covered explicitly in the upcoming chapters.

The European passenger traffic has been growing steadily at a rate of 6.5% for the past five years, and Finnair's capacity for this area grew proportionately. In general, the touristic demand in Turkey faced a dramatic shift to Western Europe, especially to the touristic part of Croatia

and Greece. To meet this demand, Finnair added a new A321 aircraft for European destinations and opened new routes to Ibiza, Korfu, and Reykjavik.

The authors noticed that in general Finnair offers flights during summer times in vocational places, which implies the idea of following the tourism trend. Whereas the North Atlantic traffic grew by 8% for the past five years and Finnair increased its capacity by focusing on routes to Miami and frequent flights to Chicago. The trend of increase/decrease in some passengers carried by Finnair can also be seen in the graph below.

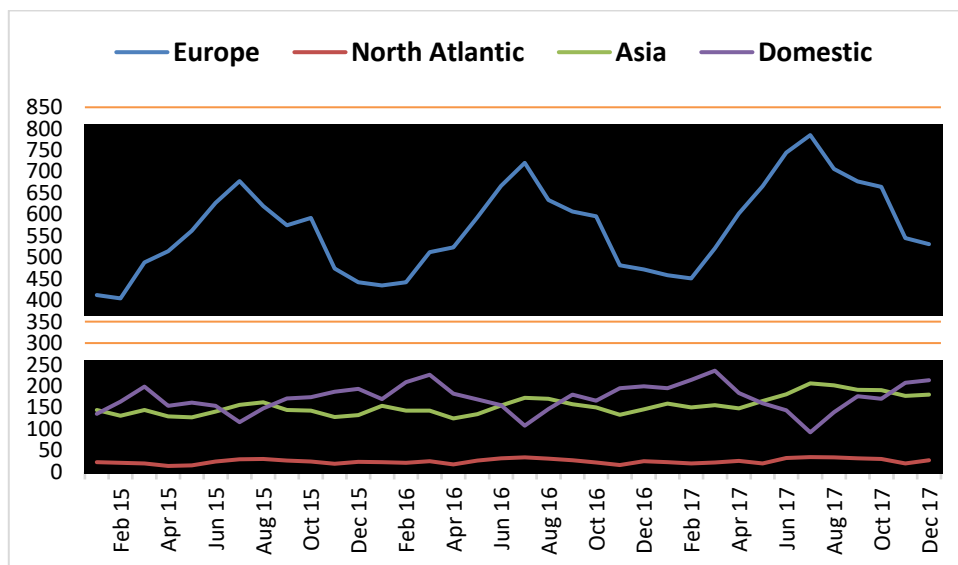


Figure 5. Monthly passenger traffic growth by market 2015 – 2017 (thousands)

Source: Own illustration adapted from Finnair – Annual report 2015 to 2017

A closer look at the data indicates that there is a trend that during summer time the European traffic increases significantly due to the holiday seasons which in a way justifies the reason why Finnair opens new air routes to specific European destinations during summer. The raw data for the graph is disclosed in Appendix 5.

From 2012 to 2014 the Finnish economy was weak, and this was also reflected in demand for passenger traffic, but since then, a moderate increase in both revenues and number of passengers carried is evident. As the graph shows, there is also a trend in passenger traffic for the domestic market, where during the winter times Finnish people travel more.

Finnair's applies a very efficient strategy to this sort of trend in traveling for the domestic market. Usually, it increases its capacity for the winter season for flights to Lapland which is known for its touristic attractiveness also as the house of Santa Claus.

To see the way how the number of passengers carried by Finnair has developed during the last five years the authors broke the data into the yearly basis for each traffic area.

Table 5. Yearly passengers carried by Finnair from 2013 to 2017 (thousands)

Year	Europe	North Atlantic	Asia	Domestic	Total
2013	5'719.20	238.3	1'707.80	1'604.20	9'269.50
2014	6'004.20	221	1'691.00	1'713.30	9'629.50
2015	6'388.40	267.9	1'682.10	1'955.20	10'293.60
2016	6'681.90	296.5	1'782.50	2'105.70	10'866.70
2017	7'352.40	318.1	2'105.00	2'129.10	11'904.60
Average	6'429.22	268.36	1'793.68	1'901.50	10'392.78

Source: Own illustration adapted from Finnair – Annual report 2013 to 2017

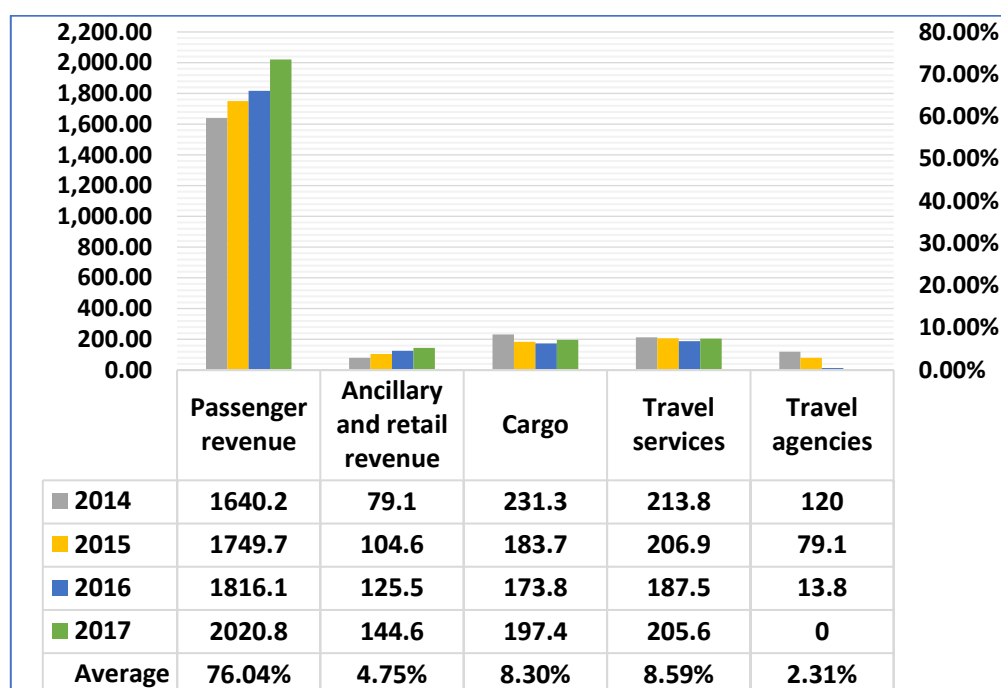
The data yielded by this table provide strong evidence that the number of passengers Finnair carries has been increasing year to year, especially during 2017 where Finnair reached a record number of 11.9 million passengers. A closer look at the data indicates that Finnair carries 6.5 million passengers per year from the European market, followed by the domestic one with 1.9 million, the Asian market surprisingly with roughly 1.8 million and the North Atlantic market having the smallest amount of 268 thousand passengers. The authors state that the small number of passengers coming from the Asian is so modest compared to the European, but still leads the group by revenues it generates. Whereas, the domestic market shows that one-third of the population uses air travel within the Finnish borders. Even though there is not available data with regards to passengers that fly to Europe through Finland, the authors believe that a major part of the European passengers belongs to the Asian market.

6.2 Revenue by product

This subchapter presents an analysis of sales by product by focusing on sales coming from passengers (tickets sold), ancillary and retail revenue, cargo, travel services and travel agencies. Due to missing data, the focus will be only on the year 2014 to 2017. Moreover, the authors assume that this part of the thesis will help to understand the disproportion in passenger traffic revenue and contribute towards understanding the most profitable area of Finnair's business.

The graph below is an illustration of products consisting sales for the year 2014 to 2017. Notice that the average column shows each product category as a percentage of revenues for the chosen period. The raw data for the graph is disclosed in Appendix 7.

Table 6. Revenue by product in € million



Source: Own illustration adapted from Finnair – Annual report 2014 to 2017

On average Finnair generates most of its revenues (76%) by selling tickets and there has been a continuous increase year to year. In cargo, we can see a trend of decline due to persistent weak cargo demand and the overcapacity that captured the whole Asia and Europe traffic. This means that the actual cargo traffic was less than initially forecasted. Knowing that over 70% of cargo carried by Finnair belongs is flown in Asian traffic, the authors assume this to be a reason for the decline in cargo revenues. The ancillary revenues have almost doubled in a period of just four years, which shows further prospects for development, but this grows proportionately with growth in a number of passengers flying. The travel services, which cover anything else offered by Finnair that is not covered by the other product categories, were very stable and counted for 8.6% of the total revenue. Whereas the revenues generated by travel agencies have been decreasing dramatically and the agencies were sold at the end of 2016, meaning that Finnair does not have any travel agency operations anymore. Starting with the passenger revenue, it is by far the most important one for Finnair. The authors assume this to be the reason for the late investments Finnair has made in developing the sales channels. The investments include the agreement with a Chinese travel agency Alitrip (owned by Alibaba), that brought approximately 3,000 Chinese tourists to Lapland in winter 2017 and expected to bring over 10,000 tourists next winter.

On average, sales coming from digital platforms count for one-quarter of Finnair total sales. Moreover, as part of its digital transformation, Finnair teamed up with Alipay for in-flight shopping and ticket payments, in all

flights to and from China. According to Business Finland (2018), last year Finland had 8.3 million foreign tourists. Chinese tourists were the largest group and spent on average € 1,200 each during their visit to Finland. Then it is evident that a state-owned company like Finnair will try to maximize its utility by focusing on this group of customers. In order to achieve this, Finnair concentrated on developing its digital platform, by improving its mobile application which had an enormous impact on extra ancillary revenues. By having people that use Finnair's digital platform, the airline uses these data for predictive analytics which according to IATA, (2016) has become a significant factor towards understanding customer behavior. Moreover, Jukka Lahtinen - route planning manager at Finnair – in an interview said that Finnair's strategy is built on precise analytics and it is crucial to understand the passengers' preferences and be able to compete with all other paths and connections. The interview link can be found on the reference page 94, (SAS, 2017). All things considered, it seems reasonable to assume that Finnair has shifted from being a product-oriented airline which is a traditional strategy for airlines, more towards customer oriented, which implies offering services based on customer needs.

When it comes to cargo, Finnair carried bulk freight since its inception, and there has been a noticeable decline in cargo demand over the past years, except the special cargo demand, which consists of dangerous goods, perishables and pharmaceuticals. According to UN, 2018 Asia counts for 60% of world's population and has the highest occurrence of tropical disease. If the demand for pharmaceuticals is increasing and if Finnair offers the shortest route to Asia, then this is a growth opportunity for Finnair. As a response to this demand and to differentiate itself, Finnair invested € 80 million in a new cargo terminal in Helsinki – COOL Nordic Cargo terminal- which partly uses solar energy, increases cargo volumes and offers best conditions for special cargo.

In the airline industry, ancillary revenue is generated through sales to passengers as a part of the traveling experience, like seat reservations, onboard food and services (IATA, 2017). As it was illustrated in the graph above, the ancillary revenues at Finnair grew at a rate of 22%, and out of these revenues, 30% was generated through digital channels.

So, based on this the authors state that it's in Finnair's interest to invest in digital transformation and enable customers the possibility to tailor their trip according to their needs. The major payoff from this investment strategy is the ability to understand customer behavior.

In response to the objectives set at the beginning of this chapter, the authors conclude that Finnair is primarily focused in the Asian market and is trying to maximize its utility by offering the most suitable way of traveling by airplane. And this strategy has been very successful and continues paying itself with all the direct economic value it brings to Finnair and then the indirect one to Finland. There seems to be no compelling

reason to argue that the digital transformation ensures a better understanding of customer needs. Meanwhile, predictive analytics increase sales efficiency and provide the grounds for cost reduction by applying the suitable aircraft in the right air route. Given the insights from this analysis, the authors state that the driver behind the growth of Finnair has been its ability to increase the traffic revenue and the continuous digital transformation in a broad context.

7 BCG MATRIX

After having analyzed the sales thoroughly, in this chapter, the authors will take a closer look at the performance of each product from Finnair in different markets. These products include Business Class flight, Economy Class flight, Finnair Cargo, Aurinkomatka – Suntours and Finnair Holidays. The authors will focus on two critical dimensions such as market share and market growth to utilize the BCG matrix for Finnair's four main markets: Finland, Europe, Asia and North America.

7.1 BCG Matrix in Finland

		Market Share	
		High	Low
Market Growth	High	Star <ul style="list-style-type: none"> • Finnair Cargo • Business Class • Economy Class 	Question Mark
	Low	Cash Cow	Dog

Figure 6. Finnair – BCG Matrix in Domestic market

Source: Own illustration

In the domestic market, Finnair is the dominant player. As a national airline, it accounts for more than 50% of the domestic air traffic. This can be illustrated by the graph below that presents the number of passengers transported in Finnish airports and by Finnair in the last five years.

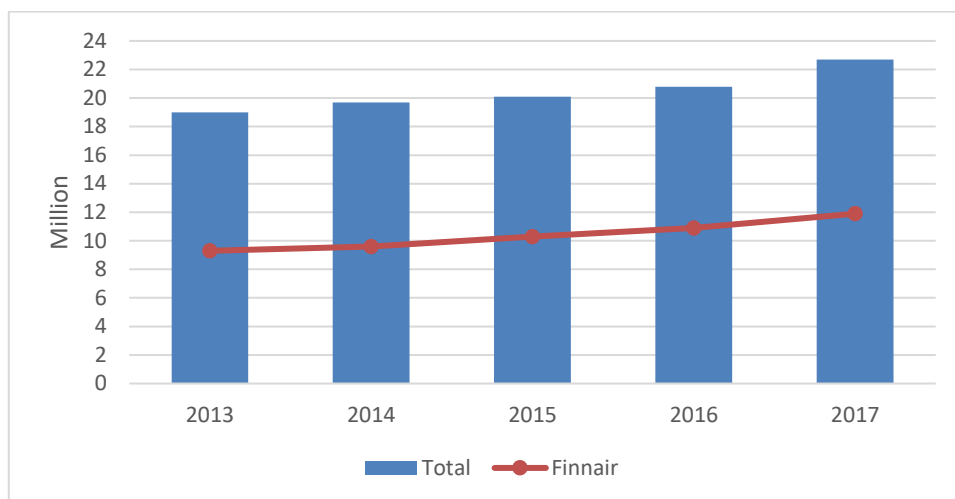


Figure 7. Total travellers transported in Finnish airports and by Finnair 2013 – 2017

Source: Own illustration adapted from Finavia and Finnair Traffic Performance in 2013 – 2017

It can also be seen from the table that there is an overall increasing trend as more and more Finns travel every year. The market has been experienced constant solid growth at CAGR³ 3.62% in the last five years (the calculation is disclosed in Appendix 12). Hence, the economy class and business class with high market share belong to the cash cow position. Since Finnair is mainly focused on improving the business by offering a unique Nordic traveling experience, the authors consider the business class to be put in a slightly higher position because there is more potential for market growth in that segment.

In contrast, the domestic cargo market gradually decreased over the years. As indicated in Finavia Annual Report, 2018 (disclosed in Appendix 13), the portion of domestic freight out of total freight transported kept getting smaller. However, it is surprising to see how much Finnair's market share plummeted last year. In 2016, Finnair carried more than one-third of total domestic air freight and mail, whereas, in 2017, the figure reduced to only one fourth.

Table 7. Domestic Air Cargo in Finland 2016 – 2017

Cargo (tons)	2017	2016	Changes
Finavia	2111	1796	17.54%
Finnair	920.8	1755.7	-47.55%
Finnair in %	43.62%	97.76%	-

Source: Own illustration adapted from Finavia and Finnair Traffic Performance in December 2017

³ Compound Annual Growth Rate

This can be explained by the grand opening of COOL Nordic Cargo Terminal which did not take place until November 2017. Therefore, only two months of operation were considered. Furthermore more, upon this grand opening, Finnair sold its former cargo Terminal in Vantaa Helsinki Airport to Finavia, which is the official Finnish Airport Operator. As a result, Finnair did not have its own cargo Terminal until the end of 2017. Inspire of the dramatic shrink, the authors believe that Finnair will regain its market share in 2018. Consequently, Finnair cargo is to be put in the Cash Cow Position. Aurinkomatka - Suntours and Finnair Holidays are travel agencies that offer package tours to customers whose departing location is in Finland. Therefore, it is safe to say that these tours are only provided to limited customers who are Finns and travellers within the country's border.

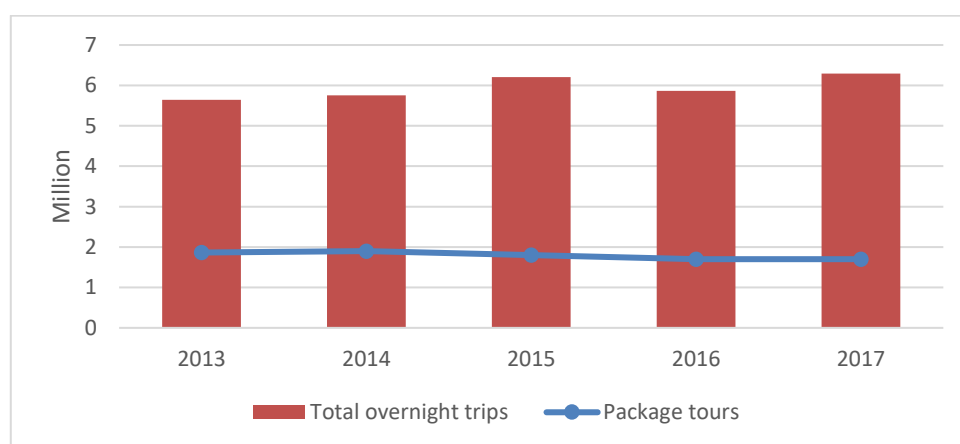


Figure 8. Leisure (overnight) trips abroad made by Finnish residents 2013 – 2017

Source Own illustration adapted from Statistics Finland – Finnish Travel 2013 – 2017

Although the total amount of trips went up at rate CAGR 2.2% within the period, package tours gradually decreased and eventually lost its market share. In this case, the package tours segment shrank at CAGR 1.8% over the last five years, therefore, indicating a market decline for Aurinkomatka - Suntours and Finnair Holidays. Nonetheless, the Aurinkomatka - Suntours was the biggest tour offering agency In Finland. As a result, Aurinkomatka - Suntours with high market share belongs to Stars position, while Finnair Holidays pertains to the question mark position.

7.2 BCG Matrix in Europe

In the European market, Finnair is considered to be a small player. This is mainly due to its geographical location which has isolated Finland from rest of Europe. It means that, unless customer's final destination is Finland, Finnair would not be their first choice for flying.

Firstly, European air traffic for passengers has a solid growth rate of CAGR 4.87% for the last five years. In this chapter, air traffic is measured in Revenue Passenger Kilometer which is calculated by multiplying the number of paying passengers with the distance they travel. This is one of the most relevant and crucial metrics to measure air traffic in the airline industry because it does not only consider the number of passengers but also the traveling distance

Table 8. Air traffic in passengers RPK (billion) in Europe 2013 – 2017

Passengers RPK	2013	2014	2015	2016	2017	CAGR
Total	1615.71	1709.42	1796.61	1893.62	2048.9	4.87%
Finnair	10.37	10.52	11.1	11.48	12.53	3.85%
Finnair's market share	0.64%	0.62%	0.62%	0.61%	0.61%	-

Source: Own illustration adapted from Finnair and IATA World Air Transport Statistics 2016

According to the table, with a very modest market share of approximately 0.6%, Finnair both business and economy class undoubtedly belong to the question mark position. Nevertheless, with the growing popularity of Lapland, which is a destination for tourists who wish to see Northern Lights, situating in Northern Finland, the authors expect that there will be more the man for traffic to Finland, hands increase Finnair market share. Secondly, according to Annual Analyses of the EU Air Transport Market 2016, air passenger traffic has risen rapidly in recent years, approximately at 5% in 2015, 2016 and at 8.5% in 2017. Hence, Finnair cargo can be put in the question mark position with a market share of around 0.3%. That said, with the grand opening of the new cargo terminal with the ability to handle specialty cargo, the authors expect that Finnair Cargo will take up more market share.

Table 9. Air Cargo traffic in Europe 2015 – 2016

Air Cargo (tons)	2015	2016	Change
Total	8'363'981	8'824'000	5.50%
Finnair	23'622	27'384	15.93%
Finnair's market share	0.28%	0.31%	-

Source: Own illustration adapted from Finnair and IATA World Air Transport Statistics 2016

Lastly, as mentioned above Aurinkomatka - Suntours and Finnair Holidays only offer services to limited domestic customers. For that reason, the authors believe that it is irrelevant to consider them in markets other than the domestic one.



Figure 9. Finnair – BCG Matrix in the European market

Source: Own illustration

7.3 BCG Matrix in Asia

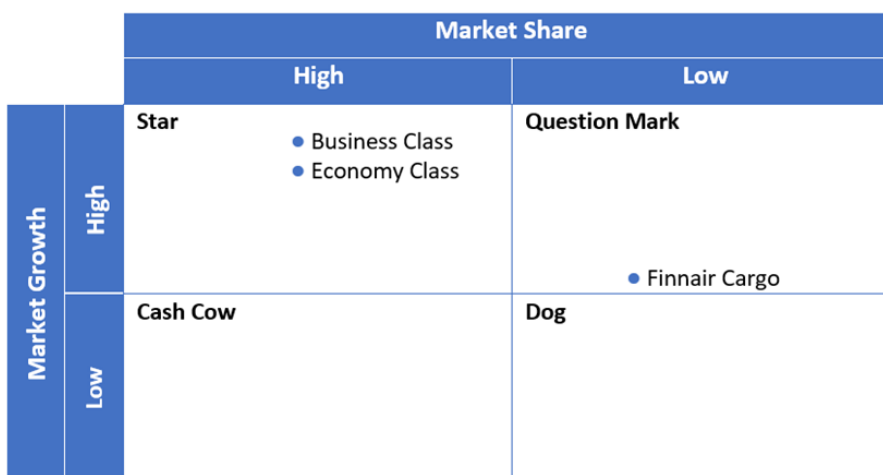


Figure 10. Finnair – BCG in the Asian market

Source: Own illustration

The Asian market has been the focus of Finnair for more than a decade. The geographical location that has isolated Finland with the rest of Europe turned out to be a competitive advantage when it comes to expanding the business to Asian countries. It is a well-known fact that the Asian market is proliferating in all segments because the demand for traveling keeps increasing. With regard to the annual report 2017, Finnair is reportedly holding a considerable market share of 5.9%. As a consequence, economy class and business class should be put in the Stars position. It is imperative to note that just measure is calculated only on the routes that Finnair operates because when taking into consideration the whole traffic between Asia and Europe, Finnair holds a much lower market share of only 2%. The calculation is demonstrated in the table below.

Table 10. Air traffic in passengers RPK between Europe and Asia

Passenger RPK (billion)	2016	2017	Change
Total	668.00	737.47	10.40%
Finnair	13.45	15.91	18.30%
Finnair's market share	2.01%	2.16%	-

Source: Own illustration adapted from Finnair and IATA World Air Transport Statistics 2016

The primary cause behind this is Finnair's inability to take full advantage of the fastest growing market in Asia which is China. The current Alliance that Finnair is participating Oneworld Alliance does not have any partners in China. This makes it hard for Finnair to compete with other airlines from SkyTeam Alliance whose several members are Chinese Airlines. On the other hand, Finnair is doing quite well in Japan as major Japanese Airline is part of Oneworld Alliance.

Table 11. Air cargo traffic between Europe and Asia

Air Cargo (tons)	2015	2016	Changes
Total	13'094'174.76	13'487'000.00	3.00%
Finnair	82'202.20	91'223.90	10.98%
Finnair's market share	0.63%	0.68%	

Source: Own illustration adapted from Finnair and IATA World Air Transport Statistics 2016

Compared to air passenger traffic, air cargo market between Europe and Asia is growing at a much slower pace. The measure above of Finnair's market share in this segment is very minor. Again, this figure would have been more significant if the calculation was done only on the routes that Finnair operates. To conclude, Finnair Cargo should be put in Question Mark position.

7.4 BCG Matrix in North America



Figure 11. Finnair – BCG Matrix in North American market

Source: Own illustration

North America is a relatively new market for Finnair. With only seven destinations, Finnair indeed accounts for a little portion of the market.

Table 12. Air traffic in passengers RPK between Europe and North America

Passengers RPK (billion)	2015	2016	Change
Total	468.32	480.50	2.60%
Finnair	1.86	2.14	14.91%
Finnair's market share	0.40%	0.45%	-

Source: Own illustration adapted from Finnair and IATA World Air Transport Statistics 2016.

Air passenger traffic between Europe and North America has increased at a pace which is much slower than it is between Europe and Asia. It can be said that the former market is more mature than the latter. However, there are still a lot of potentials for Finnair to grow in this market thanks to the cooperation with its American fellow members from Oneworld Alliance. For that reason, despite having put Finnair's economy and business class into the Question Mark position, the authors believe that Finnair will be able to gain more market share in the future.

Table 13. Air traffic between Europe and Asia

Air Cargo (tons)	2015	2016	Change
Total	5'692'307.70	5'772'000.00	1.40%
Finnair	8'089.40	8'741.80	8.06%
Finnair's market share	0.14%	0.15%	-

Source: Own illustration adapted from Finnair and IATA World Air Transport Statistics 2016.

Furthermore, Finnair Cargo falls into the same category with Finnair Economy and Business Class. Nonetheless, in term of both dimensions of market share and market growth, the figures are smaller.

7.5 Remarks in BCG Matrix

In conclusion, it is no surprise that almost all Finnair's products are categorized as Star in its domestic market. As for the Asian market, Finnair's main products which are economic class and business class manage to fall into Stars category. This shows that Finnair's long-standing focus on Asia has paid off and its strategy is working. However, the authors think that having no Chinese partners in its Oneworld Alliance is the most prominent obstacle for Finnair. Also, the newly established COOL Nordic Cargo Terminal is expected to boost Finnair Cargo to reach the Star category in Asia market.

Finnair's products in other markets such as North America and Europe all fall into the Question Mark position with low market share and relatively high market growth. As for European market, it is hard for Finnair to gain more market share due to its unfavourable geographical location and fierce competition with low-cost carriers. Whereas, with the support from American carrier members from Oneworld Alliance, Finnair has an excellent chance to expand the market in North America.

8 FINANCIAL ASSESSMENT OF FINNAIR

This chapter is concerned with the issue of Finnair's financial performance, its ability to make a profit and its ability to meet short and long-term financial obligation. The performance areas assessed in this chapter are the liquidity, profitability, solvency and efficiency of the firm. The authors choose current ratio as a measure for liquidity, the profitability indicator is the return on assets ratio (ROA), debt to equity ratio & long-term debt to equity ratio is a measure for the long-term solvency and efficiency is measured by revenue per employee ratio. The reason for conducting this financial assessment is due to the influence it has on the long-term survival of Finnair.

Calculations regarding the financial ratios are based on book values (figures) taken from the annual reports.

The authors state that Finnair early adopted the IFRS principles and continuously replaced the IAS with IFRS standards. In this bachelor thesis the changes in accounting principles will be considered as insignificant and will be neglected, but figures correspond to the adjustments made.

Table 14. Structure for the financial assessment of Finnair

Performance Areas	Indicator	Measurement
Profitability	Return on Asset (ROA)	Net Income / Assets
Liquidity	Current Ratio	(Current Assets - Inventories) / Current Liabilities
Solvency	R1: Debt to Equity Ratio R2: Long-term Debt to Equity	R1: Total Debt / Shareholder's Equity R2: Long-term Debt / Shareholder's Equity
Efficiency	Revenue/Employee Ratio	Total Revenue / Average number of employees

Source: Own illustration

8.1 Profitability

The return on asset ratio (ROA) is considered to be a reliable indicator to measure an airline's profitability because it indicates the ability to generate profits from total assets. Knowing that for an airline the bulk of revenues is generated primarily by its airplanes the ROA is an appropriate measure of profitability. The ROA ratio is calculated by dividing the net income by total assets per year. The raw data are disclosed in Appendix 8.

The authors argue that in the airline industry even a moderate (relatively low) ROA represents significant profits because of high exposure to intensive capital and substantial assets held by the airlines.

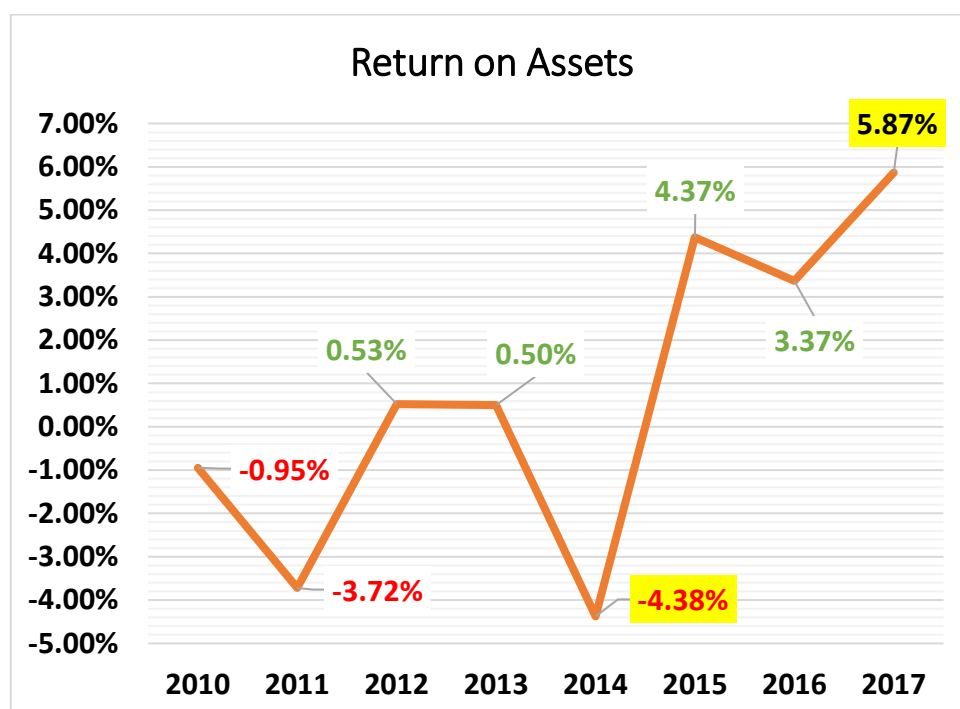


Figure 12. Return on Assets at Finnair (2010 - 2017)

Source: Own illustration adapted from Finnair – Annual report 2014 to 2017

As presented in Figure 12, profitability during 2010 was negatively affected due to the Iceland volcano that stopped traffic for a week and the long strike by Finnair's cabin staff; both resulted in direct losses of € 55 million. Whereas in 2011 high prices of fuel tripled the net income to a loss of 3.72%.

The curve takes a positive increase trend during 2012/13 due to an increase of 11% in turnover and successful completion of cost reduction program (100 € million). Whereas in 2014 the decline in unit revenue, weakness of the Finnish economy and restructuring of aviation services led Finnair to a significant loss of € 82.5 million. In the following years, a substantial increase in total assets and a 100% increase in positive net

income made the return on assets to increase significantly. The assets rise because Finnair received its new airplanes and sold-leased them back which generated even more cash. Furthermore, profitability was improved due to favourable exchange rates of income currencies and issuance of a hybrid bond of € 200 million. Having this strong financial position Finnair was able to support business development and investments which resulted in the highest positive net income achieved (€ 169.4 million). These results provide strong evidence that the efficiency of Finnair's management towards using its assets to generate earnings has fluctuated over the years, that said the last three years seem to be very promising.

8.2 Liquidity

The current ratio is a liquidity ratio that measures a firm's capability to meet short-term obligations. It measures the dollar amount of liquid assets available for each dollar of current liabilities (Investopedia, 2018). It consists of elements such as total current assets, inventories and total current liabilities. The authors assume that inventories are not easy to be sold in a short time or if that happens, are usually sold at a lower price than the book value. Therefore, to get an accurate current ratio the authors deducted the inventories from the total current assets then divided it by the total current liabilities. Furthermore, it is assumed that a ratio lower than 1 is not necessarily a sign of default or bankruptcy since airlines may also rely on other assets to pay its short-term liabilities.

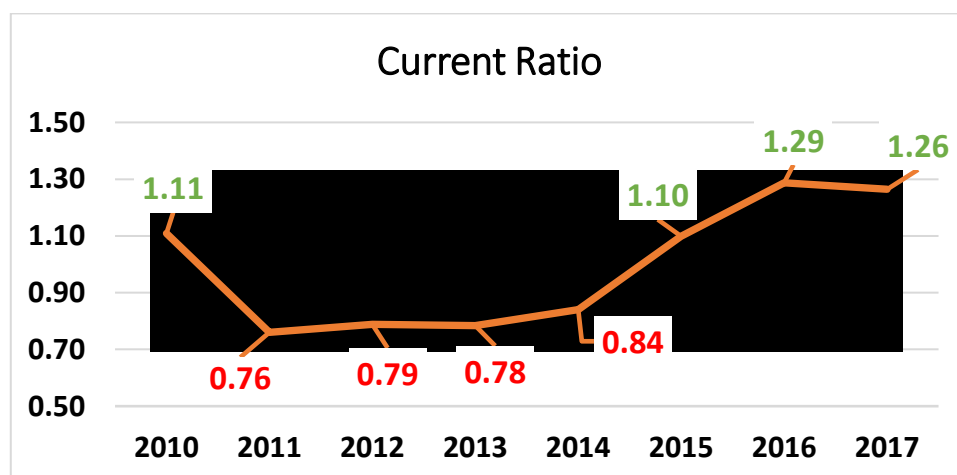


Figure 13. Current ratio at Finnair (2010 – 2017)

Source: Own illustration adapted from Finnair – Annual report 2014 to 2017

That data appears to suggest that over the course of these seven years Finnair's current ratio fluctuated between 0.76 and 1.29. With an average current ratio of 1, the authors state that Finnair was able to meet its short-term debt obligations during these seven years. The last three years have witnessed a vast growth in current assets. As a result, Finnair on average

converted 22% more assets into cash after all short-term debt obligations were paid, thus showing strong short-term liquidity. The authors assume that a reason for this strong liquidity position is due to the issuance of hybrid bonds and the sale-leaseback of new aircraft. These financial investments improved Finnair's liquidity so that in 2016 Finnair paid all its bank loans and at the end of 2017 the cash funds amounted to € 983.2 million. Overall the authors consider Finnair's liquidity as moderate which is ensured by its capital management team, in accordance with the IFRS standards. Calculations are disclosed in Appendix 9.

8.3 Solvency

The authors decided to measure Finnair's solvency with two financial metrics, the debt to equity ratio and the long-term debt to equity ratio. The D/E ratio is used to measure Finnair's financial leverage and to present the proportional distribution of debt and equity that Finnair uses to finance its assets.

The aim is to verify whether Finnair used a great amount of debt to grow to its current position which will be indicated by a high D/E or is the opposite. Whereas, the long-term debt to equity ratio aims to find out whether Finnair can meet its long-term debt obligations. Overall, this subchapter helps to realizing Finnair's long-term risk since it shows the investment made by investors and creditors. Calculations are disclosed in Appendix 10.

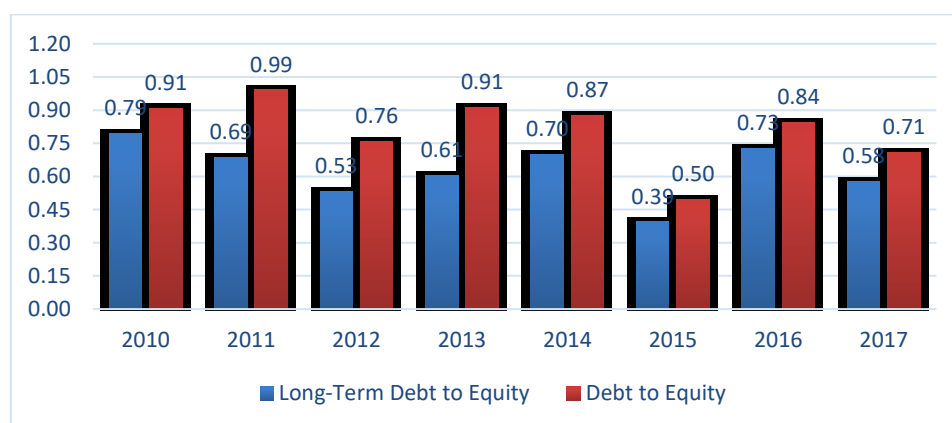


Figure 14. Solvency ratios at Finnair (2010 – 2017)

Source: Own illustration adapted from Finnair – Annual report 2014 to 2017

As illustrated in Figure 14, Finnair had some remarkable variation when it comes to the D/E ratio. Over the past seven years, its D/E ratio fluctuated between 0.50 and 0.99. After a high ratio from 2010 to 2014, the trend was followed by a significant decrease in 2015 at a rate of 0.50, and after that, it surged to a more stable level, respectively between 0.84 and 0.71.

In addition, the high D/E ratio in 2011 and 2014 is reflected by the significant losses Finnair experienced over that period, and its equity was remarkably affected by the negative net income. The lack of profits from operations made Finnair more dependent on debt to fund its capital needs, which increased its D/E ratio.

Over the course of these seven years, Finnair's average financial leverage has been at a rate of 0.81. The authors consider this rate to be high since it means that for every euro owned by Finnair shareholders, the company owed 0.81 euro to creditors. As a rebuttal to this point, it could be argued that D/E ratio also varies by industry, so if we consider the nature of the airline industry we find out that it is very capital intensive. Moreover, Finnair had tremendous investments in its fleet and its primary assets – airplanes - cost hundreds of millions, which increases Finnair's capital investments, respectively its D/E ratio.

A closer look at the data indicates that Finnair's equity was always higher compared to its long-term debt. This shows that it is possible for Finnair to cover its long-term debt obligations with shareholder's equity. The ratio fluctuated between 0.39 to 0.79, but there has been a noticeable trend of the decrease due to efficient capital management and Finnair's ability to issue bond and sale-leaseback its airplanes. In conclusion to this subchapter, the authors state that Finnair's long-term solvency is on moderate level due to the nature of industry it operates, despite its high D/E ratio, the company shows positive prospects.

8.4 Efficiency

The revenue per employee ratio is used to measure Finnair's efficiency on the level of individual personnel. It consists of Finnair's total income divided by the average number of employees for each year. The authors state that a high ratio reflects higher productivity and effective use of resources of resources. That said, it is essential to know that this ratio varies between different industries and has different levels of measurement. In response to this, the authors will compare Finnair's revenue per employee ratio with the airline industry.

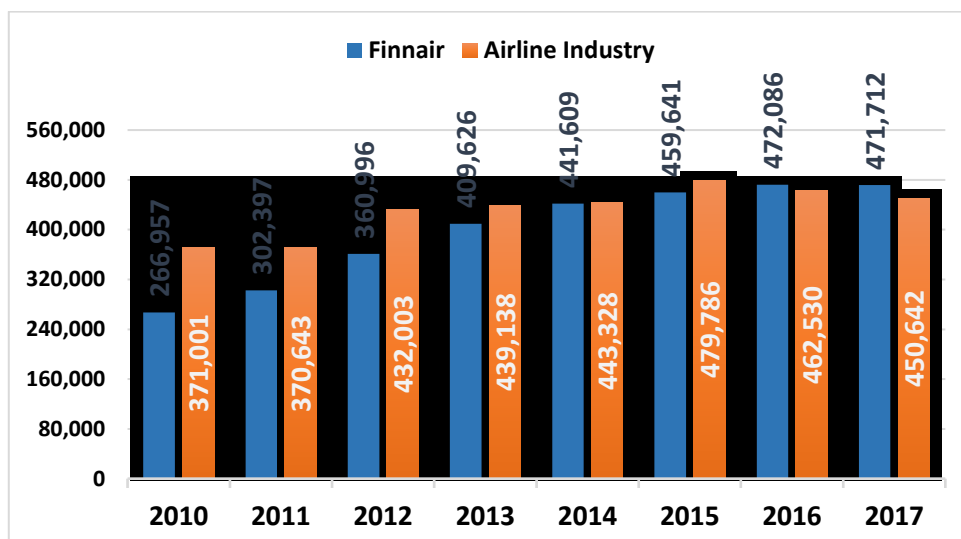


Figure 15. Revenue per employee ratio at Finnair (2010 – 2017)

Source: Own illustration adapted from Finnair – Annual report 2014 to 2017 & CSI Market

The aim for calculating this ratio is because the airline industry is a labour-intensive industry where human capital plays a crucial role in revenue generation. Calculations are disclosed in Appendix 11.

The data presented in Figure 15 proves that Finnair's revenue per employee ratio has almost doubled, following a trend of increase year to year. In comparison with the airline industry, it is right to say that Finnair was highly underperformed by the industry in the year 2010 to 2013. After that, a stable level of revenue per employee was maintained, with an average ratio of 461'262, compared to the industry with a ratio of 459'072.

The authors conclude that the trend of increase in revenue per employee is due to Finnair's ability to downsize its number of employees by 28% and still increase its revenues by 21% over the past seven years. This also proves the investments in employee training Finnair is doing to improve employee capabilities and skill enhancement. Along similar lines, the authors argue whether it is strategically successful for a state-owned company to reduce the number of employees? Knowing that most them are Finnish citizens and by this downsizing, the economic value towards the country is being also cut. But this fact will be neglected and not taken into consideration further because it is not relevant for the scope of this study. The available evidence seems to suggest that Finnair is on an industry level at generating revenue given the number of employees it employs.

9 PEER GROUP

In this chapter, the discussion centres on Finnair's competitive landscape. The scope of this chapter is to analyse Finnair's peer group that serves as a basis for the comparison of financial figures within the group. One can say that an ideal peer group may not exist. Hence this chapter includes airlines that are comparable to Finnair in market focus. This will ensure a more accurate comparison.

Finnair's competitive landscape is divided into two parts; based on the traffic in Europe and the traffic between Asia and Europe, but the comparison for the group will be conducted in the same approach. In its annual report Finnair does not explicitly determine its competitors, so the authors choose the Scandinavian Airlines (SAS), Norwegian Air Shuttle and Aeroflot. The reason for selecting SAS and Norwegian is due to their large market share in the Nordic market and the short-haul traffic to the rest of Europe. That said SAS is also known for its competition with Finnair in Europe to Asia market. Whereas Aeroflot offers both, short and long-haul flights, so its focus is on both, European and Asian markets, where Finnair has a strong presence. These sort of similarities between Finnair and its competitors underline the significance of establishing this peer group. In summary, the peer group consists of airlines from different categories it includes low-cost, high-quality and network airlines.

9.1 Scandinavian Airlines (SAS)

SAS is an airline holding company, with its headquarter in Sweden. It is the largest airline in the Nordic region, partially owned by the three Nordic governments; Denmark (14.3%), Sweden (21.4%) and Norway (14.3%). The airline is focused on the European, US and Asia air traffic; it offers flights from its main hubs; Copenhagen, Oslo, Helsinki and Stockholm. Its shares are listed on the Oslo, Copenhagen and Stockholm stock exchanges.

SAS early adopted the strategy of focusing on the frequent, business and leisure passenger and rewarding them for their loyalty, through its diverse membership programs. Hence the airline offers affordable prices for individuals and companies coming to, from and within the Nordic region. SAS applies an optimization strategy to the traffic it produces; this means that SAS covers the major traffic flows while its partners take care of the smaller flows. SAS's core strength is the ability to offer more destinations and more departures compared to the other Nordic airlines. The future of the company relies on innovation and high performance that provide easiness to the customer. The airline is a member of Star Alliance, and currently has 158 aircraft flying to over 123 destinations. Lastly, the airline reported a 31% market share to, from and within Scandinavia. In the last fiscal year, SAS carried roughly 30 Million passengers, showing a 7.5% increase from the previous year. Currently, the airline has a market

capitalization of SEK 7.57 Billion, and its share has been trading in the 52-week range of 14.15-27.70 USD (SAS Group, 2018).

9.2 Norwegian Air Shuttle

Norwegian is a low-cost airline based in Oslo, and the company operates nearly 150 aircraft flying more than 500 routes to more than 150 destinations. The strategic focus of the airline is to be an LCC that serves both leisure and business travellers, and the core market is Europe with the busiest routes being domestically in Norway. Norwegian has been awarded the "Best Low-Cost Airline in Europe" by Skytrax World Airline Awards. Additionally, due to its nature of being an LLC, Norwegian is the only airline that does not belong to the Big Three alliances – Star Alliance, SkyTeam Alliance and Oneworld Alliance – among this peer group. It was not until 2016 that it decided to join Airlines for Europe (A4E) alliance to enhance cooperation with other LCCs such as Ryanair, EasyJet, airBaltic and some other major airlines in Europe (Norwegian Air Shuttle ASA, 2018).

In addition to the European market, Norwegian has also been expanding to North America since 2013. Until 2015, the airline had 13 routes and added 866,000 more seats on its traffic between Scandinavia and the US. The authors think that Norwegian would be the reasonable competitor for Finnair in North America since both airlines have not entered this market until recently. Among Nordic-based airlines, Norwegian is undoubtedly the fastest growing player. In the period from 2006 – 2016, Norwegian grew 373% in the number of seats, which is significantly bigger than that of 7% and 32% for SAS and Finnair respectively. Nevertheless, 2017 was not a good year for Norwegian financially. Despite 19% increase in revenue reaching NOK 31 billion or € 3.2 billion equivalents, the airline had a net loss of NOK 299 million equivalent to € 31 million. This was explained by its investment in cabin crew training and new fleets at the end of the year. In the same year, the airline carried 33 million passengers that accounts for 13% gain comparing to 2016 (Norwegian Air Shuttle ASA, 2018).

9.3 Aeroflot Airline

Aeroflot Airline is the Russian national airline with headquarter in Moscow and four more branches locating throughout the country. The government owns 51% of the company. The airline is flying to nearly 150 destinations in 52 countries. Its hub at Sheremetyevo Airport in Moscow with favourable geographic positioning is ideal for transit customers on route Europe – Asia. Here, a similar strategic competitive advantage can easily be recognized between Aeroflot and Finnair. China is the most important market for Aeroflot in Asia. Unlike Finnair, being in SkyTeam Alliance gives the airline significant support to its traffic to this market. Since last year,

Aeroflot has been named as China's favourite international airline which previously was long held by Lufthansa Airlines for years. Facing direct competition with Aeroflot, Finnair is at much disadvantage due to considerable differences in size, capacity and alliances.

In 2017, Aeroflot experienced a 13.3% increase in the number of total passengers carried and resulted at 32.8 million. Along with the increase in passengers, Aeroflot enjoyed a 7.5% rise in revenue reaching RUB 532.9 billion or € 7.45 billion equivalent. In the same year, Aeroflot was awarded the Best Airline in Eastern Europe at the Skytrax World Airline Awards for the sixth time. The airline currently owns 230 aircraft and has been invested heavily in efforts to renew its fleet. As a result, Aeroflot has one of the world's youngest fleet with an average age of only approximately four years old. Currently, the airline has a market capitalization of RUB 174.7 billion and its share has been trading in the 52-week range of RUB 130.60 – 225.00 (Aeroflot, 2018).

9.4 Financial comparison of Finnair with competitors

It is important to mention that the size of the Airlines is neglected otherwise the airlines are incomparable. Regarding fleet size Finnair and Norwegian are comparable, but when taking SAS and Aeroflot into consideration, the comparison is senseless. Therefore, this financial comparison is only based on the market focus, which happens to be competitive for all.

Table 15 presents comparability of profitability within the peer group, measured in five financial metrics. First, the EBITDA margin shows that on average Aeroflot (12%) leads the group with regards to the operations' earning power regardless of capital structure and tax situation. Whereas, Finnair in comparison to SAS and Norwegian proves to have the highest earning power within the Nordic airlines. One can argue that comparing the airlines just based on this financial metric is not very accurate since it eliminates the effects of financing and accounting decisions. Hence, the EBIT margin is computed to provide an accurate understanding of the costs of running an airline. The EBIT data yielded by this table prove that Aeroflot has the highest profitability relative to revenues, respectively 8%. That said, it can be argued that Finnair is the only airline with a trend of increase year to year.

The net margin is calculated to show how much of revenues generated by the group translates into profit. A closer look at the data indicates that there has been a lot of variation when it comes to the net margin. Overall Finnair's net margin increased year on year and almost doubled from the year 2016 whereas its peers followed a trend of decline. The authors conclude that considering the nature of airline industry it can be assumed that airlines with a net margin of one-digit percentage points can be considered quite profitable.

Table 15. Comparison of Financial Figures

EBITDA margin						
Airline	2013	2014	2015	2016	2017	Average
Finnair	6%	3%	12%	9%	14%	9%
SAS	8%	4%	7%	8%	7%	7%
Norwegian	10%	-3%	7%	12%	0%	5%
Aeroflot	11%	8%	14%	16%	11%	12%

EBIT margin						
Airline	2013	2014	2015	2016	2017	Average
Finnair	0.3%	-3.2%	5.2%	5.0%	8.8%	3%
SAS	3.3%	0.4%	5.6%	4.8%	5.1%	4%
Norwegian	6.2%	-7.2%	1.5%	7.0%	-6.5%	0%
Aeroflot	6.8%	3.5%	10.6%	12.8%	7.6%	8%

Net profit (loss) margin						
Airline	2013	2014	2015	2016	2017	Average
Finnair	0.96%	-3.63%	3.99%	3.67%	6.58%	2%
SAS	1.03%	-2.42%	2.41%	3.63%	2.69%	1%
Norwegian	2.0%	-5.5%	1.1%	4.4%	-1.0%	0%
Aeroflot	2.5%	-5.4%	-1.6%	7.8%	4.3%	2%

Equity ratio						
Airline	2013	2014	2015	2016	2017	Average
Finnair	32%	27%	36%	34%	35%	33%
SAS	12%	17%	21%	19%	25%	19%
Norwegian	19%	9%	9%	11%	9%	11%
Aeroflot	29%	-1%	-8%	14%	20%	11%

Return on equity (ROE)						
Airline	2013	2014	2015	2016	2017	Average
Finnair	3%	-14%	14%	11%	18%	7%
SAS	**457%	-15%	18%	24%	18%	**101%
Norwegian	12%	-53%	8%	28%	-7%	-2%
Aeroflot	12%	*472%	*25%	91%	35%	**127%

Source: Own illustration based on Annual reports of Finnair, SAS, Norwegian Air and Aeroflot (2013-2017)

* During 2014/15, Aeroflot generated losses while having negative equity too, therefore the equation produces a positive ROE, but this combination is the worst for the company and its shareholders. ** Outlier

The equity ratio is computed in order to measure the amount of money shareholders of each airline would receive in case of liquidation. The gathered data proves that Finnair's liquidity in comparison with its competitors, has been very stable and it makes the airline very attractive to investors. Whereas Aeroflot suffered from high fluctuation in its liquidity, especially during 2014/15 the airline had negative equity, basically it had more liabilities than assets.

The return on equity ratio was aimed to reveal how much profit is generated by each airline from the money invested by shareholders. This part will be neglected due to the high difference in data. The ROE table itself shows an unrealistic scenario since some airlines had enormous changes in their equity structure which leads to uncapped numbers. But if we considered just the fiscal year of 2016/17, Aeroflot had the best ROE performance.

On these grounds, it can be concluded that overall Finnair in comparison with its peer group has strong financial health. This is a competitive advantage when considering the intense need for capital in airlines, furthermore this financial health looks very attractive to investors too. Considering its fleet size and similar geographical position it has with other Nordic airlines, it can be assumed that Finnair's management used its resources efficiently. Notice that year 2014 has been highlighted purposely due to the strong US dollar \$ which means that non-\$ based airlines had a smaller gain from the lower price of jet fuel and faced higher prices for aircraft costs.

The reason for presenting the data in tables is due to the limited length (in pages) of the bachelor thesis. Not all the data was not given ready therefore the calculations method are explained explicitly in the Appendix 15.

10 EXTERNAL ANALYSIS

10.1 PESTLE

10.1.1 Political & Legal Perspective

Political and legal issues have a huge impact on the growth of the airline industry. The industry is strictly regulated by governments, and these regulations vary country by country, region by region. Regulations may differ in specific terms and details; however, government regulations mainly aim to protect passenger's interests and to guarantee safe operation and fair competition. With the rising awareness of global warming, more and more regulations have been placed on environmental

issues. In addition to strict regulations and policies, political issues such as international conflict, war, disease outbreak and terrorism require government's intervention, thus affects the airline industry heavily.

Without a doubt, increasing regulations would affect the industry negatively. Nonetheless, for the last 40 years, airline deregulation has taken place worldwide with the initiative of United States in 1978. Airline deregulation is governments' efforts to reduce regulations as many have realized that airline industry can generate not only significant economic values but also great social values. Many bilateral agreements have been signed, and partnerships have been formed. Moreover, ICAO, which is a part of the UN, working with 192-member states to reach consensus on international civil aviation SARPs. As a result, ICAO plays a crucial role in strengthening the relationship between governments and airlines.

10.1.2 Economic Perspective

10.1.2.1. GDP

In subchapter 6.1 the positive correlation between air travel and GDP was presented. In this part, the question under discussion is which one of the four markets where Finnair operates has the most potential for growth by identifying respective annual GDP growth rates. The map illustrating world annual GDP growth (%) in 2016 extracting from World Bank data is disclosed in Appendix 17.

In 2016, North America and Finland had the lowest annual GDP growth rate. This rate ranged from 1.2% to 2.2%. However, with Finnair's dominating position in domestic market and support from American carrier partners in the North American market, the airline can continue its expansion in both markets. Whereas, in Europe, most countries experienced a higher GDP growth rate ranging from 2.2% to 4.9%. Despite this, it would be hard for Finnair to take full advantage of this growth due to fierce competition in this market. Moreover, a closer look at the data indicates that Asia is the fastest growing in terms of GDP in 2016 among Finnair's markets. Most of the Asian countries including China enjoyed an annual GDP growth rate of at least 4.9% in 2016. In contrast, Japan, which is one of the key markets for Finnair, had a minor growth rate of below 1.2%. With Finnair's strategic focus on this market, the authors expect the company to grow steadily in the near future. On these grounds, among Finnair's market, Asia looks the most promising for air travel growth.

10.1.2.2. Oil Price

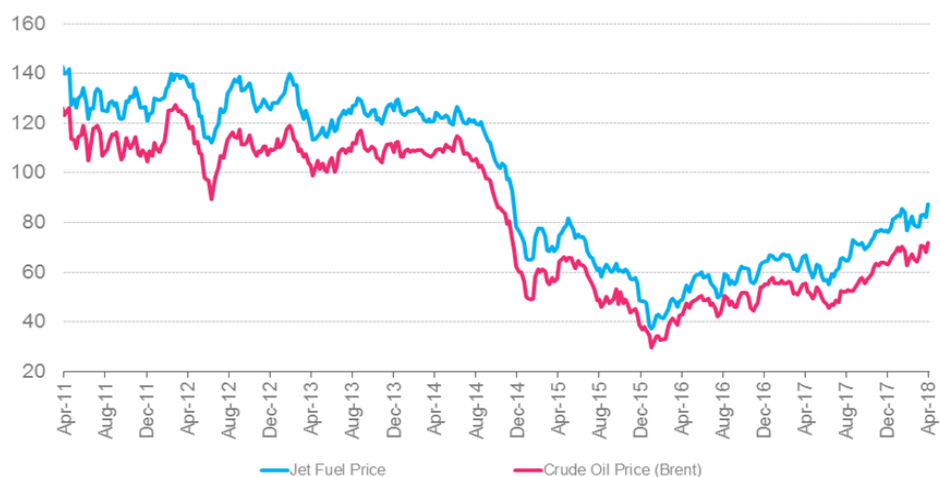


Figure 16. Jet Fuel and Crude Oil Price (\$/barrel) 2011 - 2018

Source: Platts, Oanda

It can be seen from Figure 16 that the oil price maintained at a very high level during the crisis. However, not long after that, oil price took a great hit with a dramatic decrease of more than 50% in the first half of 2015 and continued to level off for the rest of the year. Since then, the price of crude oil has been increasing slowly but steadily, however, it is nowhere near its formerly high level in 2014. As indicated in the graph, the prices of jet fuel and crude oil is strongly correlated. While jet fuel is the primary source of airlines' operating expenses, therefore, the crude oil price has a significant impact on airlines' profitability. As an illustration, as the price of crude oil dropped dramatically in 2015 followed by the same pattern in jet fuel price, the airline's industry managed to be profitable for the first time in many years of constantly high oil price. Nonetheless, increasing oil price does not always bring detrimental effects to the airline industry. The low price of oil has hurt the economy of oil-producing countries, which include many giants such as Russia, United States, Saudi Arabia, China, thus, slowing down the global economic growth and weakening demand to travel. For that reason, increasing oil price could create an upsurge in global demand for air transport.

10.1.2.3. Exchange rates

Despite the fact that Finnair is a global carrier that operates in various countries, not all currencies are critical to the company. In this subchapter, the authors attempt to look at the exchange rate of € with the three most important currencies USD, CNY and JPY which represent a considerable portion of Finnair's revenue and expenses.

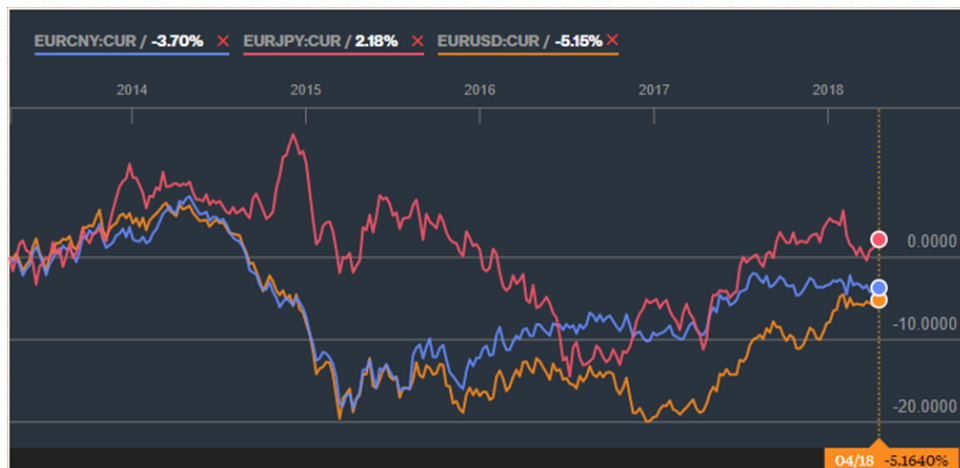


Figure 17. Exchange rates

Source: Bloomberg

It is interesting to see that until the end of 2015, the exchange rates of EUR/CNY and EUR/USD shared almost the same moving patterns, with the € depreciating against both currencies. As for the JPY, the exchange rate has much volatility with sharp rises and steep decreases. The EUR/JPY reached its peak in May 2015, and it was followed by a significant drop in just two months. In the year 2016, the JPY gradually appreciated against the EUR. This can be explained by the plummet in oil price in the period as Japan is one of the world's largest oil importers (Workman, 2018). Nonetheless, since 2017, the EUR has been regaining its power, and all three exchange rates have performed in an overall upward trend.

10.1.3 Social and Demographic Perspective

10.1.3.1. Population Growth

Population growth stands for growing demand in traveling. This subchapter aims to generalize beyond the data and to determine which one of the four markets, where Finnair operates, has the fastest growing traveling demand by identifying respective annual population growth rates.

Asia and North America have the fastest population growth rate among the Finnair's markets. The graph showing this growth is disclosed in Appendix 18. In contrast to strong traveling demand in China, the country's population growth rate ranged from -1.8% to 0.5% in 2016. This is due to its previous one-child policy. Sharing the same growth range with China is the majority of European countries including Finland. This reflects the slow but constant growth in air travel in both markets.

10.1.3.2. Millennials vs. Baby Boomer

Millennials are people from 18 to 35 years old which accounts for a significant portion of the world's population. According to Nielsen's report called "Young and Ready to Travel," millennials account for 50% of the global travel retail market spend (Luhabe, 2017). Moreover, an Airbnb's study titled "Airbnb and The Rise of Millennial Travel" reveals that traveling is the most prioritized activity of millennials (Airbnb, 2016). The study was conducted in the United States, United Kingdom and China.

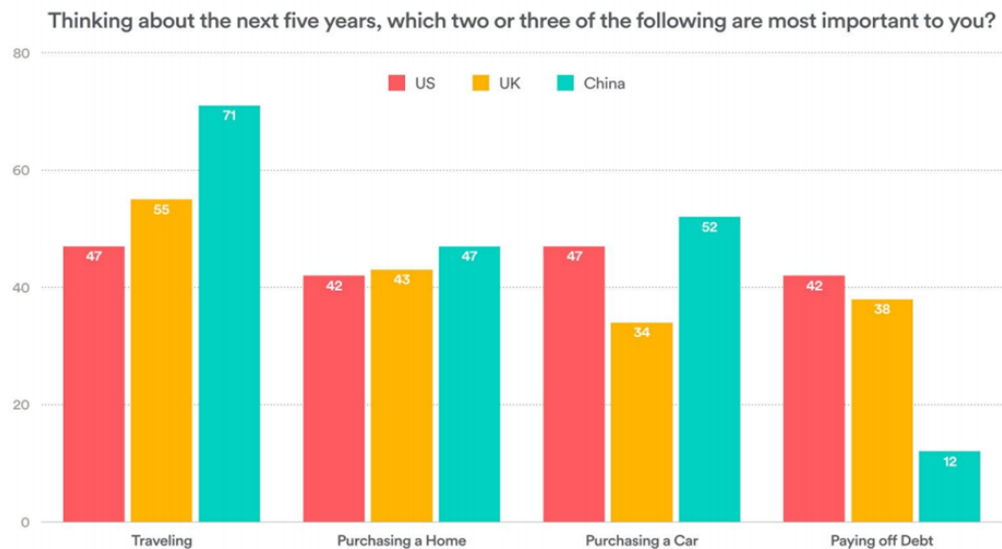


Figure 18. Airbnb's study on Millennials

Source: Airbnb report's "Airbnb and The Rise of Millennials Travels", 2016

Whereas, Baby boomers are those who were born between 1945 and 1964. Baby boomers typically go on a business trip and travel on special occasions and holidays; on the other hand, millennials travel to "enrich lives with personal experiences" (Luhabe, 2017). In addition, Boston Consulting Group's research found out that millennials are willing to pay more for in-flight services and refundable tickets and to use mobile travel applications (Cederholm, 2014).

10.1.4 Technological & Environmental Perspectives

Technological and environmental issues are paid attention more than ever before. It has become a trend that airlines integrate advanced technology and environmental friendliness into their practices. This trend as well as how Finnair dealt it was discussed in previous chapters. Therefore, in this chapter, the authors only want to emphasize the relationship between these two factors because they usually go hand in hand. The utilization of advanced technology does not only aim to attract more customers by improving their traveling experiences but also to mitigate the negative

impact on the environment. One prime example could be the modern Airbus A350 aircraft which helps to reduce 25% of noise and emission.

10.2 Porter's Five Forces

10.2.1 Bargaining power of customers

Over the last two decades, the airline industry witnessed rapid growth in low-cost carrier segment. This is the overwhelming evidence for the notion that aviation is a highly price sensitive industry. More than ever before, customers are price-conscious.

Flight passengers are the main airline customers. Other customers are larger entities such as freight companies and travel agencies which may have more bargaining power than an individual passenger.

Nowadays, passengers are willing to depart at inconvenient times and fly to another airport in their destination country to get a lower price. Moreover, from passenger's perspective, flights are mostly undifferentiated. There is no further differentiation beyond two business models which are "full service" (legacy) and "low-cost" (LLC). Consequently, the likelihood of passengers switching airlines within the same business model is high. Passengers who are leisure travellers on the short-haul flight are more price sensitive than business travellers and those who travel on a long-haul route.

In addition to price, passengers also look at airline's branding and reputation. Airlines with the punctual operation, well-delivered services and most importantly, good safety records are always among passenger's first choice. This means that price alone does not determine buyer's purchasing decision. As mentioned above, most of the consumers in the industry are individuals with little or no direct bargaining power against airlines. On these grounds, the bargaining power of customers in the industry can be classified as moderate.

10.2.2 Bargaining power of suppliers

Airline suppliers typically are catering companies, airports, aircraft manufacturers, aircraft leasing enterprise and oil companies. These suppliers are large corporations that dominate the market.

Airlines usually buy jet fuel from a few major oil companies. And since jet fuel accounts for a large portion of operating expenses and till now has not been substituted with any other products, airlines are dependent on their jet fuel suppliers, which eventually strengthens these suppliers' bargaining power. This is also the case for aircraft manufacturers. The fact that two giant aircraft manufacturers Airbus and Boeing dominate the whole

commercial aircraft has created an oligopoly situation. For that reason, Airbus and Boeing are extremely powerful in bargaining against airlines.

In the airline industry, airlines usually lease aircraft through aircraft leasing enterprises. As the business is capital intensive and subjects to many restrictions and obligations, these companies are big corporations and not plentiful. As for airports, airports and airlines are often interdependent. Airports need airlines to bring more customers and traffic. On the other hand, airlines rely on airport's infrastructures and services to provide pleasant experiences and to attract customers. This is particularly important for "full service" airlines which operate long-haul flights as airports serve as a connecting point for transferring passengers. Likewise, Finnair has always been promoting its hub to attract travellers.

It is the norm in the industry for airlines to have a long-term contract with suppliers. The reason behind this is to eliminate uncertainty. For example, airlines may get into an agreement with jet fuel suppliers to agree on a price for a specified period to avoid any fluctuation in oil price. Moreover, airlines also engage in a long-term contract with aircraft manufacturers since the whole process of manufacturing, purchasing and delivery can last many years.

All factors considered, the authors classify the bargaining power of suppliers as strong.

10.2.3 Potential of new entrants into the industry

One of the most compelling drivers leading to new entrants in the industry is market growth. The global market for aviation has experienced steady growth in recent years. Many new players, of which the majority is low-cost carriers, have made their entry to the market aiming to take advantage of this growth. These new players are aware of customer's price-conscious mindset and see it as an opportunity to expand while striving to reach the optimal price/performance ratio. New entrants can also be encouraged by the fact that airlines involve little intellectual property. Intellectual property related issues are typically both money and time consuming for any business. For airlines, patents are held by aircraft manufacturers.

On the other hand, as mentioned in previous subchapter 10.1.1, the airline industry is strictly regulated by governments which raises the barrier for new entrants. Moreover, airlines are required to make a lot of investments in buying and leasing fleets, staff training and jet fuel. High fixed cost and low profit margin are the main factors that hinder new players from making entry. Low profit margin requires airlines to achieve economies of scale which is most likely unattainable for a new player.

In consideration of all factors, the potential of new entrants into the airline industry can be seen as moderate.

10.2.4 The threat of substitute products

The question whether there are any substitute products to air transport largely depends on the cost and convenience of the alternative. As for long-haul flights, the authors assume that there is no feasible alternative. On the other hand, for short haul flights, car travel and rail transportation can act as substitutes. In many countries with an extensive and developed rail system, high-speed rail is competing directly with short haul flights. This alternative aims at low budget travellers and is typically much more time consuming and inconvenient. Whereas, in some geographically large countries such as Russia, China, for travellers wishing to travel across the country, domestic air transport would be their only option. In other words, the larger a country is geographically, the lower the viability of substitutes. Due to this, the authors consider the threat of substitute products for air transport is weak.

10.2.5 Competition in the industry

As described above, competition is largely driven by price. Over the last two decades, the rapid growth of low-cost carriers intensifies the competition for short-haul flights. The most successful LLCs until now are EasyJet, Ryanair and Southwest Airlines. These LLCs are not considered to be direct competitors with Finnair whose focus is “full service” long-haul flights. However, in recent years, LLCs have begun to operate long-haul flights with the aim of gaining more market share against the legacy carriers. Several years ago, Norwegian Air Shuttle, one of LLCs, began to launch long-haul flights between Scandinavia and North America and competed directly with Finnair in the mentioned market.

In addition, the size of large legacy competitor also builds up the competition. Leading global airlines such as United Airlines, Aeroflot, Delta Airlines, American Airlines and Lufthansa Group make it hard for small and medium-sized airlines to gain more market share. In particular, Lufthansa Group and Aeroflot Airlines are dominating the air traffic market between Europe and Asia and will remain to be a significant obstacle for Finnair.

As mentioned above, apart from the differentiation between “full service” and LLCs, flights in the eyes of consumers remain undifferentiated; hence, consumers are very likely to switch between airlines. This strengthens competition between airlines operating on the same routes. Additionally, the industry has high exit barrier. Generally, it is hard to exit the market as aircraft are such specialized asset that it could not be used for any purpose other than flying. Moreover, national airlines would never go bankrupt

thanks to government's subsidy. In most cases, airlines bankruptcy happens as a result of financial insolvency.

Based on these factors, the authors consider the degree of competition in the airline industry to be strong.

10.2.6 Remarks on Porter's Five Forces

In summary, the authors present Porter's Five Forces Analysis in a graph form where these forces are measured on a scale from zero to five. Zero represents a weak or not at all powerful force, on the other hand, five indicates the most powerful force affecting Finnair.

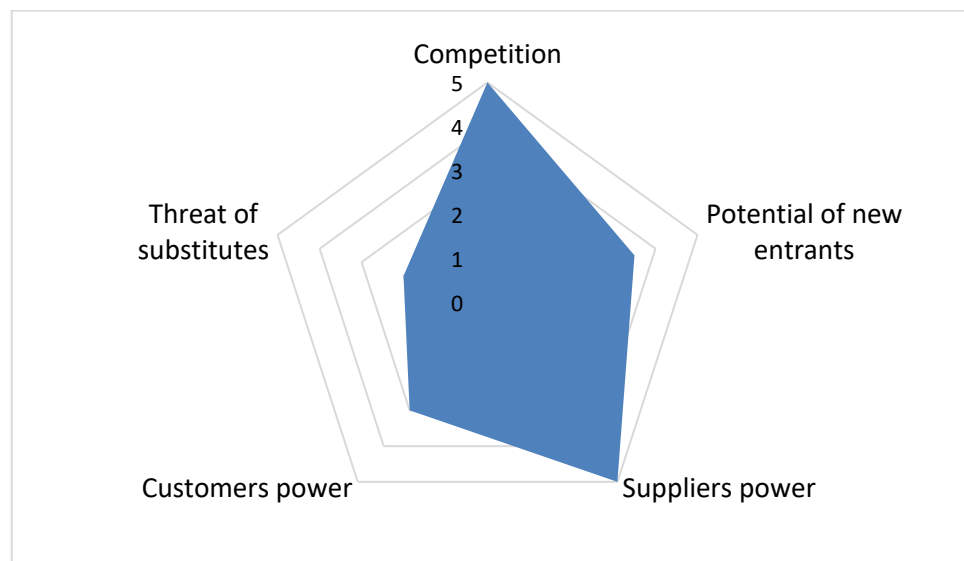


Figure 19. Porter's Five Forces Analysis for Finnair

Source: Own illustration

Firstly, competition within the industry is intense. LLCs are changing strategy to compete directly with legacy airlines like Finnair by offering long-haul flight and keeping the price low. Many major players with significant market share and undifferentiated services are two among many factors that intensify the competition.

Secondly, suppliers are powerful while bargaining against airlines. Typical suppliers like aircraft manufacturers, jet fuel suppliers, airports are mostly few big entities. In fact, aircraft manufacturers Boeing and Airbus have created an oligopoly market. On the other hand, customer's bargaining power is believed to be moderate. The primary reason behind this is most of airline's consumers are individuals who have little or no bargaining power against large airlines. Although the industry is highly price sensitive and customer's purchasing behaviour changes accordingly, consumers do look for and appreciate other qualities. Similarly, the potential of new entrants in the industry is also moderate. Even though strong market

growth and favourable intellectual property features may be attracting new players, they often are hindered by high fixed cost, low profit margin and government's strict regulations. Lastly, it is doubtful that there are viable substitute products for air transport. In minor cases, high-speed rail can be competing directly with short-haul flights. However, this alternative is very inconvenient and time-consuming in comparison with air travel.

11 INTERNAL ANALYSIS

In this chapter, the discussion points to Finnair's competencies with regards to its business model, the airline alliance membership and its operating metrics. The authors aim to find out whether it makes sense for Finnair to operate as a full-service carrier (FSC) and if the Oneworld alliance membership fits its business model. Moreover, the operating metrics will provide a deeper understanding of Finnair's critical internal features in comparison with its competitors.

11.1 Business model

In the airline industry, business models differ a lot when it comes to the offered services, type of airports, cost structure and network configuration. The traditional airline strategy includes two main models, the "Low-Cost Carrier" (LCC) and the "Full-Service Carriers" (FSC). LCC's are considered airlines that focus on passenger transportation by air through a point – to – point operating network. This means that LCC airlines avoid the central hubs and focus on secondary airports with low handling fees and landing taxes, achieving competitive advantage over FSC's due to low costs. In contrast to LCC's, FSC's offer transportation to all kind of passenger groups and cargo, by using hub- and- spoke network that provides connectivity optimization and high coverage. (DG Energy and Transport, 2008). The following figure illustrates the idea of both network configurations.

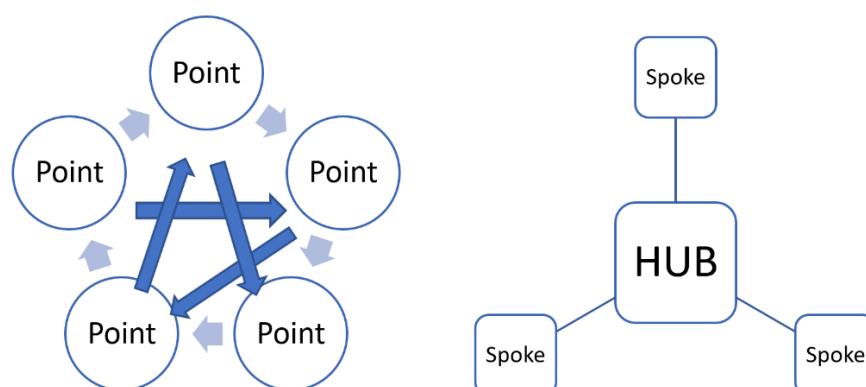


Figure 20. Point-to-point and Hub-and-spoke network models

Source: Own illustration

According to Lordan, (2014) the hub-and-spoke network has its downsides which might jeopardize an airline's operation if not tackled properly. First, it creates complexity in connecting flights due to high traffic volumes. This is evident during traffic peaks where airlines face a significant increase in the number of delays. Another principal disadvantage of this model is the idea of passing all flights through the hub, which raises the travel time, costs of fuel and the use of aircraft.

On the basis of the evidence currently available, it seems fair to suggest that Finnair applies a typical full-service carrier (FSC) business model. If we consider its network configuration, it is evident that Finnair applies a hybrid network configuration. This means that for short-haul in Europe offers point-to-point flights, whereas for long-hauls tries to pass almost all its flights through the Helsinki Airport.

This model is a cost-efficient driver for Finnair because it creates the potential for economies of scope and density. To achieve economies of scope Finnair flies its passengers through its hub rather than directly between spoke cities. This implies centralizing maintenance facilities, staff and back up aircraft at the Helsinki hub. Since the passengers travel together, towards the hub airport the airline needs larger aircraft. Which justifies Finnair's huge investments on new A350 XWB that provide more capacity and are cost efficient at the same time. By using this business model Finnair connects routes with low traffic into routes that back the use of large aircraft. On logical grounds having more people flying increases the traffic volume on a specific air route and decreases the unit cost. Hence airlines achieve economies of density.

The authors argue that this business model is also costly for Finnair. The reason is that Finnair needs different airplanes to achieve the required connectivity optimizations of flights. Therefore, its fleet is very heterogeneous regarding airplanes which leads to a diverse usage of fuel and extended operational activities such as maintenance.

In conclusion, the authors state that the actual business model fits in Finnair's strategy. This is evident by the fact that its geographical position is convenient to apply the hub-and-spoke business model. If we consider the growth in revenue and market share at Finnair, it is notable that the successful business model was a driver behind it. Furthermore, this model is also highly correlated with the airline alliances due to the networking aspect that both have. Hence the following subchapter tackles this issue in an extensive manner.

11.2 Global Airline Alliances

This subchapter seeks to understand the benefits of having alliances in the airline industry, with focus on Finnair's membership in the Oneworld alliance. Airline alliances are perceived as agreements between international airlines to cooperate on a substantial level (Oneworld

Alliance, 2018). The main purpose of an airline alliance is to provide a network of connectivity for passengers and cargo. The development of the hub-and-spoke model increased the need for airlines to broaden their domestic and international air traffic, which later led to the creation of airline alliances. Airline alliances are established for transport of passengers (Global alliances) and cargo (Cargo alliances). It is known that cross-border mergers between airlines are rarely permitted, and foreign ownership of airlines is highly restricted. These regulations are set as prevention to a country's national security and job security. As a result, alliances were created as a proxy for airline mergers (IATA, 2018).

The development of alliance activities in the airline industry has emerged tremendously. According to Oneworld (2018), this development is influenced by two major factors; first, the increase in willingness of people to fly, secondly the cost reduction advantages, motivate airlines to work more closely together. The result of this cooperation between airlines led to coverage of almost two-thirds of the total world airline capacity. In 2015, Star Alliance accounted for 23 % of total air traffic, followed by SkyTeam (20.4%) and Oneworld (17.8%) (IATA, 2018).

Before going to the benefits provided by airline alliances to its members, it is crucial to understand the ways how airlines cooperate within an alliance. Hence, the following terminology should help in understanding the upcoming paragraphs. In a passenger airline alliance, the cooperation between airlines is conducted through:

Code-sharing – A code-sharing agreement allows the flight operated by an airline to be offered as a product of another airline (Çetiner, 2012).

Interlining – The term interline flight is used to describe the flights including the flight legs⁴ operated by different airlines (Çetiner, 2012).

Joint ventures – A structured partnership where two or more parties are brought together to achieve series of strategic and financial objectives (Sherman, 2010).

The matter of participation between airlines of any alliance it is based on the airline's willingness to participate. Hence, it happens that participants conduct cooperative activities but remain competitors in other activities. There are more partnership approaches between airlines that do not require alliance membership, but this thesis tackles the relevant ones.

11.2.1 The benefits of Airline Alliances

By now it is assumed that we are familiar with the business model Finnair uses and the birth of global airline alliances. Hence, this part of thesis reaches out the reason for having airline alliances and benefits achieved

⁴ Segment of a flight involving a stopover or change of airline. (business dictionary, 2018)

by airlines through their membership. The main reasons why airlines join alliances is to increase their network, enable cost reduction approaches by achieving economies of size and strengthen their international position. In addition, by entering the alliance, airlines offer its airports slots and hub location, along with its international traffic rights.

Through interlining, airlines agree to share services related to ticketing, baggage transfers and other services. Today thousands of such agreements are prominent in the industry and have a good relationship with the code-sharing approach. Code-sharing approach is explained with the following example: Let's imagine that Swiss Air is a member of Oneworld and there is a flight from Zürich to Seoul with a connection in Helsinki within the Oneworld alliance. The flight segment between Zürich and Helsinki is operated by Swiss Air then for the other part, Finnair takes care. Notice that passengers need to buy just one ticket for this flight and everything else is set by the airlines. Whereas, in joint ventures, airlines share the revenues or profit, no matter which airline operated the flights (Lewis, Momin, & Smith, 2017). Usually, the sharing of financial incentives is set based on the percentage of contribution for the international routes that are shared within that venture.

It is evident that by joining an alliance, airlines are introduced to a much broader network, compared to their own partnerships. This network provides them with more traffic and coordination that helps them maximize their utility. The cost reduction is realized by carrying extra travellers on existing flights. These travellers come from the larger pool of customers created through partnerships. Another significant benefit is the efficiency in scheduling, this means that airlines having the same air route optimize the number of flights, which reduces the competition between them and is very cost effective for them. Since alliances are promoters of cooperation, the rivalry between airlines decreases proportionately, and the international presence of airlines strengthens.

Airlines are not the only party enjoying the benefits from the creation of alliances, passengers too. Besides the numerous benefits provided to airlines, the nature of alliances makes it possible for passengers to enjoy the immense network access. As part of this excellent network access, passengers have more possibilities to make last-minute changes. Another important perk of the alliance is that frequent-fliers can enjoy the same benefits through the whole alliance. This means that being a customer of Star Alliance ensures you access to the lounge or priority access of any Star Alliance member.

Based on the available evidence the authors conclude that the introduction of alliances changed the industry in terms of airline operations. The literature shows that nowadays airlines are highly dependent on alliances in order to extend their network. Joint venture appears as the most crucial partnership for the alliance members since it

creates indifference as to which flight the passengers choose, due to share in revenue or profit.

11.2.2 Finnair as part of Oneworld Alliance

Having analysed the grounds of operating in the airline industry and knowing how airlines benefit by working together, helps to understand whether Finnair is positioned in the right alliance. The following paragraphs attempt to explore some of these issues and presents a critical view on Finnair's membership at Oneworld. Oneworld alliance was launched in 1999, the same year Finnair became a member of it.

Notice that even though it was explained above that alliances ensure broad network and all the other benefits; the realized gains vary a lot within the global airline alliance group.

Table 16 on the next page is an illustration of each alliance with regards to different aviation metrics. Members of each alliance are disclosed in Appendix 16.

Table 16. Comparison of Global Airline Alliances

Alliance	Members	Destination	Countries	Fleet	Daily Departures	Annual passengers (billion)
Star	28	1'300	191	4'764	18'400	750
Skyteam	20	1'074	177	4'173	17'343	730
Oneworld	13	1'012	158	3'447	12'738	527

Source: Own illustration adapted from websites of Star Alliance, Skyteam and Oneworld, (2018)

It can be clearly seen from the table that Star Alliance is leading the group, with the highest group of airline member, two times more members than Oneworld. Whereas, the number of destination offered is relatively similar between Skyteam and Oneworld but lower in comparison to Star Alliance. The similarity in number of the destinations provided is due to the networking model used by the airlines within each Alliance. Lastly, the authors believe that there is a strong correlation between the number of airline members and all the other metrics, in each alliance. On logical grounds, we can say that having more members in an alliance provides more aircraft capacity that covers more air traffic. This means that more passengers flying bring more revenue and increase the economic value generated within the alliance. The bigger the size of the airline alliance is, the better for the airline members.

These results prove that Oneworld is the smallest alliance in terms of the chosen aviation metrics. According to Oneworld website (2018), the

reason for having such a small group is due to the selective invitations to new airlines. The alliance aims to be recognized as a high-quality alliance, which is resulted by its focus on premium hubs⁵. Knowing the importance of broad networking in the industry the authors consider this as a weak strategy since in a way it limits the utility maximization for its members. Actually, this small size of the alliance is opposite to realizing economies of density, creating interline partnerships and reducing competition. Coming back to Finnair's strategy it was highlighted that Finnair's focus is primarily the Asian market, respectively China but Oneworld includes only three Asian airlines; Japan, Malaysia and Cathay Airlines. Whereas, Star Alliance lured the prominent Asian airlines such as Air China and Air India. Even Finnair's competitor for the Asian market, Aeroflot and Korean Air are part of Skyteam. If alliances aim to reduce rivalry and courage partnership then with just two Asian airlines in its group, Finnair is missing growth opportunity. This is due to a restriction within alliances that prevent outside joint ventures with non-alliance members. If no restriction is set, probably Finnair would've had a partnership with the prominent Chinese airlines, that would provide extensive coverage of Asia. This fact confirms the reason why Finnair joined the Siberian Joint Venture that covers traffic between Europe and Japan and the North Atlantic Joint Venture that covers the North Atlantic traffic. Since Finnair explicitly highlights the importance of alliance partnerships and joint ventures on strengthening its market position and reducing risk related to growth, the authors conclude that its membership at Oneworld is controversial to some extent.

11.3 Operating metrics

There are several operating metrics used to measure the internal features of an airline, but due to the scope of this thesis, the authors will focus on those relevant to this thesis. For each metric Finnair is compared with its peer group. The data for Aeroflot corresponds to the results of just Aeroflot Airline; its group is excluded for comparison reasons. The metrics used are Available seat kilometres (ASK), Revenue passenger kilometres (RPK), Passenger load factor (PLF) and Cost per available seat kilometres (CASK). Since every airline in the peer group uses a different currency, currencies are converted into Euro based on historical exchange rates and calculations are disclosed in Appendix 19.

11.3.1 Available seat kilometres (ASK)

ASK measures an airline's capacity to generate revenue through transport. One ASK represents one seat (empty or filled), carried in one kilometre. (Eurostat, 2015)

⁵ Premium hubs offer high capacity of business and first-class seats.

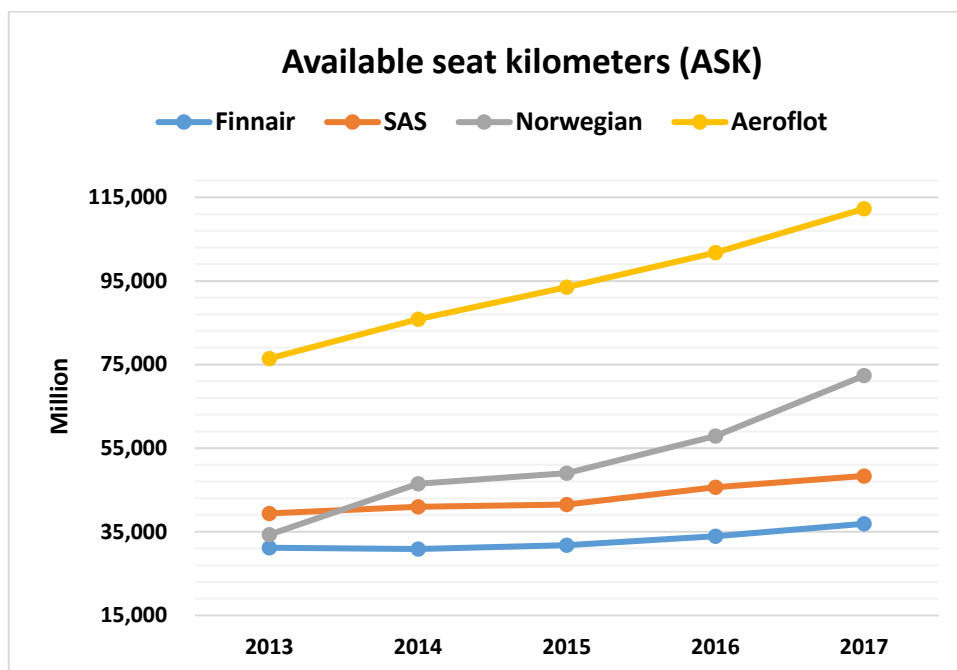


Figure 21. ASK comparison – Finnair, SAS, Norwegian and Aeroflot

Source: Own graph based on Annual reports of Finnair, SAS, Norwegian Air and Aeroflot (2013-17)

As seen in Figure 21, Aeroflot has increased its carrying capacity at the peak of 112'246 million km. Whereas, Finnair has the lowest increase in capacity, with an ASK of almost 37'000 million which also correlates to its lowest revenue within the Nordic airlines. SAS has maintained its ASK on a range of 39-49,000 million km flown yearly. A notable increase in carrying capacity is seen in Norwegian. Over the course of these 5 years analysis period, Norwegian increased its ASK by 110.80%, which is shown by a surge on the grey curve in the graph. If we consider the relatively similar size of the fleet between Finnair and Norwegian, we could say that Finnair's carrying capacity is outperformed by the Nordic airlines, mainly by Norwegian. This small increase in Finnair's ASK can be seen as an influence from Oneworld, thus maintaining the high-quality services without having to increase its carrying capacity exponentially. Notice that a higher ASK does not necessarily mean that the airline is more profitable since it measures just the carrying capacity. In addition, Finnair faced losses during 2013-14, so the steady increase in ASK is in line with the core Finnair strategy, towards finding the optimal level of growth.

11.3.2 Revenue passenger kilometres (RPK)

RPK is a measure for the number of kilometres travelled by paying customers. One RPK is equal to carrying one passenger for one kilometre (Eurostat, 2015).

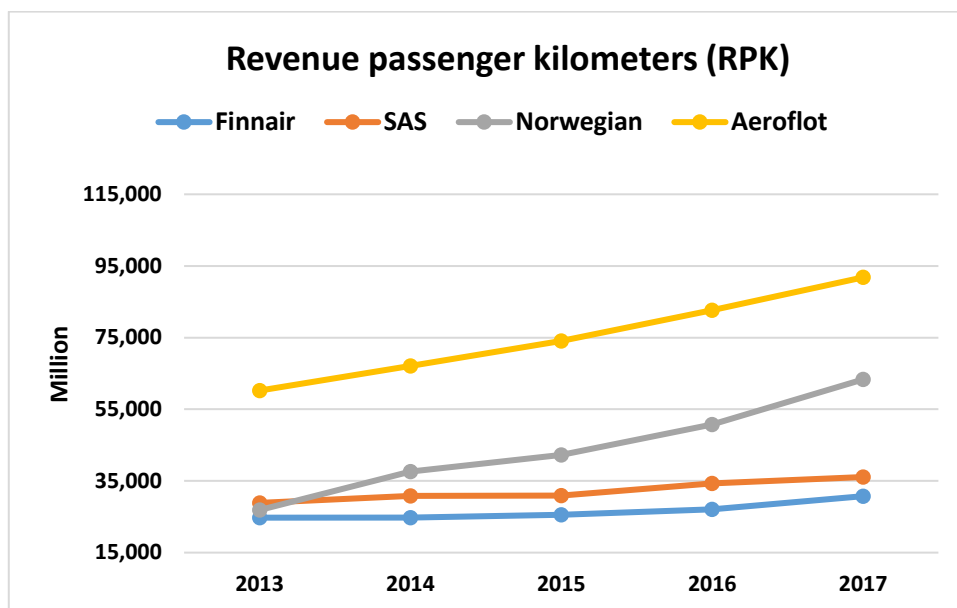


Figure 22. RPK comparison – Finnair, SAS, Norwegian and Aeroflot

Source: Own graph based on Annual reports of Finnair, SAS, Norwegian Air and Aeroflot (2013-17)

Since the RPK metric consists of both km flown and the number of passengers, we can look at it also as a production indicator. The same trend of increase or decrease also happened in the RPK of the peer group. Aeroflot leads the group again, but this is due to its massive size of the fleet, which enables more kilometres to be flown. As with ASK, Norwegian is the Nordic leader with an RPK increase of 135.56%, leaving behind SAS (24.99%) and Finnair (24.11%). A closer look at the data indicates that the three Nordic airlines have a similar starting point (2013), but Norwegian surpasses the group, even though it is a low-cost airline, primarily focused in Europe. The result shows an increase in the low-cost air traffic, and it seems fair to suggest that the point-to-point model is working in Europe.

11.3.3 Passenger load factor (PLF)

PLF measures the utilization of available seats (Eurostat, 2015). This means that having a passenger load factor of 80%, the airline fills 80% of its seats on all departures.

In this stage, all airlines are comparable since the PLF is not influenced directly by the size of the fleet. As illustrated in Figure 23, the load factor of Norwegian fluctuated significantly during the period from 2014 to 2017. Considering the increase in ASK and RPK, the airline has been very efficient on filling up its seats on scheduled flights. One can assume that a reason for this overall increase at Norwegian is due the attractiveness of cheap flights.

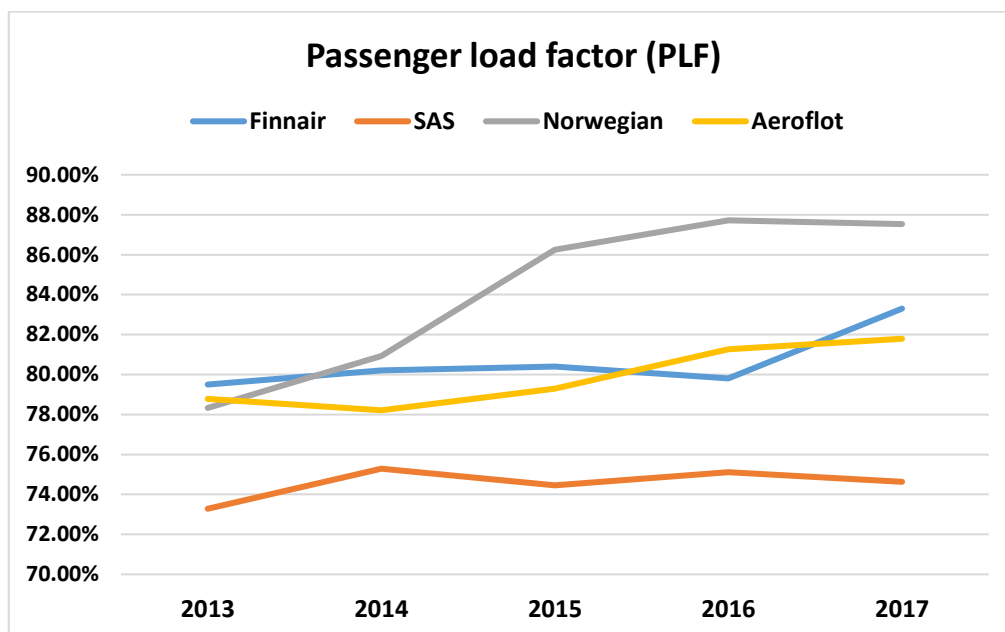


Figure 23. PLF comparison – Finnair, SAS, Norwegian and Aeroflot

Source: Own graph based on Annual reports of Finnair, SAS, Norwegian Air and Aeroflot (2013-17)

The data yielded by this graph shows that SAS has the lowest PLF in the group, while its Nordic peers reached a PLF over 80%, indicating a non-optimal utilization of capacity for SAS. The PLF of Aeroflot has fluctuated between 78.78% and 81.79%, showing stability at the Russia airline. Coming back to Finnair, it is evident that Finnair increased its PLF to 4.78% over a period of 5 years and this is very profitable. In its latest annual report, Finnair states explicitly that an increase of 1% in the PLF, results on € 24 million more revenue. Considering the market outlook for Finnair, it is assumed that its PLF will increase steadily.

11.3.4 Cost per available seat kilometres (CASK)

Since the profitability of Finnair is measured in subchapters 8.1 and 9.4 with focus on just revenues, this part of the thesis focuses on the cost per unit within the peer group. According to Eurostat (2015), the CASK ratio measures the costs required to produce one seat-kilometre. For comparison reasons, the CASK is presented in Euro for all airlines.

Figure 24 demonstrates that CASK has fluctuated significantly during past five years for all airlines. It is evident that Finnair and its competitors experienced a trend of decline in unit cost. This is assumed to be a result of efficient use of resources.

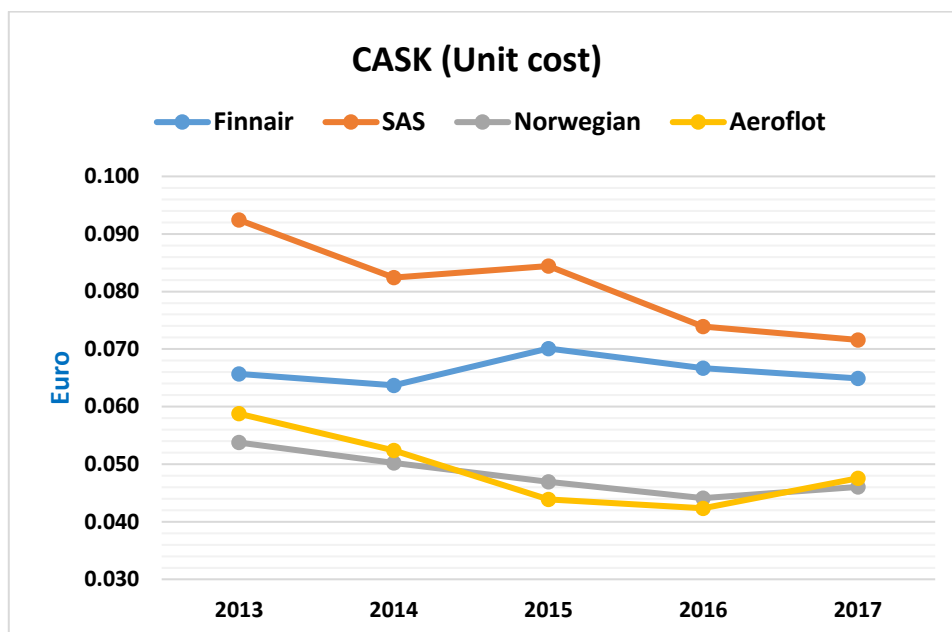


Figure 24. CASK comparison – Finnair, SAS, Norwegian and Aeroflot

Source: Own graph based on Annual reports of Finnair, SAS, Norwegian Air and Aeroflot (2013-17)

The data from the graph illustrates that SAS had the highest unit per cost over the course of 5 years. Nevertheless, its unit cost of 2017 shows that the airline managed to decrease its unit cost by -22.55%. Finnair's CASK fluctuated between € 0.06 to € 0.07, indicating a stable level but still representing it as the second highest Nordic airline regarding unit cost. Aeroflot and Norwegian accomplished a remarkable decrease in unit cost, respectively € 0.048 and € 0.046. When considering the two major costs in the airline industry, payroll and jet fuel, the authors conclude that the strict labour regulations and unsuccessful hedging strategies of jet fuel might increase the unit cost significantly.

11.4 Remarks on internal analysis

The analysis of the business models applied in the airline industry showed that the matter of choosing one model over the other is highly dependent on airline's strategy. It was found that due to its market focus the full-service model with its hub-and-spoke network configuration fits Finnair's strategy. Furthermore, the benefits provided by the membership at Oneworld alliance are unquestionable. That said, the small size of the Oneworld alliance, its weak integration and restriction for partnerships outside the alliance led to the conclusion that Finnair is missing the opportunity for growth.

When analysing Finnair's operating metrics, it was found that Finnair managed to increase its level of carrying capacity (ASK) by 18.48% and its production (RPK) increased by 24.11%. For its competitors, the ability to

increase the ASK indicated a positive outlook for the future of the airline industry. Finnair appeared to increase its passenger load factor (PLF) and decrease its unit cost (CASK) which are substantial on generating revenue and strengthening the overall health of the airline.

In conclusion, the internal analysis highlighted that having a small size of the alliance, Oneworld limits Finnair's ability to maximize its utility. Hence, Finnair should focus on joining more joint ventures, possibility with members that provide traffic to the Asian market. Also, the low carrying capacity and production can be justified by this limitation. But as the airline has set milestones for growth and cost-optimization, improvements are expected, and progress has been shown already.

All in all, the insights of the external and internal analysis chapter contribute towards having a more accurate forecasting approach in the valuation process.

12 SWOT ANALYSIS

In previous chapters, a thorough analysis was carried out for Finnair both internally and externally. In this chapter, of all the findings resulting from the analysis, the most prominent ones are quickly revised and presented in the SWOT analysis model below.

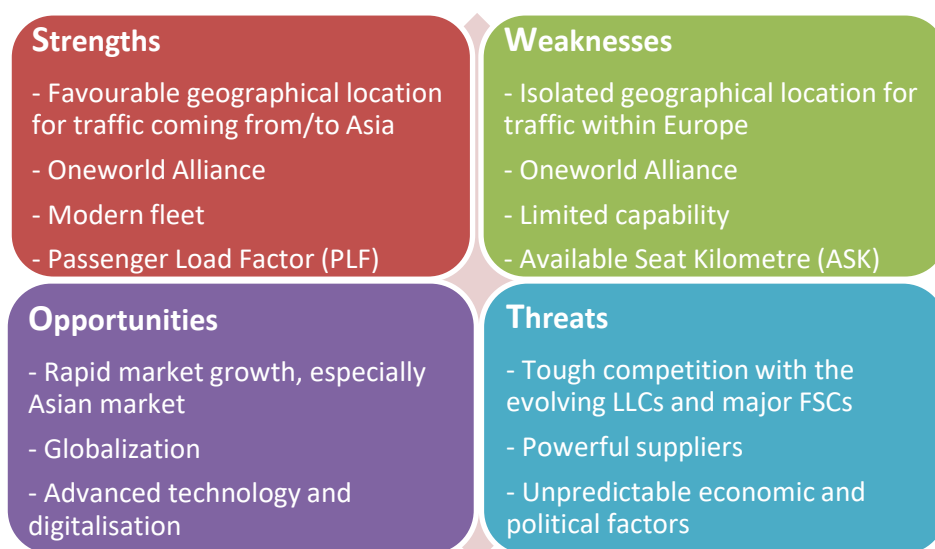


Figure 25. SWOT Analysis

Source: Own illustration

It is interesting to note that for Finnair, strengths for one market can become the most detrimental weaknesses for another. As an illustration, Finnair's hub Vantaa Airport situating in Helsinki serves as both the airline's

competitive advantage and huge drawback. The hub ensures the fastest and smoothest passengers from or to Asia, however, finds it hard to attract travellers within Europe due to its geographic isolation. Although Asian market is at the core of Finnair's operation, European traffic has always contributed significantly to the company's revenue, which was indicated in chapter 6 Sales Analysis. As a result, the impact of the geographic isolation on the airline's business is huge. Another illustration is Oneworld Alliance which has supported Finnair with the extensive network around the world, yet, none of them is in China – the most potential market. Despite being one of “the big three” airline alliances, Oneworld Alliance remains to be the smallest and has limited capability when it comes to competing in the Asian market.

One of the biggest strengths of Finnair is considered to be its modern aircraft Airbus A350 that not only brings comforts to customers but also is fuel efficient and cost saving. This may as well have an impact on the next strength of Passenger Load Factor (PLF) which reached the peak of over 80% in 2017. On the other hand, another critical operating metric Available Seat Kilometre (ASK) is one Finnair's shortcoming. Being in the last place in the peer group in term of ASK implies Finnair's limited carrying capacity that is mostly due to the relatively small size of the company and its alliance. If an airline failed to provide enough seats for passengers, it would still be meaningless to have PLF at 100%.

Opportunities for Finnair includes steady growth of the aviation industry, especially in Asia market and megatrends: globalization and digitalization. Globalization helps to eliminate complex and diversified government regulations in the countries where Finnair operates, and advanced technology acts as a tool for the airline to attract and serve customers better.

In contrast, the most impactful threat for Finnair, without a doubt, is the fierce competition in the industry. Dealing with LCCs has never been tougher as they are evolving and attempting to win more market share over FSCs like Finnair by expanding the operation to long-haul flights. Major FSCs with overwhelmingly large market share are also a big threat to the airline. Moreover, dominant suppliers, who can easily drive up costs for Finnair, makes it even harder to compete in such a price-driven industry. Not only dependent on suppliers, but the airline is also contingent on the economic and political state which are quite often unpredictable. A financial crisis, surging oil price or terrorist attacks are only a few of numerous factors that are detrimental to not only Finnair but the whole aviation industry.

13 DISCOUNTED CASH FLOW METHOD

The insights provided by the previous chapters have crucial importance in forecasting the future performance of Finnair. First by understanding the business model applied by Finnair together with its financial health the authors can make assumption upon Finnair's internal development. Secondly, the findings of the internal and external analysis ensure profound forecasting for growth.

As it was mentioned in chapter one, the application of the DCF method is supported by the author's knowledge gained during their bachelor studies at Bern University of Applied Sciences. In addition to this, the authors will make use of two additional articles published by the University of Virginia, that describes the use of DCF in details. The first article is "Methods of Valuation for Mergers and Acquisitions" (2015) and the second one is "Business Valuation: Standard Approaches and Applications" (2017).

It can be argued that no valuation is right or wrong in an absolute sense. The future of any enterprise is uncertain. Nevertheless, the forecasting of Finnair is based on information provided by the preceding analysis. Having said that, the authors will ensure sure that the forecasting of growth is not highly subjective but is derived from the indicated drivers, as explained in the external analysis. The forecasting period is highly dependent on the industry in which the enterprise being evaluated is operating. Considering the volatility in the airline industry and Finnair's performance being positively correlated to changes in the overall economy of Finland, the authors assume that a five-year forecast period is realistic.

In the following, this chapter is separated into the forecasting of the revenue growth and other items related to it. The second part of this chapter deals with the determination of the appropriate WACC for Finnair. By combining this information with the DCF model used in this thesis the authors will calculate the estimated fair value of Finnair.

13.1 Income statement forecast

13.1.1 Traffic revenue

A very common way of forecasting the growth of an enterprise is to look at its past performance, hence estimating the growth rate based on historical revenue growth. Because of this the authors computed the revenue growth of Finnair for the past five years and found out that there has been a lot of variation in revenue growth at Finnair.

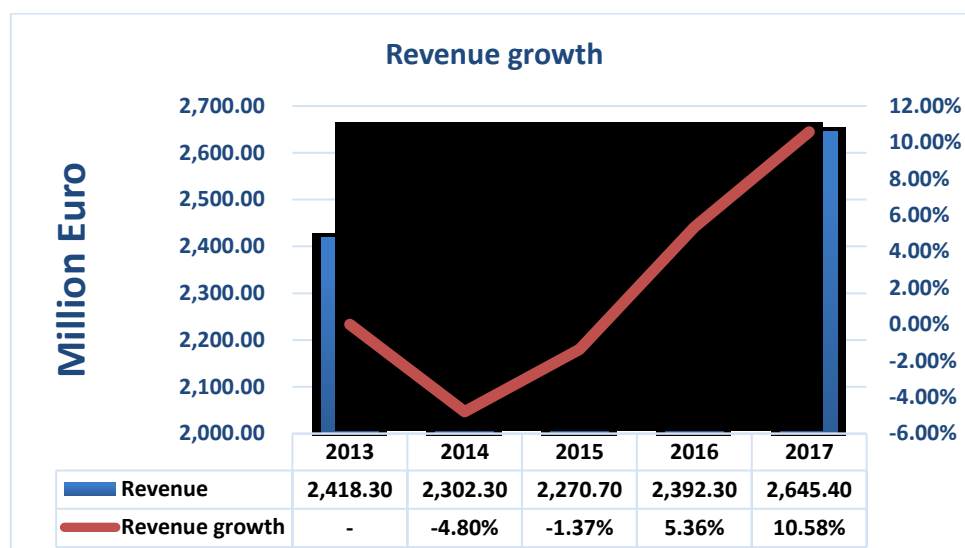


Figure 26. Revenue growth at Finnair (2013 – 2017)

Source: Own illustration based on Finnair Annual Reports (2013-2017)

As it can be seen in Figure 26, the growth at Finnair fluctuated between -4.80% to 10.58%, showing a remarkable variation. This makes it difficult to estimate the growth based on past performance due to a low average growth rate of 2.44%, lower than the inflation in some developing countries. Therefore, the assumption for revenue growth relies on the findings of subchapter 6.1, where it was found that there is a high correlation (0.7) between the GDP development and the increase in demand for air travel.

To forecast the revenue growth, the authors calculated the weighted average growth in real GDP for each traffic area where Finnair operates for the next five years. The raw data for the table is disclosed in Appendix 20.

Table 17. Traffic revenue forecast - Finnair (2018 – 2022)

Growth forecast	2018	2019	2020	2021	2022
Traffic Revenue forecast	2666.10	2760.02	2851.75	2943.39	3037.43
Other operating income (3% of Revenue)	79.98	82.80	85.55	88.30	91.12
Revenue growth in € Millions	-	93.92	91.74	91.64	94.04
Revenue growth in %	3.80%	3.52%	3.32%	3.21%	3.19%

Source: Own illustration based on data from International Monetary Fund (IMF), 2018

As seen in table 17, the authors expect a more conservative increase in revenues during 2018, followed by a similar growth rate in the next four years. Finnair is expected to grow on average at a rate of 3.41% during the forecasted period, and this growth is expected to be the strongest in the next three years. Afterward, a more stable growth rate is evident by the

GDP increase in the traffic areas where Finnair operates. Notice that the growth rates in revenues during the year 2013-2017 differ a lot with the forecasted growth rates due to the internal changes Finnair faced previously.

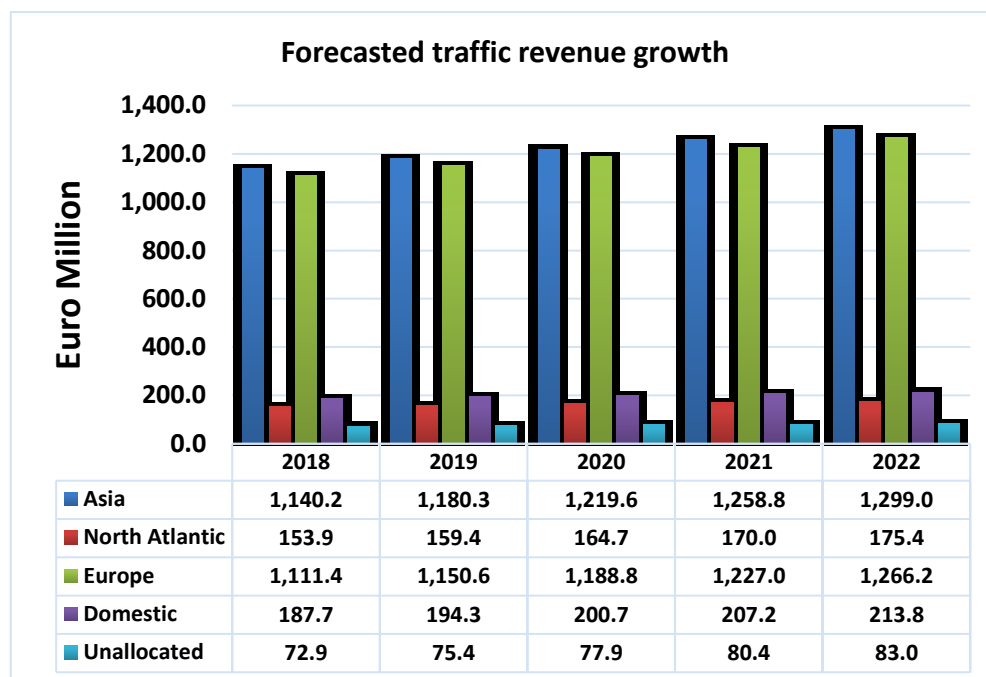


Figure 27. Forecasted revenue by traffic area (2018 – 2022)

Source: Own illustration based on data from International Monetary Fund (IMF), 2018

The authors assume that the traffic revenue will increase steadily in the next five years due to the positive prospects showed by the increase in GDP growth. It is expected that most of the revenues will come from the Asian market because of Finnair's growth milestones for Asia. The steady increase in revenues is also shown in the above Figure where some minor traffic areas for Finnair will not face significant changes due to small revenue contribution. In addition to this, the table in Appendix 20, illustrates that Asia has the highest increase in real GDP growth (5.46%), whereas Europe has an average growth of 1.94%, followed by the North Atlantic market with 2.16% and the overall Finnish economy is expected to grow at 1.72%.

It is known that traffic revenues are the core business for Finnair and count for over 96% of the total revenue. In addition to this, the airline generates other operating income such as rentals, aircraft lease and capital gain on sales of tangible assets. Due to their minor importance in the total revenue, the authors assumed the other operating income to grow at a constant rate of 3% of traffic revenue.

13.1.2 Gross margin

The DCF model used in this bachelor thesis requires estimating the development of gross margin for the forecasted period. Knowing that the most important item in the gross margin formula is the cost of goods sold (COGS), the authors estimated this development based on historical averages of COGS at Finnair. The main items of COGS for Finnair are the payroll and the jet fuel expenses.

Table 18. Staff and Fuel costs at Finnair (2013 – 2017)

EUR Million	2013	2014	2015	2016	2017	Average
COGS	1828.6	1766.3	1735.3	1690.4	1737.8	
Staff costs	381.3	344.5	353.2	362.5	423.3	21.30%
Staff costs % of COGS	20.85%	19.50%	20.35%	21.44%	24.36%	
Fuel costs	689.9	660.4	595.5	491.5	472.2	33.14%
Fuel costs % of COGS	37.73%	37.39%	34.32%	29.08%	27.17%	

Source: Own illustration adapted from Finnair Annual Reports (2013-2017)

As found in subchapter 5.2, Finnair invests heavily in its employees towards improving their working skills and general career development. On average the payroll expense counts for 21.30% of the total revenue at Finnair. As the tendency of increasing its productivity is present at Finnair, the authors expect that the payroll expenses will increase steadily in the future, proportionately to increase in demand for air travel. In its annual report, Finnair explicitly states the prospects for growth, which directly implies the need for more staff to serve the passengers. Hence the highest payroll expense rate Finnair could achieve during the next five years is estimated to be 24%.

As it was found in subchapter 6.1, there is a high correlation between the increase in oil prices with the increase in jet fuel prices and historically this market has been very volatile. According to the US Energy Information Administration (2018), the future of oil prices points towards a continuous increase, which is also disclosed in Appendix 21. Based on Finnair's development in jet fuel expense, a tendency of decrease is evident. But knowing that Finnair hedges a large part of its fuel expense and one cannot predict the outcomes of these hedges, therefore, it is difficult to estimate its future development. The efficient use of the new generation aircraft helps in reducing the usage of jet fuel. Therefore, it is estimated that the development of the jet fuel expense will follow a 30% of the cost of goods sold.

Considering just the fiscal year of 2017 as a reference point for the future of Finnair is very subjective due to the positive outcomes of that fiscal year. Hence the authors assume that it will be tough for Finnair to maintain its current growth rate due to the focus on internal changes and the slowdown of GDP worldwide.

Table 19. Past vs Forecasted gross margin at Finnair

Past Gross margin	2013	2014	2015	2016	2017	Average
		24.38%	23.26%	23.58%	29.34%	34.31%
Forecasted Gross margin	2018	2019	2020	2021	2022	Average
	33.00%	32.00%	31.00%	30.00%	29.00%	31.00%

Source: Own illustration adapted from Finnair Annual Reports (2013 – 2017)

Knowing that two main operating costs for Finnair will increase steadily during the forecasted period, the authors assume that the gross margin will decline by 1% every year, at an average rate of 31.00%.

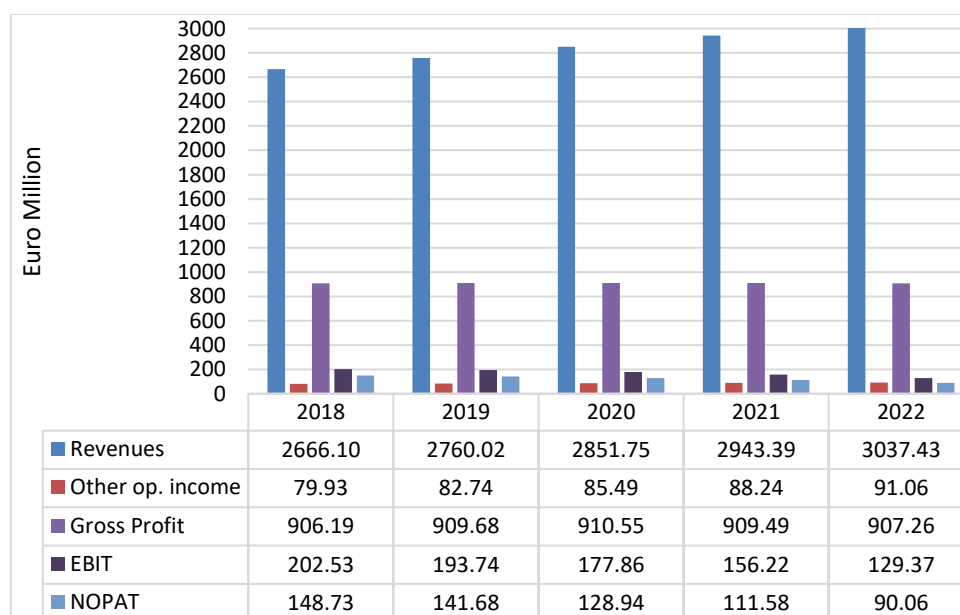


Figure 28. Forecasted income statement items – Finnair (2018-2022)

Source: Own illustration adapted from the forecasted data

13.1.3 SG&A expenses

As it was presented in the chapter 4.2, Finnair's strategy implies growth. The airline will focus on doubling its Asian traffic from the level of 2010 in 2018. It also expects to reach 20 million passengers in 2030, which is twice as its current capacity. In order to achieve these strategic goals, Finnair's operating expenses such as sales and marketing will grow proportionally to the increase in revenues. The SG&A costs at Finnair have minor significance on its operation, as disclosed in Appendix 22. Historically its sales, marketing and administrative expenses counted for 6.71% of revenues. Since Finnair stated the focus explicitly on doubling its Asian traffic in 2018 the authors forecasted the SG&A to reach 8% of revenues in 2018 then slowly decrease towards a stable level of 7% in the following years.

13.1.4 Other operating expense

In the income statement of Finnair, the other operating expenses are subject to auditing fees paid, realized currency hedging and other unclassified items. Considering the nature of items included in the other operating expenses it is hard to forecast their further development based on external factors. Therefore, the authors base their assumption on the past development of this expense. The average rate of other operating expenses as a percentage of revenues was 10.10%, from 2013 to 2017. Hence for this thesis, it is assumed that these expenses will develop at a constant rate of 10.78% of total revenues during the forecasted period of 2018-2022. The table is disclosed in Appendix 23.

13.1.5 Leasing and Depreciation

Finnair follows a strategy of sale and lease-back of its aircraft to pay for the purchase of aircraft and possibly make some gains on the sale. This also generates a lot of cash that Finnair uses to finance other activities. The amount of leasing paid for the aircraft depends on the size of the fleet. That said Finnair fleet has increased in size during 2017 and the airline expects the delivery of several aircraft during the year 2018 – 2020. So, one can assume that the leasing expense will increase proportionately to the increase of the fleet. Nevertheless, the number of sale-leaseback aircraft is unpredictable because it depends on the future financial circumstances of Finnair. For that reason, it is assumed that the leasing costs during the forecasted period will be 6% of revenues. This rate is above the average rate of 5.5% leasing costs Finnair has paid during 2013 – 2017. The development of leasing costs is disclosed in Appendix 24.

Like leasing the nominal amount of depreciation in tangible assets at Finnair depends on the fleet size. The DCF model used in this thesis requires calculating the amortization as a percentage of Property, plant and equipment (PP&E). At Finnair, the PP&E includes all tangible assets such as aircraft, buildings & land and other equipment. Aircraft count for more than 85% of Finnair's PP&E and their depreciation requires a careful look. Depreciation as a percentage of PP&E has been decreasing steadily at a rate of 9.09% in 2017. Hence the authors assume that depreciation as a percentage of PP&E will follow a constant rate of 9.09% for the specific five-year period. The development of depreciation costs is disclosed in Appendix 25.

Table 20. Forecasted leasing expense and depreciation

€ Million	2018	2019	2020	2021	2022
Forecasted Leasing	110.39	115.98	121.60	127.33	133.27
Forecasted Depreciation	134.11	138.84	143.45	148.06	152.79

Source: Own illustration based on the forecasted rates

13.1.6 Net working capital (NWC) turnover

The forecast of the net working capital is based on the historical NWC development at Finnair. Due to internal changes at Finnair and its weak financial position during year 2013/14, the airline faced a remarkable variation in NWC. In the year 2017 Finnair reached its best NWC turnover (5.96), indicating high effectiveness in using its working capital. Hence, for the forecasted period an NWC turnover of 5.80 is estimated. The development of NWC turnover at Finnair is disclosed in Appendix 26.

13.1.7 Property, plant and equipment (PP&E) turnover

Finnair's PP&E turnover fluctuate between 1.86 to 2.7, indicating a variation in its ability to generate sales from the fixed-asset investments. Due to the nature of this item, the authors estimated a fixed PP&E turnover of 1.86 for the forecasted period. The development of PP&E turnover at Finnair is disclosed in Appendix 26.

13.1.8 Other items in the income statement

By nature, the other items in the income statement have unpredictable future, such as fair value changes in derivatives and the financial expense. Based on historical data, the fair value of derivatives will count for 2.06% of revenues and financial expense is €14 million.

13.1.9 TAX rate

Finnair has faced significant variation in its marginal tax rate. In 2014 Finnish government lowered the corporate income taxes from 24.5% to 20% which had a positive effect for Finnair. In addition to this, the marginal tax rate in 2014 was affected by the write-down of loan receivables € 10.8 million. The impact of this changes can be seen in Appendix 28 where the average marginal tax rate of Finnair is 11.58%. The authors consider this as an unrealistic estimate for the future so, the forecasted tax rate will be 19.80%, which is closer to the Finnish corporate income tax of 20%. Calculations regarding the forecasted data the reorganization of data are disclosed in the USB stick, excel file: DCF Method – Finnair under the excel sheets named Adjustments and Growth Forecast.

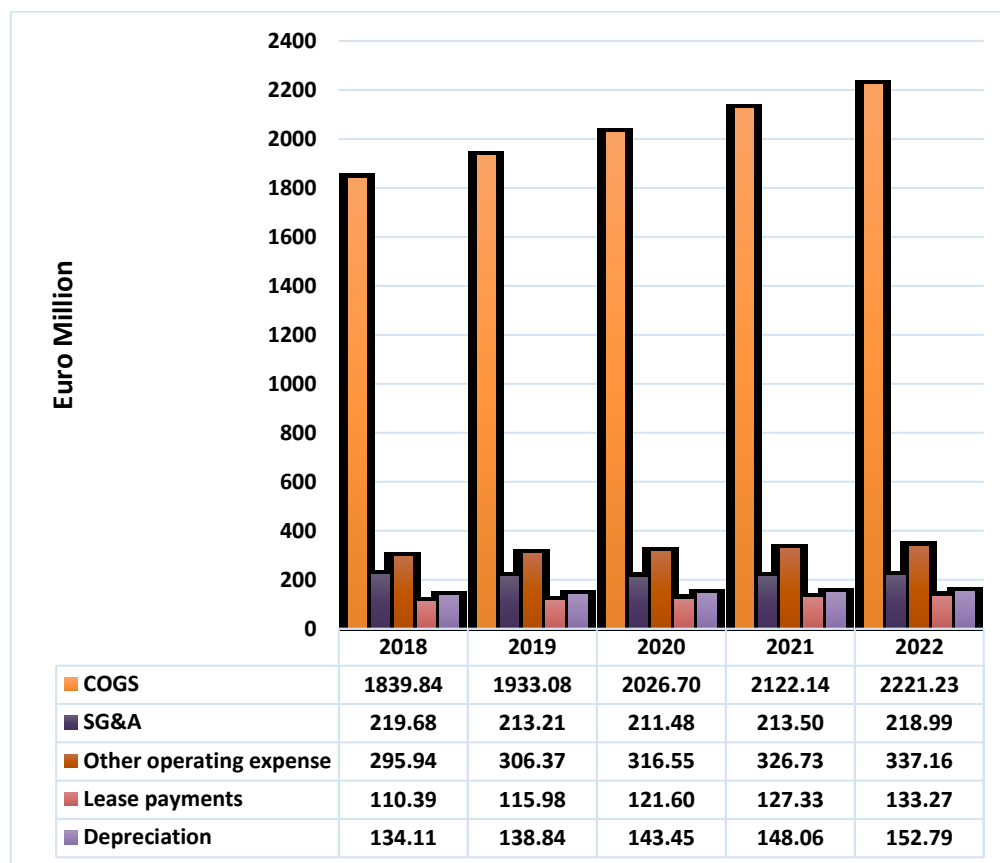


Figure 29. Forecasted expense – Finnair (2018-2022)

Source: Own illustration adapted from the forecasted data

13.2 Weighted average cost of capital (WACC)

After forecasting the income statement of Finnair, it is required to calculate the WACC which is used to discount the projected cash flows. Calculating WACC is crucial for the DCF approach as small changes have a significant impact on estimating the fair value of Finnair. The WACC – formula used is disclosed in Appendix 29 and requires calculating the cost of equity, cost of debt and determining the market value of debt and equity respectively.

13.2.1 Cost of Equity

The cost of equity is obtained from the Capital Asset Pricing Model (CAMP). This model requires calculating the risk-free rate, market risk premium and the beta of Finnair.

13.2.1.1. Risk free rate (rf)

The risk-free rate is the expected return on risk-free securities with a similar maturity as the forecasted period. As a proxy for the risk-free rate,

the authors took the yield of 10-year Finnish government bond, respectively **0.774%**. This in line with the Eurostat⁶, 2018 data and the 5-year⁷ average Finnish government bond (0.956%). The reason for taking the domestic bond is to avoid the effect of exchange rates, and it is considered as a default-free bond. The graph in Appendix 30 illustrates the development of this bond for the past three years.

13.2.1.2. Market risk premium (MRP)

The market risk premium is estimated in two ways. In the first one, financial analysts compare the stock market long-term actual return to a risk-free investment's actual return. Whereas, in the second one market participants' expectations of the stock market yield are considered. In this thesis the second approach is used. According to PWC⁸'s article "Equity Market Risk Premium (EMRP) on the Finnish stock market", 2015, it was found that over the past 20 years the MRP in Finland ranged between 4.63% to 6.40%. In addition, the CFA book level two (page 272) states that a global estimate of 4.5% to 5.5% is consistent with the perspective of a global investor. Having all this information, the authors decide to add 0.37% to the lowest historical market risk premium and use 5% as a realistic measure. The reason for choosing this rate is that the first approach resulted in an MRP of 1.47% which is not consistent with any financial literature. In addition, the 5% MRP is consistent with the estimations of PWC and the CFA Institute. The data for the Finnish MRP is disclosed in Appendix 31.

13.2.1.3. Beta of Finnair

Beta is a measure of systematic risk of a firm's common stock (University of Virginia, 2015). A beta higher than one indicates that the return of the stock is strongly correlated to changes in the market. In this thesis, the beta is calculated through a regression analysis on the five-year weekly returns of Finnair and the HELSINKI TRAVEL & LEISURE index (HX5700PI) in which Finnair trades. The outcomes of the regression analysis yielded a beta of 1.36. This means that a 1% change in the returns of the chosen index results on 1.36% change in returns of Finnair. The authors consider Finnair as a volatile stock since it has a high beta which implies a high risk for the investors. The scatterplot is disclosed in Appendix 32.

⁶ Eurostat - Long term government bond yields

⁷ [Investing.com - Finland 10-Year Bond Yield](https://www.investing.com/finland/10-year-bond-yield)

⁸ PricewaterhouseCoopers

13.2.1.4. Capital Asset Pricing Model (CAMP)

Since the required items for calculating the cost of equity are found, now we can apply the CAMP model. According to the table below the cost of equity for Finnair is 7.59%.

Table 21. Cost of Equity

Cost of Equity (CAMP)	7.59%
Risk-free rate	0.774%
Market risk premium	5.00%
Beta	1.36352502

Source: Own illustration

13.2.2 Cost of debt

The authors are aware of two approaches to calculating the cost of debt. The first one is using the average of historical interest expense over the debt per year, then deducting the effective tax rate from the cost of debt. The second approach includes the credit rating of Finnair, the time to maturity of its debt and the spread of a local government bond. Since the credit rating of a firm depends on its financial health and varies a lot within years, the authors will use the first approach.

Table 22. Historical interest expense at Finnair (2010-2017)

€ million	2010	2011	2012	2013	2014	2015	2016	2017
Short-term Debt	98.50	229.90	174.20	207.50	89.90	75.20	100.40	132.40
Long-term Debt	677.70	516.00	413.50	410.90	359.80	286.80	622.20	587.30
Interest expense	22.60	22.40	18.60	14.20	11.50	3.30	6.40	9.90
Interest rate	2.91%	3.00%	3.16%	2.30%	2.56%	0.91%	0.89%	1.38%
Average								2.14%

Source: Own illustration adapted from Finnair Annual Reports (2010 – 2017)

As presented in table 22, the interest rate paid by Finnair has fluctuated between 0.89% to 3%, indicating an average rate of 2.14%. The effective tax was given in the previous subchapter 19.80% and needs to be deducted from the cost of debt due to the tax deduction on interest paid. The after-tax cost of debt for Finnair is 1.71%.

Table 23. After-tax cost of debt for Finnair

After-tax cost of debt	1.71%
Average Interest rate	2.14%
Effective tax rate	19.80%

Source: Own illustration

13.2.3 Determining the market value of equity and value of debt

Since the cost of equity and cost of debt are calculated the last item of WACC is the capital structure of Finnair. Ideally, the debt and equity ratios are based on market values since the investors expect a return on the market value paid of the stock.

13.2.3.1. Value of equity

The market value of equity is derived from the market value of the outstanding shares times the price per share. The number of total outstanding shares at Finnair is 128'136'115 and the current share price is € 11.47 (as of April 27, 2018). This multiplication equals Finnair's market capitalization of € 1'469'721'239.05.

13.2.3.2. Value of debt

To compute the market value of debt is not an easy task and usually, the required information is not available. Nevertheless, the book value of debt usually is taken as a proxy for the market value of debt since it has almost no changes. Notice that these two items change just in case of macroeconomic changes in the country issuing the debt. Because the interest rates can fluctuate in an unpredictable direction, the market value of debt can differ a lot from the book value. As seen in the after-tax cost of debt the average interest rate paid by Finnair was 1.71% which is in line with the interest rate paid during the last three years and indicates low variation. For practical reasons, the authors will use the book value of debt. The book value of total debt of Finnair for the fiscal year 2017 is € 719'831'270.37.

13.2.3.3. Capital structure ratios

Since the value of equity and debt is calculated, now it is possible to determine the capital structure ratios. The sum of market value of equity and debt results on the total market value of the firm of € 2'189'552'509.42.

Table 24. Capital structure ratios

Capital structure ratios	%
Equity / Capital	67.12%
Debt / Capital	32.88%
Debt / Equity	48.98%

Source: Own illustration adapted from preceding calculations

As presented in table 24, Finnair has relatively small amount of debt over its total capital.

13.2.4 Determining the WACC of Finnair

The calculated items in subchapter 12.2 are the foundations of determining the WACC. As illustrated in table 25, the WACC of Finnair is 5.80%. However, the DCF model uses the WACC after taxes to discount the projected cash flows. Hence, the WACC after taxes is 5.66%. As mentioned previously the WACC formula used in this thesis is disclosed in Appendix 29.

Table 25. WACC of Finnair

Finnair	
Cost of Debt	2.14%
After Tax Cost of Debt	1.71%
Beta (β)	1.363525
Cost Equity (CAPM)	7.592%
Debt / Capital	32.9%
Equity / Capital	67.1%
D / E	47.1%
10 Year Treasury Bond Yield	0.77%
Market Risk Premium	5.00%
Tax Rate	19.8%
WACC	5.80%
WACC after taxes	5.66%

Source: Own illustration adapted from the preceding calculations

Calculations regarding subchapter 12.2 are disclosed on the USB stick, excel file: **DCF Method – Finnair** under the excel sheets named **BETA**, **WACC_final** and **WACC_estimation**.

13.3 Terminal value

Determining the terminal value is the last part of conducting a DCF model. Forecasting the future of Finnair just for the next five years is not enough since the lifetime of a company is unpredictable. Hence the terminal value needs to be calculated to present all the cash flows beyond the five-year forecast period. A standard way of defining the terminal value is by calculating the steady-state growth rate. According to the CFA Institute, the steady state growth rate is best defined as the average growth of inflation.

The IMF (2018) projected the long-term inflation to grow at a rate of 2%. Hence the steady-state growth rate for this thesis is 2%, which is in line with the decline in GDP growth rate and avoids overoptimistic estimations. The projected long-term growth of inflation is disclosed in Appendix 33.

14 THE FAIR VALUE OF FINNAIR

The Figure below presents the whole DCF approach, including the estimations made in the previous chapter and the outcomes yielded by this model.

INPUTS	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	
Revenue growth	10.9%	3.80%	3.52%	3.32%	3.21%	3.19%	
Gross Margin (% of Revenue)	34.3%	33.0%	32.0%	31.0%	30.0%	29.0%	
SG&A (% of Revenue)	7.0%	8.0%	7.5%	7.2%	7.0%	7.0%	
Depreciation (% of PPE)	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	
NWC Turnover	5.96	5.80	5.80	5.80	5.80	5.80	
PPE Turnover	1.86	1.86	1.86	1.86	1.86	1.86	
Leasing (% of COGS)	7.86%	6.00%	6.00%	6.00%	6.00%	6.00%	
Other op. expense (% of revenue)	10.78%	10.78%	10.78%	10.78%	10.78%	10.78%	
Other op. income (% of revenue)	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	
Fair value of derivatives (% revenue)	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	
Tax Rate	19.8%						
WACC	5.66%						
Steady State Growth	2.00%						

(€ millions)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal Value
Revenues	2'568	2'666	2'760	2'852	2'943	3'037	
Other operating income	77	80	83	85	88	91	
COGS	1'737.80	1'839.84	1'933.08	2'026.70	2'122.14	2'221.23	
Gross Profit	908	906	910	911	909	907	
SG&A	186	220	213	211	214	219	
Other operating expense	285	296	306	317	327	337	
Lease payments	137	110	116	122	127	133	
Depreciation	129	134	139	143	148	153	
Fair value of Derivatives	54	56	58	60	62	64	
EBIT	225	203	194	178	156	129	
- Taxes	-45	-40	-38	-35	-31	-26	
-Financial Expense	-14	-14	-14	-14	-14	-14	
NOPAT	167	149	142	129	112	90	92
NWC	443.6	473.5	490.1	506.4	522.7	539.4	44
Net PPE	1'422.1	1'476.2	1'528.2	1'579.0	1'629.7	1'681.8	
Return on Capital	8.9%	7.6%	7.0%	6.2%	5.2%	4.1%	
NOPAT		149	142	129	112	90	
Add: Depreciation		134	139	143	148	153	
Less: Capital Expenditures		188	191	194	199	205	
Less: Increase in NWC		29.9	16.7	16.3	16.3	16.7	
= Free Cash Flow		65	73	62	45	21	47.4
Terminal Value						1'296	
Free Cash Flows + Terminal Value		65	73	62	45	1'317	
Discount Factors @ 5.66%		0.946	0.896	0.848	0.802	0.759	
PV of FCF and Terminal Value @ 5.66% (FCF)		61	65	52	36	1'000	
Enterprise Value PV @ 5.66% (FCF)		1'215					
Total outstanding shares		128					
Fair value of share price (not million)		€ 9.48					
NOPAT/Sales		5.58%	5.13%	4.52%	3.79%	2.96%	
Sales/NPPE		180.6%	180.6%	180.6%	180.6%	180.6%	
Rona		7.63%	7.02%	6.18%	5.18%	4.05%	

Figure 30. Discounted Cash Flows results

Source: Own illustration adapted from University of Virginia, 2015.

As it can be seen in Figure 30, the red highlighted row presents the calculated value of Finnair, respectively € 1'215'000'000. If we divide this value by Finnair's total outstanding shares of 128'136'115, we get the fair value per share of € 9.48, highlighted in yellow.

Comparing the calculated share price of € 9.48 with its actual share price of € 11.47 (as of April 27, 2018), Finnair's share price results to be overvalued by € 1.99 or 20.96%.



Figure 31. Share price of Finnair (January 2013 to April 2018)

Source: Finanzen.ch, 2018

Figure 31 explains clearly that the volatility in Finnair's share price is very high. Its share has been fluctuating between € 2.5 to € 13.00. This also justifies the 1.36 Beta found previously. The authors consider this volatility as an opportunity for investors to generate higher returns while considering the implied high risk. A closer look at the graph indicates the increase in share price during 2017. Finnair share price increased from € 4.14 in January 2017 to € 12.82 in December 2017, showing a 310% increase.

Calculations regarding chapter 13 are disclosed on the USB stick, excel file: **DCF Method – Finnair** under the excel sheet named **Valuation_of_Finnair**.

15 CONCLUSION

The purpose of this bachelor thesis was to determine the fair value of the stock of Finnair. This was also in line with the main question of this bachelor thesis: "What is the fair value for Finnair and how does it compare to the current market value?".

To answer this question the authors conducted a strategic and financial analysis of Finnair that served as a foundation for applying the DCF method. The DCF calculations resulted that Finnair's fair value of the stock is € 9.48, yielding a 20.96% overvaluation compared to the actual share price of € 11.47 (as of April 27, 2018).

Given the insights from the financial analysis, it was found that Finnair's traffic revenue grew significantly during the fiscal year of 2017. The authors assume that this growth resulted in more external investors following the crowd, surging its share price by 310% in only 1-year time. Behavioural finance identifies this as herd behaviour. In addition, the financial assessment showed that Finnair's financial health and the high volatility in its stock makes it attractive to investors seeking high returns meanwhile taking high risk. It is evident that Finnair increased its efficiency on resources and cost control but still, this rapid growth makes it difficult for the airline to sustain a growth rate higher than 3.8% in the future.

The authors confirm that Finnair met all its forecasted growth prospects during the fiscal year of 2017. During 2017, Finnair reported quarterly earnings guidance that aimed a much higher growth and financial outcomes compared to the preceding fiscal years. Since the management at Finnair reached the promised figures in the forward-looking statements, this gave a signal to investors that it will continue doing so in the future. In addition, the announcement of higher dividends for the fiscal year 2017 just helped the surge in the share price of Finnair.

The authors found out that historically the share price of Finnair is sensitive to its traffic revenue growth. If we consider the weak average growth rate of 2.44% during 2013-2017, it is clear that Finnair is overvalued due to the positive financial outcomes of 2017. Whereas the cost of goods sold has been increasing by 3% from 2016 to 2017, still, Finnair's gross margin increased by almost 5%, once again showing the influence of revenue growth. Since Finnair's capability to generate profits is expected to slow down in the future, it will be hard for the Airline to justify the current valuation.

15.1 The future of Finnair

Since the analysis of the operating metrics within the peer group resulted on Finnair having the lowest carrying capacity still with a relatively high unit cost, the authors expect its net income to decrease in the next five years. Another reason why Finnair will have it difficult to increase its net profit is due to the expected weak Finnish economy and Finnair's focus on restructuring its aviation services.

It was concluded that the driver behind growth in the airline industry is the GDP growth. The data from IMF resulted in weak GDP growth in the next five years. This will affect Finnair's traffic revenue growth and settle it at the target inflation growth rate of 2%. A drawback for Finnair could be its

state ownership, that might impose high-cost structures and make it fly to unprofitable destinations for political reasons. This is proven by the fact that Finnair repeatedly tried to scrap the Finnish state's majority stake, but the government rejected. It is the desire of Finnair's management to tie-up with a larger player due to its small size and potential to capture more market share. It can be concluded that Finnair's ownership looks more like a political desire to have a state airline rather than strategical decision. Knowing that Finnair's management has a different view of the company compared to its largest shareholder, investors might feel insecure about the future of Finnair.

The share price of Finnair is sensitive also to operating income, such as payroll and jet fuel. The authors expect these two items to increase in the future while reducing Finnair's gross margin, hence making it harder to reach its financial targets. When Finnair fails to meet its financial targets, the external public sees this as a weakness and feels insecure to invest, therefore, this will have a negative impact on its share price. Knowing that the Nordic countries have strong labour unions, it will be hard for Finnair to implement substantial cost reduction strategies. As about the competition, low-cost carriers are driving the European market; this was also proven by Norwegian's low unit cost and high passenger load factor. The authors conclude that Finnair should focus on increasing its market share in the Asian market with more joint partnerships.

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SUBSIDIARIES OWNED BY FINNAIR GROUP

Name of the company	Domicile	Group ownership %
Finnair Cargo Oy	Finland	100.0
Finnair Aircraft Finance O	Finland	100.0
Finnair ATR Finance Oy	Finland	100.0
Finnair Technical Services Oy	Finland	100.0
Finnair Engine Services Oy	Finland	100.0
Finnair Travel Retail Oy	Finland	100.0
Finnair Flight Academy Oy	Finland	100.0
Kiinteistö Oy Lentokonehoulto	Finland	100.0
Northport Oy	Finland	100.0
Nordic Regional Airlines AB	Sweden	100.0
Balticport Oü	Estonia	100.0
Finnair Kitchen Oy	Finland	100.0
Amadeus Finland Oy	Finland	95.0
Oy Aurinkomatka – Suntours Ltd Ab	Finland	100.0
Aurinko Oü	Estonia	100.0
Matkayhtymä Oy	Finland	100.0
OOO Aurinko	Russia	100.0
FTS Financial Services Oy	Finland	100.0
Finnair Business Services Oü	Estonia	100.0

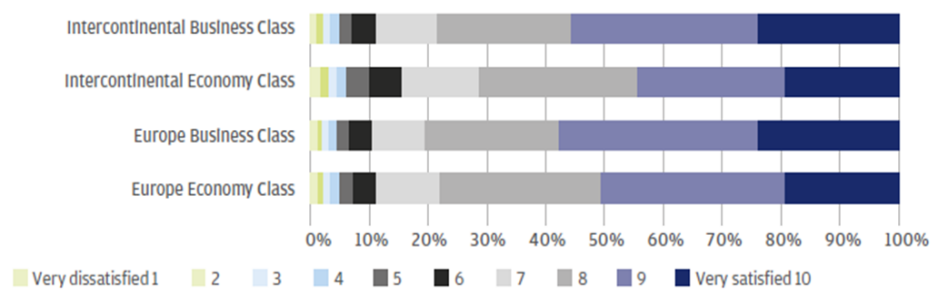
Source: Finnair – Annual Report 2017

FINNAIR EMPLOYEES AS OF 31.12.2017 (only active employees)

	Women	Men	Total
Employees	506	687	1,193
Office staff	718	745	1,463
Cabin	1,620	191	1,811
Pilots	24	877	901
Management	27	49	76
Total	2,895	2,549	5,444

Source: Finnair – Annual Report 2017

CUSTOMER SATISFACTION RESULTS



Source: Finnair – Annual Report 2017

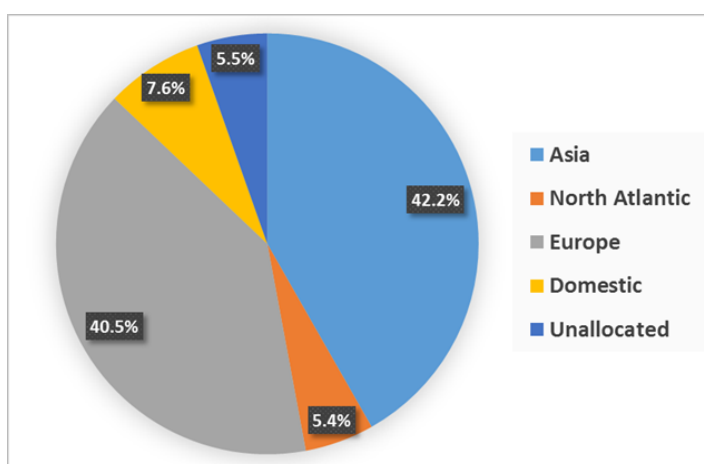
AVERAGE REVENUE GENERATED BY EACH TRAFFIC AREA 2013 – 2017

	Asia	North Atlantic	Europe	Domestic	Unallocated
2013	43.0%	4.0%	36.0%	8.0%	9.0%
2014	44.0%	5.0%	43.0%	8.0%	
2015	41.0%	5.8%	40.7%	7.3%	5.3%
2016	40.4%	6.2%	41.1%	7.5%	4.8%
2017	42.8%	5.8%	41.7%	7.0%	2.7%
Average	42.2%	5.4%	40.5%	7.6%	5.5%

Source: Own illustration adapted from Finnair – Annual Report 2013 – 2017

EUR mill.	Asia	North Atlantic	Europe	Domestic	Unallocated	Total
2013	1'032.0	96.0	864.0	192.0	216.0	2'400.0
2014	1'005.0	114.2	982.1	182.7		2'284.0
2015	923.2	130.9	916.9	164.0	119.5	2'254.5
2016	937.0	142.7	951.8	173.0	112.2	2'316.7
2017	1'098.4	148.3	1'070.7	180.8	70.2	2'568.4

Source: Own illustration adapted from Finnair – Annual Report 2013 – 2017



Source: Own illustration adapted from Finnair – Annual Report 2017

Appendix 5

TOTAL PASSENGERS CARRIED BY FINNAIR FROM 2013 – 2017

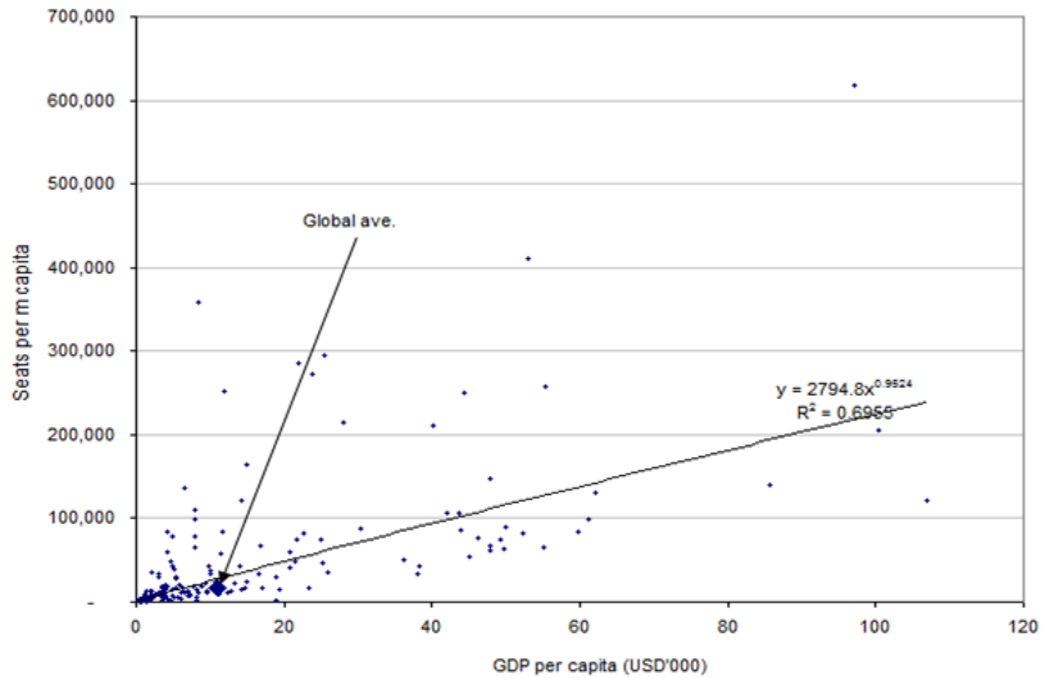
*Note: the same method has been used for the period from 2013 to 2017. This is just an example to show the calculations.

(in 1000)	Dec 17	Nov 17	Oct 17	Sep 17	Aug 17	Jul 17	Jun 17	May 17	Apr 17	March 17	Feb 17	Jan 17
Europe	531	545	664.8	676.8	706.6	785.1	744.1	665.8	602.5	520.8	451.1	458.8
North At	27.4	19.9	29.8	31.5	33.7	34.4	32.5	19.7	25.7	22	19.2	22.3
Asia	179.7	177.4	190.3	191.4	201.9	206.3	180.5	164.9	148.1	155.3	149.9	159.3
Domesti	213.3	207.3	170.3	176	138.7	92.1	143.1	159.7	183.8	235.8	214.2	194.8
SUM	951.4	949.6	1055.2	1075.7	1080.9	1117.9	1100.2	1010.1	960.1	933.9	834.4	835.2

Source: Own illustration adapted from Finnair – Annual Report 2017

THE RELATIONSHIP BETWEEN GDP AND AIR TRAVEL

Airline seats per capita (vertical axis) versus GDP per capita (horizontal axis) by country



Source: CAPA – Centre for Aviation, OAG (seat data for week of 9-Jun-2014), International Monetary Fund

REVENUE BY PRODUCT

Revenue by category	2014	2015	2016	2017
Passenger revenue	1640.2	1749.7	1816.1	2020.8
Ancillary and retail revenue	79.1	104.6	125.5	144.6
Cargo	231.3	183.7	173.8	197.4
Travel services	213.8	206.9	187.5	205.6
Travel agencies	120	79.1	13.8	0
Total	2284.4	2324	2316.7	2568.4

Source: Own illustration adapted from Finnair – Annual Report 2014 – 2017

RETURN ON ASSETS (ROA)

€ Mill.	2010	2011	2012	2013	2014	2015	2016	2017
Net income	-22.8	-87.7	11.8	11	-82.5	89.7	85.1	169.4
Total asset	2411.8	2357	2241.7	2200.6	1885.1	2050.3	2528.7	2887.1
	-0.95%	-3.72%	0.53%	0.50%	-4.38%	4.37%	3.37%	5.87%

Source: Own illustration adapted from Finnair – Annual Report 2010 – 2017

CURRENT RATIO

€ Mill.	2010	2011	2012	2013	2014	2015	2016	2017
Current Assets	826.7	735.5	698.7	759.4	798.6	1084.3	1200.7	1424.6
Inventories	47.5	48.9	17.1	19.9	14.7	11.8	14.9	17.2
Current Liabilities	702.4	903.1	865	943.2	933.4	976	921.3	1113.4
	1.11	0.76	0.79	0.78	0.84	1.10	1.29	1.26

Source: Own illustration adapted from Finnair – Annual Report 2010 – 2017

SOLVENCY RATIOS

	2010	2011	2012	2013	2014	2015	2016	2017	Average
Long-term Debt	677.7	516	413.5	410.9	359.80	286.8	622.2	587.3	
Total Equity	853.3	752.5	775.3	678	514.3	727.5	857	1015.7	
	0.79	0.69	0.53	0.61	0.70	0.39	0.73	0.58	0.63

Source: Own illustration adapted from Finnair – Annual Report 2010 – 2017

REVENUE PER EMPLOYEE RATIO

€ Mill.	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	2'023	2'258	2'449	2'400	2'284	2'255	2'317	2'568
Employee (1'000)	7'578	7'467	6'784	5'859	5'172	4'906	4'908	5'444
Finnair	266'957	302'397	360'996	409'626	441'609	459'641	472'086	471'712
Industry	371'001	370'643	432'003	439'138	443'328	479'786	462'530	450'642

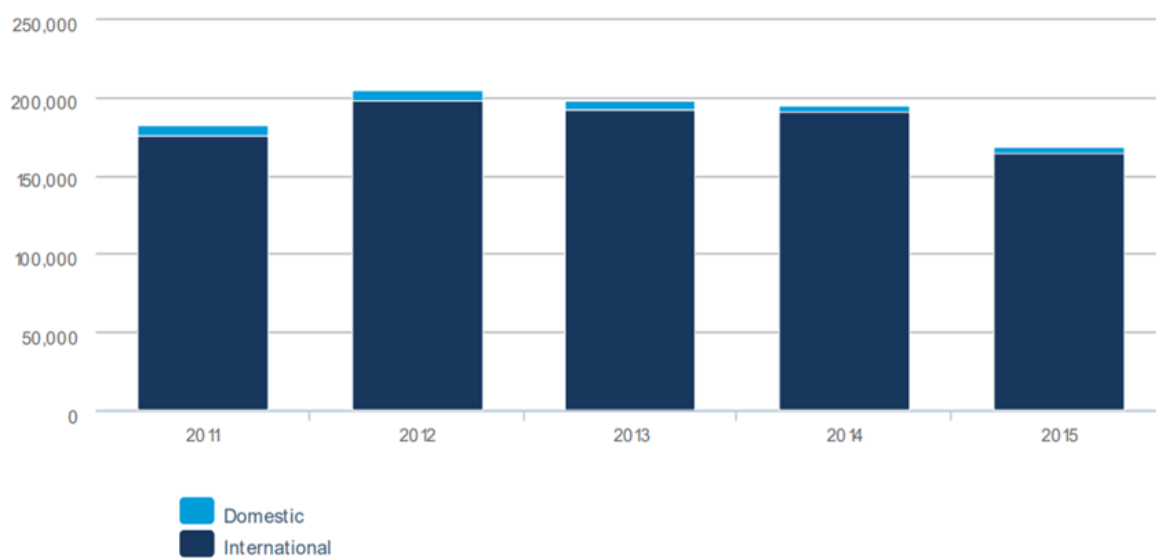
Source: Own illustration adapted from Finnair – Annual Report 2010 – 2017

LEISURE OVERNIGHT TRIPS ABROAD MADE BY FINNISH RESIDENTS 2013 – 2017

	2013	2014	2015	2016	2017	CAGR
Package tours	1862000	1900000	1800000	1700000	1700000	-1.80%
Total overnight trips	5642424	5757576	6206897	5862069	6296296	2.22%
Package tours' market share	33%	33%	29%	29%	27%	

Source: Own illustration adapted from Finava – Annual Report 2013 - 2017

TOTAL AIR FREIGHT TRANSPORTED IN FINNISH AIRPORTS



Source: Own illustration adapted from Finava – Annual Report 2011 – 2015

TOTAL PASSENGERS TRANSPORTED IN FINNISH AIRPORTS AND BY FINNAIR 2013 – 2017

	2013	2014	2015	2016	2017	CAGR
Total	19000000	19700000	20100000	20800000	22700000	3.62%
Finnair	9300000	9600000	10300000	10900000	11900000	5.05%
Finnair's market share	48.95%	48.73%	51.24%	52.40%	52.42%	

Source: Own illustration adapted from Finava – Annual Report 2013 – 2017

CALCULATIONS FOR THE FINANCIAL COMPARISON

EBITDA – (Operating result + depreciation), **EBITDA margin** – (EBITDA / Revenue)

EBIT – (Revenue – Operating costs), **EBIT margin** – (EBIT / Revenue)

Net Profit (Loss) margin - (Net Profit (Loss) / Revenue)

Equity ratio – (Total Shareholder Equity / Total Assets)

Return on Equity ratio (ROE) – (Net Income / Shareholders Equity)

*All the data is based on the annual reports of each airline from 2013 to 2017.

GLOBAL AIRLINE ALLIANCE MEMBERS



Source: Star Alliance official website -2018

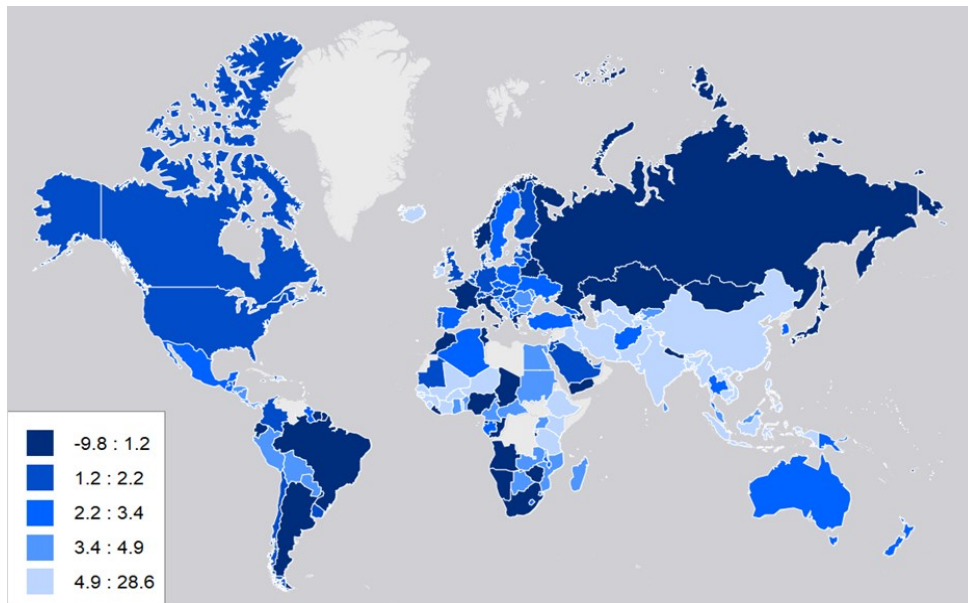


Source: Skyteam official website -2018



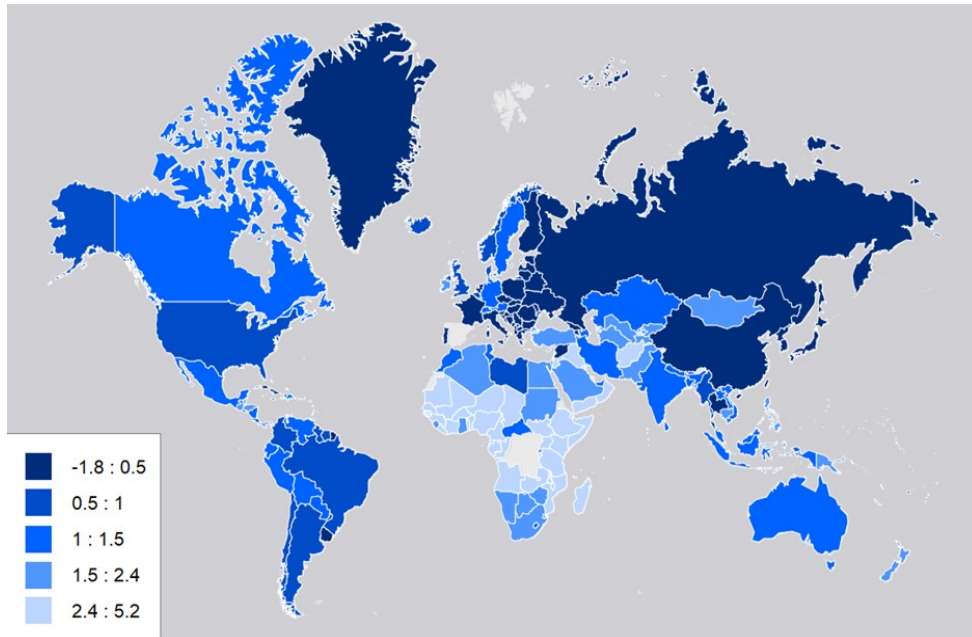
Source: Oneworld official website -2018

WORLD ANNUAL GDP GROWTH RATE (%) IN 2016



Source: World Bank official website 2018

WORLD ANNUAL POPULATION GROWTH RATE (%) IN 2016



Source: World Bank official website 2018

OPERATING METRICS

Formulas

Available seat kilometers (ASK): Total number of seats available × kilometers flown

Revenue passenger kilometers (RPK): Number of revenue passengers × kilometers flown

Passenger load factor (PLF), %: Share of revenue passenger kilometers of available seat kilometers

Cost per available seat kilometer (CASK): Unit cost (CASK) represents the Group's operational costs divided by available seat kilometers. Other operating income is deducted from operational costs.

Currency Adjustment

Metric						Finnair in EUR				
						2013	2014	2015	2016	2017
ASK Million						31'162	30'889	31'836	33'914	36'922
RPK Million						24'776	24'772	25'592	27'065	30'750
PLF						79.50%	80.20%	80.40%	79.80%	83.30%
CASK						€ 0.066	€ 0.064	€ 0.070	€ 0.067	€ 0.065
Metric	SAS in SEK					SAS in EUR				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
ASK Million	39'406	40'979	41'529	45'691	48'368	39'406	40'979	41'529	45'691	48'368
RPK Million	28'878	30'852	30'921	34'318	36'095	28'878	30'852	30'921	34'318	36'095
PLF	73.28%	75.29%	74.46%	75.11%	74.63%	73.28%	75.29%	74.46%	75.11%	74.63%
CASK	SEK 0.80	SEK 0.75	SEK 0.79	SEK 0.70	SEK 0.69	€ 0.092	€ 0.082	€ 0.084	€ 0.074	€ 0.072
Exchange rate EUR/SEK	8.65522	9.09979	9.35869	9.46874	9.63840					
Metric	Norwegian in NOK					Norwegian in EUR				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
ASK Million	34'318	46'479	49'028	57'910	72'341	34'318	46'479	49'028	57'910	72'341
RPK Million	26'881	37'615	42'284	50'798	63'320	26'881	37'615	42'284	50'798	63'320
PLF	78.33%	80.93%	86.24%	87.72%	87.53%	78.33%	80.93%	86.24%	87.72%	87.53%
CASK	NOK 0.42	NOK 0.42	NOK 0.42	NOK 0.41	NOK 0.43	€ 0.054	€ 0.050	€ 0.047	€ 0.044	€ 0.046
Exchange rate EUR/NOK	7.81300	8.35993	8.94680	9.29719	9.33304					
Metric	Aeroflot in RUB					Aeroflot in EUR				
	2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
ASK Million	76'445	85'822	93'471	101'758	112'246	76'445	85'822	93'471	101'758	112'246
RPK Million	60'226	67'122	74'116	82'693	91'810	60'226	67'122	74'116	82'693	91'810
PLF	78.78%	78.21%	79.29%	81.26%	81.79%	78.78%	78.21%	79.29%	81.26%	81.79%
CASK	RUB 2.49	RUB 2.66	RUB 2.97	RUB 3.14	RUB 3.13	€ 0.059	€ 0.052	€ 0.044	€ 0.042	€ 0.048
Exchange rate EUR/RUB	42.31000	50.82000	67.78000	74.23000	65.92187					

Source: Own calculations based on Annual Reports (2013-17) of – Finnair, SAS, Norwegian, Aeroflot

FORECASTED REVENUE GROWTH

Real GDP Increase	2018	2019	2020	2021	2022	Average
Asia	5.50%	5.50%	5.50%	5.40%	5.40%	5.46%
Europe	2.40%	2.10%	1.80%	1.70%	1.70%	1.94%
North Atlantic	2.80%	2.60%	2.00%	1.80%	1.60%	2.16%
Domestic	2.60%	2.00%	1.50%	1.30%	1.20%	1.72%
Unallocated	3.90%	3.90%	3.80%	3.70%	3.70%	3.80%

Source: International Monetary Fund official website 2018

Growth forecast	Revenue contribution	Weighted Average Growth in Real GDP				
		2018	2019	2020	2021	2022
Asia	42.77%	2.3521%	2.3521%	2.3521%	2.3094%	2.3094%
Europe	41.69%	1.0005%	0.8754%	0.7504%	0.7087%	0.7087%
North Atlantic	5.77%	0.1617%	0.1501%	0.1155%	0.1039%	0.0924%
Domestic	7.04%	0.1830%	0.1408%	0.1056%	0.0915%	0.0845%
Unallocated (rest of the world)	2.73%	0.1066%	0.0042%	0.0002%	0.0000%	0.0000%
	100.00%	3.80%	3.52%	3.32%	3.21%	3.19%

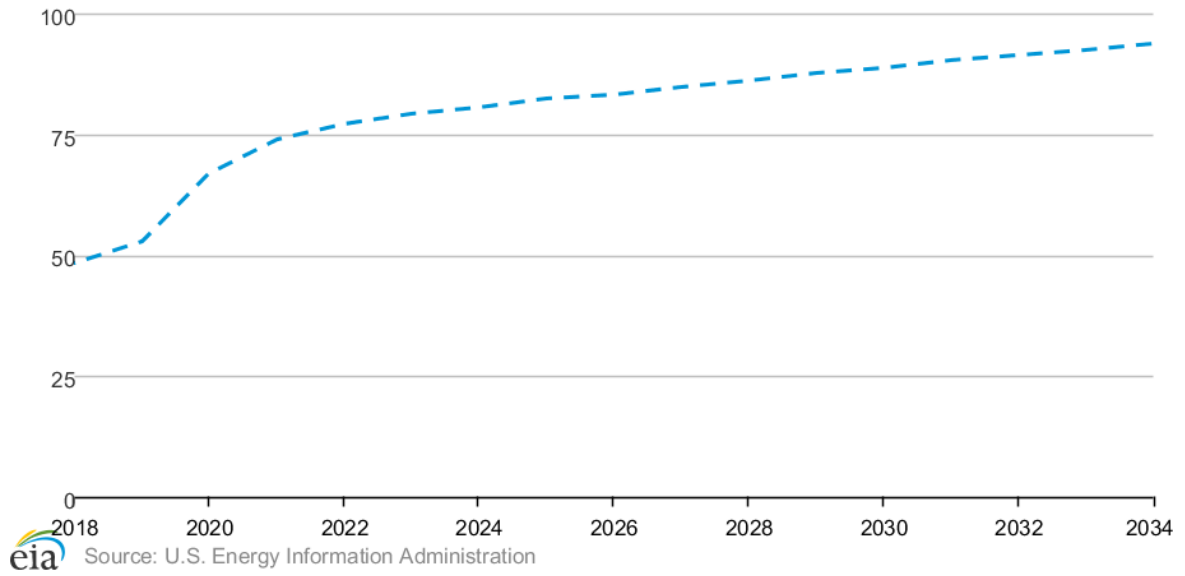
Source: Own calculations based on data from International Monetary Fund 2018

FORECAST OF OIL PRICES

Oil and Gas: Crude Oil: Lower 48 Average Wellhead Price:

Case: Reference case

2017 \$/b



DEVELOPMENT OF SG&A EXPENSES

EUR Million	2013	2014	2015	2016	2017	Average
SG&A	162.30	142.00	153.60	164.70	186.30	
Sales and marketing expense	72.90	65.30	74.00	76.90	85.80	
Tour operations	89.40	76.70	79.60	87.80	100.50	
SG&A % of revenues	6.71%	6.17%	6.76%	6.88%	7.04%	6.71%

Source: Own illustration adapted from Finnair – Annual Report (2013 – 2017)

DEVELOPMENT OF OTHER OPERATING EXPENSES

EUR Million	2013	2014	2015	2016	2017	Average
Other expense	218.1	217.4	219.3	266.6	285.1	
Other expense % of revenue	9.02%	9.44%	9.66%	11.14%	10.78%	10.01%

Source: Own illustration adapted from Finnair – Annual Report (2013 – 2017)

DEVELOPMENT OF LEASING COSTS

EUR Million	2013	2014	2015	2016	2017	Average
Lease payments for aircraft	57.50	78.80	99.30	109.50	136.60	
% of revenue	3.1%	4.5%	5.7%	6.5%	7.9%	5.5%

Source: Own illustration adapted from Finnair – Annual Report (2013 – 2017)

DEVELOPMENT OF DEPRECIATION AS % OF PP&E

EUR Million	2013	2014	2015	2016	2017	
PP&E	1'292.60	897.80	811.60	1'166.50	1'422.10	Average
Depreciation	140.70	135.70	148.50	102.90	129.20	
Depreciation as % of PP&E	10.89%	15.11%	18.30%	8.82%	9.09%	12.44%

Source: Own illustration adapted from Finnair – Annual Report (2013 – 2017)

Depreciations of tangible assets is based on the following expected economic lifetimes:

- Aircraft and engines as well as flight simulators (other equipment) on a straight-line basis as follows:
 - Airbus A350 fleet, over 20 years to a residual value of 10%
 - Airbus A320 and Embraer fleet, over 20 years to a residual value of 10%
 - Airbus A330 fleet, over 18 years to a residual value of 10%
 - Turboprop aircraft (ATR fleet), over 12 years to a residual value of 10%
- Heavy maintenance of aircraft frame and performance maintenance and life limited parts of the engines, on a straight-line basis during the maintenance period
- Rotable spare parts and components, over 15–20 years to a residual value of 10%
- Buildings, over 10-50 years from the time of acquisition to a residual value of 10%
- Other tangible assets, over 3–15 years

DEVELOPMENT OF NWC – FINNAIR

EUR Million	2013	2014	2015	2016	2017	Average
NWC	23.70	-44.90	183.50	379.80	443.60	
Current Assets	759.40	798.60	1'084.30	1'200.70	1'424.60	
Non-interest bearing current liabilities	735.70	843.50	900.80	820.90	981.00	
NWC turnover	102.04	-51.28	12.37	6.30	5.96	15.08

Source: Own illustration adapted from Finnair – Annual Report (2013 – 2017)

DEVELOPMENT OF PP&E TURNOVER – FINNAIR

Year	2013	2014	2015	2016	2017	Average
PP&E turnover	1.87088	2.56438	2.797807	2.050836	1.860207	2.228822

: Own illustration adapted from Finnair – Annual Report (2013 – 2017)

Appendix 28

DEVELOPMENT OF THE EFFECTIVE TAX RATE – FINNAIR

EUR Million	2013	2014	2015	2016	2017	Average
Effective tax rate	14.5	-16.7	20.80	19.50	19.8	11.58

Source: Own illustration adapted from Finnair – Annual Report (2013 – 2017)

WACC FORMULA

$$WACC = W_d k_d(1 - t) + W_e k_e$$

k_d is the required yield on new debt: It is yield to maturity.

k_e is the cost of equity capital.

W_d, W_e are target percentages of debt and equity (using market values of debt and equity)

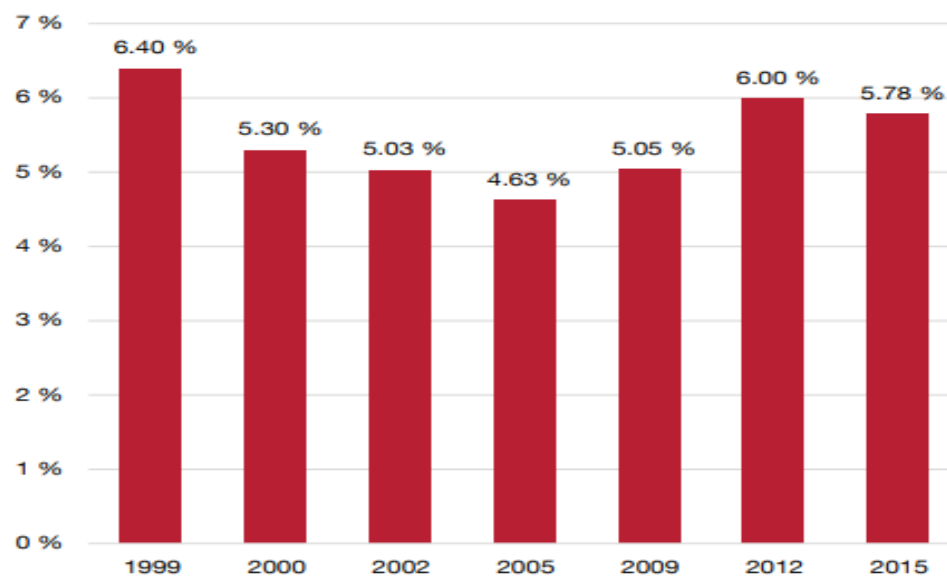
t is the marginal tax rate.

Source: University of Virginia, 2015

FINLAND 10-YEAR GOVERNMENT BOND YIELD

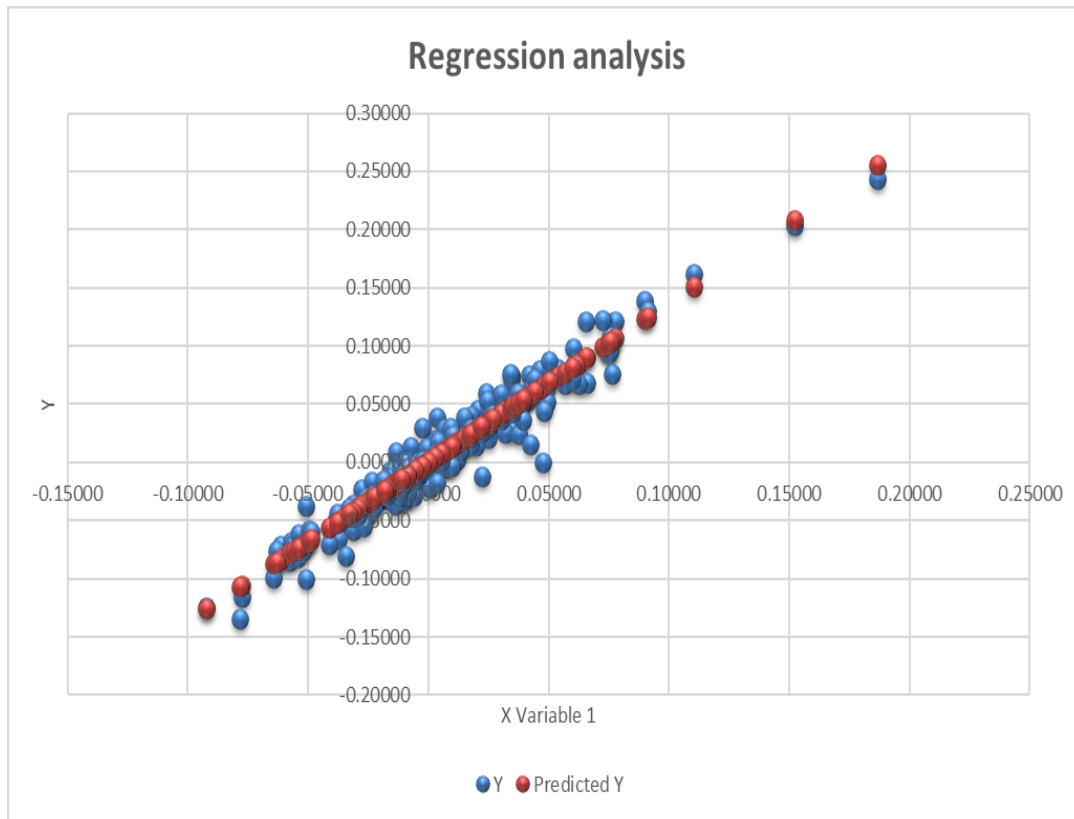


DEVELOPMENT OF MARKET RISK PREMIUM IN FINLAND



Source: PWC, 2015

REGRESSION ANALYSIS (BETA)

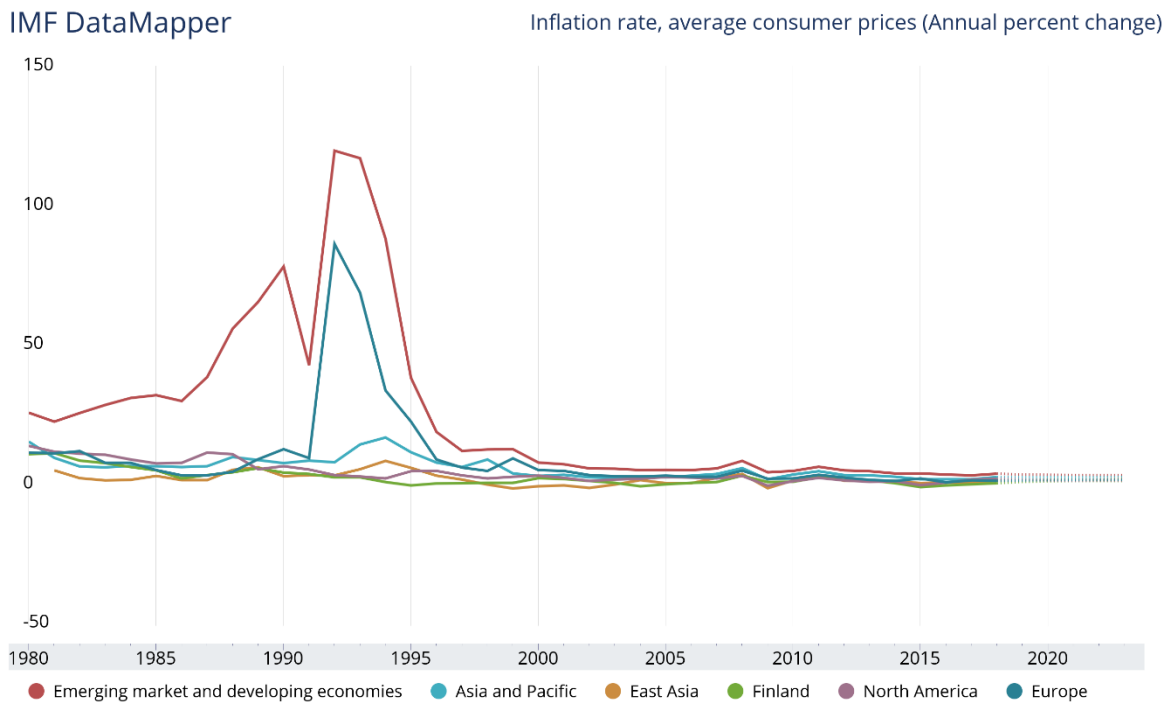


Source: Own illustration based on data from Nasdaq official website 2018

<i>Regression Statistics</i>				
Multiple R	0.965152481			
R Square	0.931519312			
Adjusted R Squar	0.931268467			
Standard Error	0.012524146			
Observations	275			
<i>ANOVA</i>				
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression	1	0.5824822	0.582482	3713.525
Residual	273	0.042821207	0.000157	
Total	274	0.625303407		
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.000279894	0.000762929	0.366867	0.714002
X Variable 1	1.363525016	0.022375354	60.9387	5.7E-161

Source: Own illustration based on data from Nasdaq official website 2018

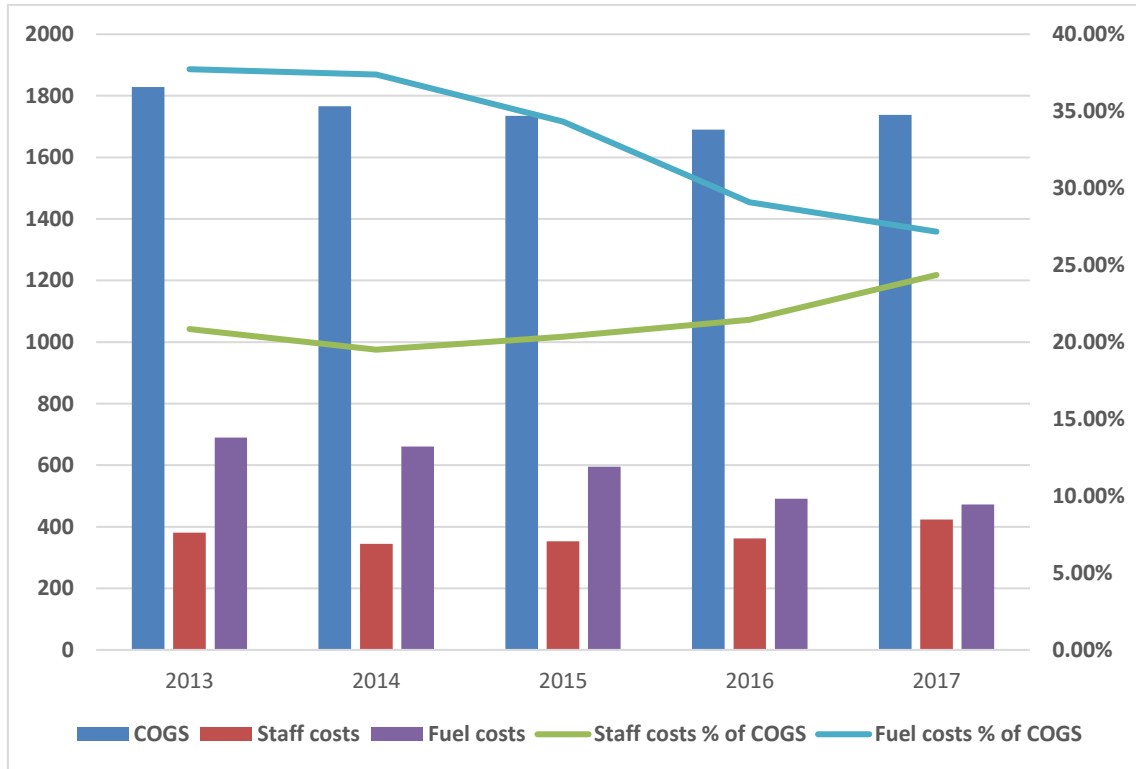
FORECASTED INFLATION GROWTH



©IMF, 2018, Source: World Economic Outlook (April 2018)

Source: International Monetary Fund 2018

DEVELOPMENT OF COGS AND ITS MAIN ITEMS



Source: Own illustration adapted from the forecasted data