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Is it possible to get a low-cost airline to Karlstad Airport?

Är det möjligt att få ett lågkostnadsflyg till Karlstad Flygplats?

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Abstract

We chose our topic, regarding the possibility to get a low-cost airline operating at Karlstad airport, because it is an interesting question whether the region could benefit from a low-cost airline or not as well as the existence of the airport. And lately the airport has been discussed in media.

The idea to our purpose arose after having read the report by Wermland Chamber of Commerce regarding the importance of flight connections to and from Karlstad airport, for the region. In this report it appeared that it was desirable with a low-cost airline at Karlstad airport.

This topic is presented by applying theories about an interested party model, risk, agency theory, decision making and growth. All these areas are somehow connected.

We interviewed persons in managing positions at Göteborg/Säve, Stockholm/Skavsta, Jönköping/Axamo and Smaland/Växjö airport, who gave information about the actual situation at their airport respectively. The first two airports have operating low-cost airlines and the last two have not. We also interview partners in Värmland to get their view of the situation at Karlstad airport. The questions were roughly the same, with a difference made if they belonged to the group that has a low-cost airline or if they belonged to the group without a low-cost airline.

We found that there are similarities between the airports. And it turned out that having a low-cost airline operating at an airport is a costly business for the airport, but it seems to be advantageous for the region. And that the risk ought to be diversified between more than one interested parties. In order to be successful you have to make sacrifices and lighten up all parties’ attitudes to risk.
Sammanfattning

Vi valde ämnet som handlar om möjligheten att få ett lågkostnadsflygbolag opererande på Karlstad flygplats därför att det är en intressant fråga om regionen skulle gynnas av ett lågkostnadsflyg eller inte så väl som flygplatsens existens. På senare tid har det i media också ofta framkommit att flygplatsen har ekonomiska problem.

Idén till vårt syfte uppkom efter att ha läst rapporten som Handelskammaren i Värmland skrev angående vikten av flygförbindelser till och från Karlstad flygplats för regionen. I den rapporten framkom det att det var önskvärt med ett lågkostnadsflyg från Karlstad flygplats.

Frågan kring ett lågkostnadsflyg från Karlstad Flygplats presenteras genom användning av teorier för risk, uppdragsgivare-uppdragstagareproblemet och beslutstagande. Alla dessa områden är sammanhängande.


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1. Introduction

This part gives a short introduction to the background to our topic. This part also includes the purpose of the paper. Furthermore we present the limitations of this paper. Thereafter a short description of the outline is given.

1.1 Why this topic?

The changes the airline industry has been facing during the last decade make it an interesting subject to explore. “The aviation has changed from being something where champagne is served, to become more like a mean of transport such as busses or trains. It has gone from luxury to something ordinary. The customer is paying for the transport, safety and to get there on time.”

The situation at Karlstad airport is another reason that makes the topic of current interest. It has been discussed in the newspapers during a longer period. The question of the airports existence flared up afresh in 2005. The Wermland Chamber of Commerce made a research on the view and the need of flight connections to and from Karlstad airport from the trade and industry’s view point. The research showed that the airport is of great importance to the region and that it is a necessity for regional development.

Several suggestions for future improvement were presented in the research. One of them said that a low-cost airline should be drawn to the airport in Karlstad. Florence Brinkegård, ex-director of the airport, has been criticised for not having brought a low-cost airline to Karlstad. She claims that the low-cost airlines often require counter performances which are impossible to accept. Yet again, this makes it interesting to study the possibilities of an establishment of a low-cost airline at the Karlstad airport.

A low-cost airline will not be drawn to Karlstad by tax subsidies according to Peter Thörn, responsible for infrastructure and communication at Region Värmland. Therefore it is interesting to examine how Karlstad airport should proceed in the matter. This implies that Karlstad local authority or Karlstad airport can not agree to what Nyköping local authority has done. In other words pay 55 million SEK to Ryanair in advertising cost. The so called advertising cost works implicitly as incentives.

The regional or local partners should take over the responsibility for the operation and development of Karlstad airport according to LFV. Therefore it is of interest to see how the ownership affects an establishment of a low-cost airline company.

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1 Lotta Lindquist-Brosjö, MD Ryanair Norden in www.iva.se (2006-05-02)
2 Sjögren, VF (2005-11-12)
3 Norling, VF (2006-01-19)
4 Thorngren, DI (2003-09-29)
5 www.lfv.se (2006-04-20)-1
1.2 What we are aiming at

The purpose of this paper is to examine how an airport, equivalent to Karlstad airport, should proceed to establish a low-cost airline at its airport. Derived from section 1.1 we found two interesting questions to examine;

- What are the difficulties when making decisions?
- Should the risk be diversified and how should it be done?

1.3 Limitations

This report does not aim at calculating figures about the cost of a low-cost airline establishment. The figures are for one reason hard to get because they are business secrets. Another reason is the lack of given information. A third reason is that we assume that the outcome or result would be misleading and thereby would not contribute anything to our paper, because there are too many factors to bear in mind. Instead we have made a general study how the airport should proceed in order to reach an agreement with a low-cost airline company.

1.4 Outline

Chapter 1: Introduction

Chapter 2: Previous studies – this part present previous studies about Karlstad airport and low-cost airlines in general.

Chapter 3: Theory - this chapter gives a description of the most appropriate theories used in this paper to solve our problem.

Chapter 4: Method – this section gives the reader a presentation of how our paper has been carried out.

Chapter 5: Background information – this chapter gives a short presentation of LFV, LFV’s different incentives and Karlstad airport.

Chapter 6: Case studies – this section present gathered information from the interviews.

Chapter 7: Analysis – in the analysis the theories are compared with the case studies and the background information.

Chapter 8: Conclusion – in this section we present our results.
Chapter 9: Recommendations to Karlstad airport – in this chapter we discuss how Karlstad Airport should act in order to get a low-cost airline.
2. Previous studies

In this section we present four previous studies; two regarding the airport in Karlstad and two regarding low-cost airline in general. The aim with the previous studies is to give a wider view on the low-cost airline situation today and what should be done to prevent further failure.

2.1 Low-Cost airline to Karlstad

This study shows that packaging, product- and destination development is crucial, at both regional and national level. It is crucial in order to take advantage of increased flying effects that could create growth. According to TUI the low-cost airline company is important to the growth within the tourism and to travelling in general.

A successful implementation presumes an intimate and open cooperation between a public and a private partner. Examples from Scotland, Bergen and Skavsta shows that direct regional efforts are important prerequisites for the establishment of low-cost airline traffic. The study also shows that the establishment of a low-cost airline company is overall positive. Low-cost routes are considered to be of great interest and are necessary for the regional development of tourism and industry. According to the study direct routes might lead to a better business atmosphere, product development and company expansions. Direct routes might also be a competitive advantage for the regional enterprises and industries. The lack of good communications is considered to lead to a loss of business deals and arrangements. The results of this study indicate that the responsibility should be divided between the society and the industry. Five main reasons to travel with low cost airline companies are found in the study:

1) Weekend/shopping/entertainment
2) To discover German/Netherlands/because it is fun to travel
3) Close to Karlstad/the Airport
4) No connections/travel duration/easy/fast destination
5) Interesting/amusing/pleasant destination

2.2 Karlstad Airport and the regional development

The distribution between Swedish and foreign owned companies in the business economy in Värmland is described in this study. The study shows that:

Bruks & Ericsson (2006)
Transek (2004)
• Swedish owned companies amount to 98% of total companies, but employ only 86% of total employment.
• Foreign owned companies amount to 2% but stand for 14% of total employment.

The foreign owned companies are, due to geographical reasons, depending on flight connections to their head quarters in their native countries respectively. The study shows that the supply and demand has been influenced by the business cycle in society. This implies low supply and demand when in recession and vice versa. The passenger volume at Karlstad Airport decreased by 44% between year 2000 and 2004. One reason might be the 85% increase in ticket price between Stockholm and Karlstad. The study also confirms, as well as Lågprisflyg till Karlstad, that the airport is a necessity to create a positive regional development. But the airport is only one of many important growth factors according to this study.

2.3 The low-cost airline – a revolution of possibilities

In this study it is the private traveller that stands for the high growth in the flight traffic in Europe. The low-cost airlines represent the majority of this growth. They intensify future development by putting pressure on other flight operators. The study shows that it is decisive for an airport that the destination is attractive and that the regional catchments area is vast enough to serve as a basis for departing passengers. A rule of thumb is that these passengers should be found within a radius of 1.5 hours drive. But this varies between airports. The airport/region is seen as an A-market with prerequisites for travelling in both directions if these criteria are fulfilled. A more proactive attitude will be demanded as they at an early stage get involved in the processes of attracting low-cost airlines. It is an important to the airport and its surrounding activities to cooperate with the foreign destination since the accumulated economical power increase when two destinations contact an airline company.

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8 www.shr.se (2006-05-09)
3. Theory

This part describes the theories we have used in this paper. At first we give a description of a model over interested parties who have an exchange relation to a firm. It is followed by a section describing needed investments and calculation when starting a new project. Thereafter we present risk theories. In this section we explain why it is impossible to avoid risk in different situations. A short section about decision making and growth is presented in the end of this chapter. Firstly, the decision making discusses the difficulties with making decisions and what should be borne in mind before signing an agreement. Secondly, how investments in new projects could imply growth.

3.1 An interested party model

An interested party model might come in handy when showing different external parties who could be involved in a project set up by a firm. Without the interested party model it would be hard to explain the existing collaboration possibilities that an airport has when establishing a low-cost airline.

It might be profitable to assume that an organisation is pluralistic for many reasons. The organisation contains different goals and different independent interests. The interested party model implies that the firm could be affected by different participating interested parties or groups. The groups may be divided into domestic and external interested parties. Stockholders, interested organisations, employees and their organisations, clients, suppliers, lender, government and municipality and opinion forming groups can be found among the external parties. Different professions that are found within the firm are found among the domestic interested parties. The interested party model has turned out fruitful in different researches. Though it is not itself a theory. But with its simplicity it makes it possible to ask new questions regarding goal development, strategy, structure of power and struggle for power within and between organisations.

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9 Bakka, Fivelsdal & Lindkvist (2001), p.17-18
10 Bruzelius & Skärvad (2004), p.73
11 Bakka, Fivelsdal & Lindkvist (2001), p.17-18
The traditional picture of the model should not be interpreted as if the different interested parties have the same relation to the firm or have the same influences on the firm. It only shows categories over potential interested parties. The organisation has an exchange relation with each of them. The extension of the transaction costs between the organisation and the interested parties can be found in this model. The transaction costs imply some kind of contributions and rewards.\textsuperscript{12}

Several organisation theories and models are inspired by or related to the interested party’s viewpoint. Examples of these are; the equilibrium theory, the organisation theory and principal-agent theory. It might be important to a firm to consciously and continuously explore their relations to their interested parties. It is also important that the interaction with the interested parties imply more extensive and time consuming.\textsuperscript{13}

**3.2 Investments and calculations**

It is needful to calculate on different outcomes when planning to make new investments. Therefore it is appropriate to present theories about investments and calculations. Without this theory it would be hard to see the difficulties an airport may face when establishing a low-cost airline.

\textsuperscript{12} Bruzelius & Skärvd (2004), p.83
\textsuperscript{13} Ibid., p.86
An investment is defined as a venture of larger amount of money in a project that implies economical consequences in the future. Two examples of investments are; purchase of a machine or a building. An establishment of a new product or on a new market, bigger organization changes and ventures in advertisement, staff, education and new techniques can be investments. But these stakes can only be seen as investments if their utility can be noticed over several years.\textsuperscript{14}

It is important that the investments are profitable if compared with other opportunities of capital use. The purpose of an investment is often that it should generate higher production volume or a rationalization and cost savings. But there are also investments, for example an environmental or safe investment, which only implies disbursement and follow regulations or governmental decisions.\textsuperscript{15}

\textit{Objectives:} Investment managers must know the level of risk that can be tolerated in the pursuit of a higher expected return. The manager has to figure out whom or what to put the focus on.\textsuperscript{16}

\textit{Constraints:} Due to different circumstances there will be different constraints. An asset with high liquidity is to prefer, since it is a higher chance that the asset can be sold and still generate a good return. Depending on the amount of money needed to invest, the manager has to come up with an optimal time horizon in order to maximize the return or pay as little as possible. The performance of any investment strategy is measured by how much it yields after taxes.\textsuperscript{17}

Investment estimations are made on more or less well-founded forecasts. A problem with investment estimation is to guess future payments and incomes. An investment calculation will contain uncertainty due to the difficulty to predict future events, decisions and consequences. Investment decisions imply a certain amount of risk taking, especially financial risk. The investment decision should be supplemented with a risk analysis because of the risk.\textsuperscript{18}

Financial decision making can be seen as a balancing act between different participants' requirements. Different and conflicting demands and expectations between interested parties may occur. Therefore owners, top management, employees, customers, lenders, suppliers and community need to be shown respect.\textsuperscript{19} As in the rest of economics, it is the marginal impact of a given asset on total utility that determines its value.\textsuperscript{20}

\textsuperscript{14} Holmström, (2001), p.253  
\textsuperscript{15} Ibid., p.253  
\textsuperscript{16} Bodie, Kane & Marcus, (2005), p.94  
\textsuperscript{17} Ibid., p.944  
\textsuperscript{18} Holmström, (2001), p.257  
\textsuperscript{19} Ibid., p.2  
\textsuperscript{20} Varian, (2003), p.240
3.3 Risk

The term risk has a variety of meanings in business and everyday life. One definition of risk is the possibility that an investment's actual return will be different than expected\(^\text{21}\). In this paper risk is interpreted as a probability of a negative outcome when starting a new project or in decision making. At its most general level, risk is used to describe any situation where there is uncertainty about what outcome will occur\(^\text{22}\).

When investing in a project there is a risk for a sunk cost, also referred to as a stranded cost, which is a cost that has been incurred and cannot be reversed or recovered. An example of a sunk cost can be a worn-out piece of equipment bought several years ago because the cost of buying it cannot be reversed\(^\text{23}\).

There are three kinds of instruments to influence the actions of an individual: \(^\text{24}\)

1. Threat or force
2. Persuasion and Information
3. Reward

These three managerial factors equal law, treaties or regulations and economical incentives as well as information when managing a firm. \(^\text{25}\)

These means of control might be used if the society wishes to bring about a higher amount of investments within a certain area. Economical incentives can be constituted by contributions, tax releases, local allowances, favourable lending conditions, profit share leverage or a combination of these. Shaping the incentives like forms of support and other stimulating measures are essential in order to achieve an increased volume in desirable projects.\(^\text{26}\)

The cost of doing this should be plausible to the granting authorities and relate to the results they expect. The central question will in that case be how the incentives should be formed to give the best outcome.\(^\text{27}\)

3.3.1 Risk sharing

Risk sharing means that each consumer spreads his risk over other consumers and thereby reduces the amount of risk he bears.\(^\text{28}\)

\(^{22}\) Ibid.
\(^{23}\) www.investopedia.com (2006-04-11)
\(^{24}\) Rapp & Thorstenson, (1994), p.18
\(^{25}\) Ibid., p 18
\(^{26}\) Ibid., p.19
\(^{27}\) Ibid., p.19
\(^{28}\) Varian, (2002), p.229
You may measure the value of each separate outcome for individuals with different attitudes to risk with help from utility theory. Figure 1 shows the attitude of a risk-averse, risk-neutral or risk-loving individual. A person is risk averse when he prefers to have an expected value of his wealth rather than face the gamble. To be a risk lover means that he prefers a random distribution of wealth to its expected value. And the individual is risk neutral when his expected utility of wealth is the utility of its expected value.\(^{29}\)

**Figure 2: Utility value and monetary value**

The figure above shows the relation between the utility values for an individual who is risk-averse, risk-neutral or a risk-lover and the monetary value of the outcome. The individual may choose between project A which has an outcome of either \(W_1\) or \(W_2\), or project B with a safe outcome of \(E[W]\), where \(E[W]\) is an expected value of both outcomes in project A.\(^{30}\)

It is given that the agreements might be drawn up in different ways, so that the consequences of future unexpected outcome are put upon the principal or the agent. It is important to be aware of who should take the risk in each commission. Risk sharing may be an alternative if the project implies losses and if the project seems to be less advantageous to each party. Risk sharing requires that the parties in the pool accept and trust the presumption that they are equal, that is, that all faces the same risk and that moral hazard and adverse selection can be controlled. Members in the same business may have some ability to control each other. They may also have a common interest to obtain

\(^{29}\) Varian, (2003) p.225

\(^{30}\) Rapp & Thorstenson, (1994), p.45-46
information, and to employ risk reduction measures. That is, the pool has a stronger incentive than the individual to undertake research and prevention.\textsuperscript{31}

Therefore risk sharing between several parties may lead to a profitable project for all parties involved.\textsuperscript{32}

### 3.3.2 Risk management

Risk management is the process of identification, analysis and either acceptance or mitigation of uncertainty in investment decision-making. Essentially, risk management occurs anytime an investor or fund manager analyzes and attempts to quantify the potential losses of an investment and then takes the appropriate action or inaction given their investment objectives and risk tolerance.\textsuperscript{33}

Risk management is a two-step process; determining risk with an investment and handling this risk in the best-suited way for these investment objectives. Risk management occurs everywhere in the financial world. It occurs when an investor buys low-risk government bonds over more risky corporate debt, when a fund manager hedges their currency exposure with currency derivatives and when a bank performs a credit check on an individual before issuing them a personal line of credit.\textsuperscript{34}

### 3.4 Agency theory

The relation between a principal and an agent in a commission assignment can be described by the agency theory. The theory is a way to show how an airport and its future co-workers might proceed and what difficulties might arise after the agent/-s has/-have undertaken an assignment.

The fundamental within the theory of commission relations is the formation of the contract that regulates the financial compensation to the parties. The relation concerns the decisions and executions within the agreed activity area.\textsuperscript{35}

The theory rely on the principal’s and the agent’s attitude toward risk. The theory use uncertainty and risk, both in received results and in available information. It tries to find an optimal agreement and information level for a given structure. It also discusses how a decision maker’s condition should be formed in order to make his behaviour efficient.\textsuperscript{37}

\textsuperscript{31} Faure & Skogh (2003) p.273
\textsuperscript{32} Rapp & Thorstenson, (1994), p.45
\textsuperscript{33} www.investopedia.com (2006-05-04)
\textsuperscript{34} Ibid.
\textsuperscript{35} Rapp & Thorstenson, (1994), p.28
\textsuperscript{36} Ibid., p.29
\textsuperscript{37} Ibid., p.14
The lack of information is known as the principal-agent problem. In other words, one person, the principal, hires an agent (e.g. a sales or finance manager) to perform tasks on his behalf but he cannot ensure that the agent performs them in precisely the way the principal would like. The decisions and the performance of the agent are impossible and expensive to monitor and the incentives of the agent may differ from the principal’s.\(^{38}\)

The agent has a couple of opportunities to execute in a commission relation. His choice gives rise to financial consequences for the business. The consequences do not only depend on the decision with enclosed actions. It is also affected by different circumstances that are prevailed during the realisation of decision making. These circumstances are unknown at the time of the realisation. Hence an agreement and the commission imply that the decision is taken under risk. It is decided how the result of the commission is supposed to be shared between the parties. The principal as well as the agent are assumed to maximize their utility respectively.\(^{39}\)

There is one problem with maximizing the expected utility for both the principal and the agent. It is assumed that the studied individuals foremost acts in their own interest and that they have limited rationality. This means that an individual neither can nor will be completely rational. The individuals’ limited capacity leads to, from the principal’s perspective that all available information is dealt with in the decision situation.\(^{40}\)

### 3.4.1 Compensation

In practice the design of a compensation plan is a result of negotiations between the principal and the agent. The main interest in studies regarding different compensation plans have been aiming at characterizing different solutions. These solutions consider the design of the plans when the prerequisite have varied in one or more consideration. The focus has been on compensation plans. These plans imply Pareto-efficient utility results to the participating parties in the principal-agent relation.\(^{41}\) Such solutions are characterized by, either one of the parties expected utility may increase without decreasing the other party’s expected utility.\(^{42}\)

If Pareto efficiency should not exist in a certain compensation plan, it means that you should be able to find a compensation plan which would be more appreciated by at least one of the parties without making the other party worse off. The last suggestion is to prefer. It is therefore wishful to characterise compensation plans that are Pareto-efficient.\(^{43}\)

\(^{38}\) [www.tutor2u.net](http://www.tutor2u.net) (2006-04-25)

\(^{39}\) Rapp & Thorstenson (1994), p.14

\(^{40}\) Ibid., p.12

\(^{41}\) Ibid., p.35

\(^{42}\) Varian (2003), p.15

\(^{43}\) Ibid., p.15
It must be said that Pareto efficiency has nothing to say about the distribution of welfare across people; giving everything to one person will typically be Pareto efficient. Furthermore every Pareto efficient allocation can be thought of as maximizing some welfare function.

When it comes to the commission relation function there are several important factors to bear in mind. These factors affect the design of the compensation plan. They also affect the efficiency of the plan as a control device to the agent’s behaviour. The principal’s and the agent’s attitude toward risk may be different. This leads to different propensities between the parties to take on the risk which is associated with the commission.

An appropriate compensation plan should be taken into account to the principal’s and the agent’s attitude toward risk. Though the two parties may possess different information regarding the occurring of future conditions, and through their subjective estimations of how different condition parts. Different requirements form the compensation plan.

### 3.4.2 Agency costs

There are different kinds of agency costs. These costs depend upon the principal and the agent having different preferences and goals. The costs arise when the principal do not have full access to information about the agency and how the agent will complete the order. There are always agency related costs in reality since the principal’s information is not comprehensive or free of charge. If the agency costs are estimated to be too high for a given contract, the principal has three possibilities to reduce them. These costs may be interacted. The principal may:

1. Change the compensation plan and its incentives (influence the reward)
2. Increase the surveillance of the agent (change threat or constraint)
3. Encourage the agent to cooperate (take advantage of persuasion or information)

When a management owns less than 100 percent of the firm’s equity, shareholders incur costs resulting from management’s shirking and perquisite consumption. Because of limitations imposed by personal wealth constraints, exchange regulations on the minimum number of shareholders, and other considerations, no publicly traded firm is entirely owned by management. These costs increase as the equity share of the owner-manager declines. By comparing the efficiency of firms that are managed by shareholders with the efficiency of firms not managed by shareholders, it is possible to calculate the agency costs attributable to the separation of ownership and control.

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44 Varian, (2003), p.589
45 Ibid., p.600
47 Ibid., p.14
48 Ibid., p.45
49 James, Rebel &James, (2000)
50 Ibid.
51 Ibid.
3.4.3 Adverse selection

There is a risk to adverse selection when someone or some of the agencies have hidden characteristics or hidden information. There is asymmetry between the principal and the agency.\textsuperscript{52}

There is risk to adverse selection when there is more than one possible person to undertake a commission. The principal run the risk that the agencies accepting the commission have in average worse qualities than the agencies that he will choose if complete or perfect information exists. Another risk that might arise is that the principal is forced to over-compensate certain agencies.\textsuperscript{53}

3.5 Decision making – from investigation to decision

\textit{Rational decision making and strategic management}

Strategic decision making is assumed to be a rational process. There are three rational choices:

1. Rational choice under conditions of certainty
2. Rational choice under conditions of risk
3. Rational choice in situations where the decision of one decision maker interact with those made by identifiable other decision makers

\textit{Risk-free choice model}

Rational decision makers are assumed to select the course of action that maximise the utility. If the outcome does not bear uncertainty the decision making consist in reading one’s preferences, compare the alternatives and select the alternative that yields the highest utility.\textsuperscript{55} But it might be difficult to avoid since uncertainty is a fact of life. People face risks every time they take a shower, walk across the street or make an investment.\textsuperscript{56}

\textit{Organisational culture and strategic decision making}

Culture is an important factor at all stages in the decision making process. The decision making process is influenced by the culture in the organisation. And the norms and the values affect the goal selection.\textsuperscript{57}

\textsuperscript{52} Posner, (2003)
\textsuperscript{53} Rapp & Thorstenson, (1994), p.55
\textsuperscript{54} Posner, (2003)
\textsuperscript{56} Varian, (2003) p.215
\textsuperscript{57} Noorderhaven, (1995), p.153
3.6 Economic growth

Economic growth is often seen as an increase in real gross national product (GDP) which is set up by economic-policy. GDP measures the economic value of all goods and services produced during a year. Since the payment of all production and services generates income, the measure also reflects the total national income. In other words it tells us the quantity of goods and services the economy as a whole can afford to purchase.\(^{58}\) Hence the growth rate indicates the level of economic activity in a nation. An increase in the overall production increases the income and conduct possibilities to increase the material standard, such as reducing the overcrowded living conditions or make social reforms.\(^{59}\) Thereby economic growth prevails when there is an increase in GDP from one year to another.\(^{60}\) Growth ceases in a time of recession, which causes unemployment, bankruptcies, less ability to repay interest and mortgages and, hence, less willingness to invest. Recession also reduces tax revenues and the ability to fulfil political programmes.\(^{61}\) The government has a variety of policy measures through which it can try to affect the performances of the economy as a whole. It is important to distinguish between positive issues relating to how the economy works and normative issues relating to priorities or value judgements.\(^{62}\) GDP is measured by:\(^{63}\)

\[
GDP = Consumption + Investments + (Exports - Imports) \tag{3.1}
\]

You should be careful with directly translating GDP growth to a general increase of wealth. Wealth has a wide concept which comprises several immeasurable features/elements and could also be interpreted different by different people. Furthermore the GDP measure is marred by several weaknesses that do not make it a good reflection of even the materialistic wealth.\(^{64}\) But to reach a sustainable future, whatever that means, it is important to understand the forces behind economic growth. And there are series of factors that together may explain the development.\(^{65}\)

1) Access to natural resources, which is not in itself a good example that gives economic growth but make an indication that, might lead to development with help of other factors.

2) Physical capital. Investments in infrastructure and machinery have been regarded by many economists as crucial for economic development.

3) Technical knowledge. This factor is important for the economic progress in most countries. Technical knowledge in itself is not a guarantee of economic growth. The knowledge is, except for new, non-exploited or protected findings, publicly accessible to everyone in documents and libraries.

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\(^{58}\) Begg, Fischer & Dornbusch, (2000), p.330

\(^{59}\) Eklund, (2001), p.119

\(^{60}\) Faure & Skogh, (2003), p.132

\(^{61}\) Ibid, p126


\(^{63}\) Eklund, (2001), p.128

\(^{64}\) Ibid., p.120

\(^{65}\) Faure & Skogh, (2003), p.130
4) **Human capital.** Human knowledge and skills are nowadays often held to be the most important factor in explaining economic development. Human capital is based on investment in education and individual competence in various respects.

Yet there are also important basic institutional factors that are still missing. The point is that the driving forces towards an efficient use of natural resources, as well as efficient investments in physical capital, in human capital, and in innovations, are economic incentives. That is the ability to gain access to physical resources and knowledge to make socially beneficial efforts, but still not act because it does not pay. Similarly, free-riding may cause inefficiencies and hinder economic development, as well as result in a misuse of natural resources. But an advantage of the GDP measure is that it is one-dimensional – all is counted in money.

An approach to the issue is to say that there exists an option value. And option value refers to irreversibility - once depleted it will never return. But parts of it might be useful in the future. An example is when a species is depleted, it will never return, yet its genes, may prove useful in the future. Options certainly have market value, but option values are also discounted, and, thus, options generations ahead are negligible.

Some people believe that the benefits of economic growth are outweighed by the costs. Pollution, congestion, and a hectic life-style are too high a price to pay for a rising output of for example cars, washing machines, and video games.

Since GDP is a very imperfect measure of the net economic value, there is no presumption that the objective should be to maximize the growth of measured GDP.

In the absence of any governmental intervention, a free market economy is likely to produce too much pollution. However, complete elimination of pollution is also wasteful. Society should undertake activities accompanied by pollution up to the point at which the marginal benefit of the goods produced equals the marginal pollution cost imposed on society.

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66 Faure & Skogh, (2003), p.130
67 Ibid., p.132
68 Ibid., p.136
70 Ibid., p.523
71 Ibid., p.523
4. Method

A presentation of how this paper has been carried out will be given in the following part. We describe how the information and data have been gathered and furthermore we explain how we have used this information when trying to find answers to our purpose.

4.1 Data acquisition: Primary and secondary information

We have collected two kinds of data, secondary and primary data. The secondary data we have used in this paper is partly consisting of written material from books, reports and articles in the newspaper as well as the Internet.

We have assembled our primary data through our interviews. We began with carrying out an unstructured interview to assemble general information about the subject. Since our respondent (the Region Värmland) recounted freely we acted more or less as passive listeners during the interview, apart from a few attendant questions. This form of interview is used when the interviewer want to acquire a concept of reality from the interviewed.72

A target-oriented interview has been carried out to assemble knowledge about our subject. This has been done by asking questions to the respondents. Subjective target-oriented interviews are generally useful when the problem solver is supposed to assemble loose ends. This is needed to get a clear and consistent approach to the problem in the analysis.73

We started with sending out e-mails to the chosen respondents. We presented ourselves and the purpose of this paper in this e-mail. Thereafter we made an inquiry if they could consider participating in an interview.

The respondents had the option to choose in what way the interview should proceed. They could choose between answering the questions in a personal meeting, over the telephone or by e-mail. Three chose to do the interview over the telephone, one wished to answer by e-mail and two wished for a personal meeting. We were both present during the interviews, beside the interview with Peter Thörn. Two of the telephone interviews were allowed to be recorded as well as one of the personal interviews. Meanwhile only notes were allowed to be taken during the other ones.

The interview questions were distinguished between the two airport groups. In other words the ones who have a low-cost airline and the ones who wish to have a low-cost airline operating at their airport. Our interviews have been of the structured form, as we have had structured questions that we went through from top to bottom, but without fixed reply alternatives. Our questions have also been divided into three and four categories

73 Ibid.
respectively. The first question form *(see enclosure 2)* with three categories was given to Säve and Skavsta Airport who already have a low-cost airline. And the second one with four categories, *(see enclosure 1)* was given to Jönköping and Smaland Airport who does not yet have a low-cost airline. We used a question form when interviewing one of the regional parties *(see enclosure 4)*. The other one recounted freely about the situation at Karlstad airport and what have been done so far.

We put together the gathered information. Thereafter we sent our written interpretation of their answers to all our respondents to receive an approval from their side regarding the text that later will be presented in this paper.

### 4.2 Who is interviewed and why

We have interviewed persons in prominent positions from four airports; Stockholm/Skavsta, Göteborg/Säve, Jönköping and Smaland airport. The first two were interviewed because they already have an operating low-cost airline and the last two were interviewed because they represent airports that do not yet have that but wish to. We have chosen two different types of airport because; *i)* it gives an interesting angle on what has been done, and *ii)* what should be done to establish or *iii)* what is required to have a n operating low-cost airline at the airport. The replies gave us information about how they have proceeded with settling an agreement. This might be of interest to other airports that wish to have or have been working with establishing a low-cost airline. It might give an indication of how they should work to reach such a goal. Furthermore we have interviewed partners in Värmland represented by the organization Region Värmland. The Region Värmland has served as a stand in for Karlstad airport because they are familiar with the turnabouts around the airport.

### 4.3 Falling off

We got an interview with six out of the nine we had asked. The falling off that has affected our paper the most is the once representing Karlstad Airport. The airport manager was put on the sick-list and could not participate. The stand-in manager considered that he did not possess enough information regarding the work around a low-cost airline the airport has done so far. Because of that he did not want to participate. We made an inquiry to Västerås Airport, but they did not reply.

### 4.4 Source of error

- Certain things were business secrets which prevented us from getting a complete and truthful picture. Therefore it is possible that our conclusions can be misleading.
• Instead of interviewing someone working at Karlstad Airport we only interviewed other interested parties with questions about the airport. This might have given us another picture of the situation at the airport than the real one.

• Because two interviews were carried out through just taking notes, we might have missed out on important details.

• Since we only received replies from four airports, the result of this study can be looked upon more as an indication. But since there are not too many airports with low-cost airline operating in Sweden, this study might despite little empirical evidence give a good picture of the situation of the secondary airports in Sweden.
5. Background information

This part is presenting information about LFV. This is followed by background information about Karlstad Airport. Further, this chapter brings up different charges that the airlines have to pay and discount project that LFV has to offer when establishing new routes.

5.1 LFV

LFV is a business agency who is financing their activities through traffic fees and commercial incomes. LFV serve as a department (civil service) under the government’s reigning. The traffic fees are the biggest income source equalling two thirds of total income. The fees giving the most are route, passengers, and take-off charges.\(^{74}\)

LFV has six main objects:\(^{75}\)

1) *Financial strength* – to fulfil the financial objectives of its owner
2) *Airports* – provide airports with best customer value in the Nordic regions and to contribute to goal reaching of the transport policy goals.
3) *Attractive employer* with a positive image both internal and external.
4) *Commercial products* – net earnings from commercial products shall increase.
5) *Air navigation services* – shall participate in the development of the cross-border air navigator within Europe and provide positive regional development.
6) *Environment* – shall work towards a sustainable development.

In 2005 more than 7.6 million passengers were flying from an airport run by LFV in Sweden to a foreign destination and nearly 7.6 arrived at a Swedish airport\(^{76}\). At writing moment LFV owns 15 airports and run the civilian traffic at additional four airports\(^{77}\).

5.2 Presentation of Karlstad Airport

Karlstad Airport was built and taken into use 1997 and makes it to one of the newest airport in Europe\(^{78}\). It is placed about 18 kilometres north-west of Karlstad\(^{79}\). The construction costs amounted to 390 million SEK. The tax payer contributed with 120

\(^{74}\) See part 3.2.1 about current charges
\(^{75}\) www.lfv.se (2006-04-18)-1
\(^{76}\) www.lfv.se (2006-03-27)
\(^{77}\) For more information see enclosure 1
\(^{78}\) www.regionvarmland.se (2006-01-26)
\(^{79}\) www.lfv.se (2006-04-19)-1
millions via the municipality and the county council. AMS/LAN contributed with 120 millions and LFV paid the remaining 150 millions.\footnote{Högman m.fl. (2005)}

Today there are two scheduled airline service flights from Karlstad Airport. One goes to Arlanda six times per day, Monday to Friday. Saturdays there is only on option and Sunday there are three possibilities to go to Stockholm.\footnote{www.lfv.se (2006-04-19)-2} The other goes between Karlstad and Copenhagen once a day \footnote{Martinson, NWT (2006-04-29)} The flight to Stockholm takes about 55 minutes and to reach Copenhagen it takes about 80 minutes (See enclosure 5).

During some periods Karlstad Airport offers charter flights. These flights leave Karlstad ones up to twice a week and are flying to Crete, Switzerland and Turkey\footnote{www.lfv.se (2006-04-19)-2}. Florence Brinkegård, the executive at Karlstad Airport said in 2003 that the charters from Karlstad draw Norwegians to fly from the airport. If they got an additional charter trip per week it would generate one additional million in income without an expansion of the crew.\footnote{www.lfv.se (2006-05-18)-2}

The airport has since their peak in 2000 with 291,503 passengers been struggling against fewer passengers. In 2005 the total number of travellers to and from the airport amounted to 144,365 passengers which is only about half compared to the best year.\footnote{www.lfv.se (2006-04-19)-3}

The airport is not only important for passengers. Its customers are except passenger aircrafts, a motor flight club, airmail services\footnote{www.lfv.se (2006-04-28)}, a sailplane club and more occasional customers like helicopters and company planes. Besides that the military flights often use the air territory.\footnote{www.lfv.se (2006-05-03)}

\section*{5.3 Costs and discounts}

The airports in Sweden have different kinds of fees and charges. LFV has in general their own fees and charges and other airport companies have theirs. Since this paper is based on an airport managed by LFV we have chosen to present only LFV charges.

\subsection*{5.3.1 Current Charges}

There are a large number of charges that the airline companies have to pay to operate at an LFV airport. There are for example charges for take-off, emission, noise, passenger, terminal navigation charts (TNC) and air navigation.\footnote{www.lfv.se (2006-04-20)-2}
**Route charge:** It is a fee for aircrafts with a take-off weight exceeding 2000 kg. The route charge should cover the costs incurred by Air Navigation Services, telecommunications services, rescue services, weather information services and briefing.

**Passenger charge:** This charge is paid by every passenger. The charge should cover the cost of terminals, passenger access bridges and docking system connecting aircraft with terminal. The charge should also cover the cost of airport security incurred by air travel. The charge is differentiated between domestic and foreign with a lower charge for domestic travellers.

**Take-off charge:** The take-off charge depend on the aircraft’s maximum start weight, the heavier the higher the charge. The charge should cover costs for run-way systems, ramps and fire and rescue service.

**Emission charge:** This charge is paid by aircrafts with a start weight exceeding 5.7 tons and depends of the aircraft’s emission levels. The dirtier the emission is, the higher the charges will be. The charge covers the community cost for the aircraft’s discharge of nitrogen dioxide up to 900 meters.

**Noise charge:** These charges are paid on the basis of the aircraft’s certified noise levels. The charge should cover the cost of measuring the noise level and noise insulation actions. The LFV airports are noise classified by the distance to the population centre. The more noise sensitive the airport is, the higher is the charges.

**TNC charge:** This charge is the same for all airports and is paid by aircrafts with a maximum start weight of over 9.0 tons. The charge covers the costs for local air traffic

### 5.3.2 Suggestion of costs

The Ministry of Finance suggested in the autumn of 2005 increased environmental taxes which would affect prices paid by the passengers. They are suggested to be:

- 96 SEK per passenger in economic class within Europe
- 192 SEK passenger in economic class outside Europe
- 192 SEK passenger in business class within Europe
- 430 SEK passenger in business class outside Europe

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89 Pressmeddelande, Finansdepartementet, December 22, 2005,
Today there are no comparable environmental fees that are put on neither the passenger nor the airline company.

5.3.3 Discounts as Incentive on new routes – background

The DFG has invented a programme that offer discount to airline companies who establish new routes from LFV airports. This is meant to work as an economic means to establish a new route and to create profitability. The incentive program serves as a support to newcomers and shares the risk occurring when introducing new routes. The Incentive programmes have been introduced as a contribution to create development via new routes.\(^90\)

This introduction intends to facilitate the decision making process and reduce risk levels for the airlines.

5.3.4 The meaning of a new route

In this part we will explain what DFG mean with a new route in their incentive program and what differences there are between the seasonal and general offer.

5.3.4.1 General offer

In order to be classed as a new destination in the seasonal offer, the following criteria must be attained:\(^91\)

- The definition of a new destination is the designated city. That is to say, traffic to a new airport with the same city designator that already has a service on this route is not judged to be new traffic.
- Traffic services available on a new route offering at least one flight per week on an annual basis. New traffic with lower/less consistency may be offered an incentive program with a lower level after local agreement.
- These new services (to the same city designator) have not been provided by another airline during the past 12 months.

5.2.4.2 The extent of the general offer – Discounts

The incentive offer means 100% discount on the take-off charges including the TNC, excluding the environmental charges, during the first three years. Thereafter the airline company has to pay all charges. Adding to that, a passenger charge discount is given the

\(^{90}\) www.lfv.se (2006-04-18)-3

\(^{91}\) Ibid.
first year by 60%, second year by 40% and the third year by 20%. This is seen in the table below. The discounts apply to all new routes, domestic as well as international.

The discount is being paid out as soon as the new route starts and is running over three years when traffic is maintained on that specific route.

Table 1: Discounts

<table>
<thead>
<tr>
<th>Year</th>
<th>Discount take-off and TNC-charge</th>
<th>Discount Passenger charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100%</td>
<td>60%</td>
</tr>
<tr>
<td>2</td>
<td>100%</td>
<td>40%</td>
</tr>
<tr>
<td>3</td>
<td>100%</td>
<td>20%</td>
</tr>
</tbody>
</table>

5.3.4.3 Seasonal offer

In order to be classed as new destination traffic, the following criteria must be met:

- The definition of a new destination is the city designator. That is to say, traffic to a new airport with the same city designator that already has a service on this route is not judged to be new traffic.
- Traffic services available on a new route offering at least one flight per week during at least 6 weeks on an annual basis.
- These new services (to the same city designator) have not been provided by another airline during the past 12 months.

5.3.4.4 The extent of the Seasonal offer

The incentive-seasonal applies to all new routes, domestic as well as international. The table below shows the new incentive-Seasonal offering which means 100% discount on the take-off charges including the TNC, excluding the environmental charges, for the first year. Thereafter the airline company has to pay full fees. Adding to that a passenger charge discount is given the first year by 60%.

Table 2: Discounts

<table>
<thead>
<tr>
<th>Year</th>
<th>Discount take-off and TNC-charge</th>
<th>Discount Passenger charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100%</td>
<td>60%</td>
</tr>
</tbody>
</table>

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92 www.lfv.se (2006-04-18)-4
93 www.lfv.se (2006-04-18)-3
94 www.lfv.se (2006-04-18)-5
95 www.lfv.se (2006-04-18)-4
5.4 What characterizes a low-cost airline company?

It has been said that the low-cost airline is one of the most important effect to the deregulation of the world airborne traffic which commenced in early 1990. This meant that the market was free as early as 1994. The national airline companies, that by tradition have had precedence over several protected routes, had to accept that new companies became more serious competitors on profitable and traffic intense routes. Periods of deficits and augmented share of private travellers has led to that the ticket price has come to be important.\textsuperscript{96}

5.4.1 Low-cost airline – a definition

The low-cost airlines strategy is to fill all seats by offering low fares and earn money on selling and lending items onboard. The airlines save money by using smaller airports, where runways are less congested. Getting to and from the airport can require a train or a taxi.\textsuperscript{97}

5.4.2 Requirements

Low-cost airline companies are characterised by businesses concentrating on:\textsuperscript{98}

- Airports close to cities with minimum 300,000 inhabitants in the immediate surroundings.
- Ethnical groups, business travellers and tourists.
- All-year-round activity – at least 4 days a week.
- Operate six months during the first year at minimum. Thereafter all year round.
- Big aircrafts. 180 seats common.
- 80-85\% reservations/bookings.
- Routs of 750 km at minimum. Short routs are unprofitable.

Low-cost airline companies currently operating between a Swedish city and a foreign destination are for example Germanwings, Flynordic, Hapag-Lloyd Express, FlyMe, Welcome Air, Ryanair, and Wizz Air.\textsuperscript{99}

\textsuperscript{96} www.ne.se (2006-03-29)
\textsuperscript{97} Johnston, (2005)
\textsuperscript{98} Bruks & Ericsson (2006)
\textsuperscript{99} Ibid.
6. Case studies

In this part the reader will follow interviews with Skavsta, Gothenburg, Jönköping and Växjö Airport. The situation at Karlstad Airport is represented by interviews with the region of Värmland. Furthermore a description of what the respondents believe and think regarding their airport and situation today respectively. It is through their point of view we present the following text.

6.1 Airports

6.1.1 Skavsta Airport

Stockholm Skavsta Airport is owned and run by TBI but the community still holds 9.9 percent of the ownership today. The fact that 2.4 millions, that is 27 percent, of the population of Sweden live within a 100 kilometres radius of Skavsta’s catchment area might have helped to their success. Until 1998 Skavsta airport was run by the local authority (Nyköping and Oxelösund Kommun).

Both Ryanair and Wizzaire operate at Skavsta airport. Ving/My travel and Fritidsresor offers charter flights from the airport. Ryanair was the first low-cost airline to be established at the airport. It began with a flight to London Stansted in 1997. In April 2003, Ryanair placed their Scandinavian base at Skavsta airport with six daily flights. And today they fly to 13 destinations. Wizz air flies to 4 different destinations.

Skavsta airport saw a great potential and considered offering a low-cost airline to the area as a future niche. They had looked upon low-cost airline market in the USA that had a market share of 23 percent. The equivalent figure in Europe was only 5 percent. This was one reason why they settled an agreement with Ryanair. They succeeded with an establishment because they were able to provide low fees, good service and without new investments. But the increases in number of flights made them extend the terminal twice. Further investments they have made are car parks, ramp areas and equipments such as vehicles. One goal is to expand and get more low-cost airlines to fly from Skavsta as well as charter companies. The owners have plans to expand further and they work intensively with attracting new low-cost airlines.

Both the managing director and the operative director have been present during the negotiations with the airline companies. Neither the agreement with Wizz air or Ryanair took long time to settle. Skavsta airport has collaborated with all the active collaborates at the airport. All parties supply the customers in one way or another and it can be seen as risk taking.

100 www.skavsta-air.se (2006-03-29)
There are a lot of business secrets around the requirements. But the general requirement the airport has to fulfil is to offer low-costs to the airline companies. Further they should work for quick turns and to offer good services. On the contrary the low-cost airline has to provide certain passenger volume.

The establishment of Ryanair has helped Skavsta to be spotted on the map, meaning that most of the airlines know where to find Skavsta. The low-cost option has opened up the possibility for more private people to travel. Another big advantage is that business/enterprises have been able to save travelling/transport costs.

Skavsta airport make risk analyses for every decision – from financial to operational decisions. Thereafter they categorise and evaluate the risks. There are ”people” who consider that Skavsta airport take on a big risk having such a big dependency on one airline company – but they claim that they are not alone. Skavsta say that it is not unusual that the biggest client represent roughly 80 percent of the total traffic.

6.1.2 Göteborg City Airport/Säve

An operating company, owning a part of the construction, owns the airport. The rest is owned by LFV but is hired by the operating company. LFV owns 40 percent, the local authority (Göteborg Kommun) owns 20 percent and Volvo owns the remaining 40 percent of the operating company. A low-cost airline has been operating at Säve since 1 June 2001. But the desire of having a low-cost airline existed already in 1996. An earlier start was not possible partly because of the airport’s incapacity to bring about such a project. Today there are two operating low-cost airlines on regular basis, Ryanair and German wings. Wizz air will start flying from 18 June 2006. Public utility flights are operating (acting) sporadically, such as charter, SOS ambulance planes, rescue service and school of aviation. The importance is put upon what already exists instead of dashing forward contacting other operators. As it looks today they can not accept more than they already got. Rather they invest in running and developing the present co-operations.

The intention has never been to drive the main airport, Landvetter, out of the market. Säve is instead working as a complement. They wish to broaden instead of break into the market and offer services/flights to lower prices.

They have been in contact with operators in central and east Europe offering new routes but do not compete with an already existing destination. The main task is to supply the airline companies with a high accessibility because it cost too much to wait. This has done through a fast and efficient service.

For Säve the establishment of a low-cost company has implied extra investments since passing through half a million passenger was impossible. A bigger car parking was needed, which is paying off itself within a couple of years. It leads to a quick surplus that can be reinvested elsewhere. Göteborg/Säve proceeded with an efficient thinking in relation to financing investments. Incomes originate in other business activities at the
airport such as car rental, taxi activities, kiosks and restaurants. “You can not build a castle when you want a hut”.

Ryanair contacted Säve airport. An agreement take time to settle since both parts had desires and suggestions that had to be polished and discussed. But it took only half a year to sign the contract with Ryanair. Though Ryanair started flying quite some time after the agreement was settled was the lack of capacity.

The airport management negotiates with the potential airline company, thereafter a negotiation result is presented to the board of directors, the agreement is settled and the traffic can start running.

The agreement between the airport and the airline company has different duration. The agreement with Ryanair is running over 12 years and the other two agreements are running over a three year period. The airport has been able to fulfil all requirements from the airline companies. They claim that it is all about negotiating and meeting half way through.

The airport would still be running as a common airport regardless if a low-cost airline company operates at Säve or not. But there would be a few limitations. The owner and the faced competition would probably not have been the same. Furthermore the airport would not have contributed with the same public utility to the region. And it could not have developed in the same way without a low-cost airline. The intention is to develop the low-cost flights additionally. Besides that, new niches might be developed in as a vast extension as possible. There is no space to expand the airport (terminal, runway) due of environmental reasons. The region has been developed and new markets are opening up to Swedes as well as to foreign travellers. This brings about numerous side effects which might help the expansion in the whole region.

A risk analysis has not been done but it is inevitable not to run business risks. A business plan consist of certain questions are trickier than others. New duties or new taxes set up by the government and local authority might occur. And that prohibit the fulfilment of agreements with other operators. There is no difference in risk between establishing a low-cost airline and another airline company who offers scheduled airline services.

The airport has themselves designed a model how to pay and form an agreement. It changes in coherence with flights from case to case. They mean that certain operative agreements look the way they look since they have the appearance of a pre written form. Business agreements may be formed depending on the situation. But in some cases certain rules have to be applied.

6.1.3 Smaland Airport – Växjö

Smaland airport is owned by the region, Kronoberg county council, who represent 55 percent, Växjö local authority owns 42 percent and Alvesta local authority represent 3
percent. It has never been a question of privatization of the airport. Their vision is to become the leading regional airport in the south east of Sweden. It has today approximately 180 000 passengers, but they have a capacity of 300 000 passengers. This implies no need for additional investments and if needed they would not go through with it. “The low-cost airline companies do not pay a penny therefore they get tents”.

They wish to have an operating low-cost airline first because a change in structure has made low-cost airline become a big part of the European market and secondly it would be for beneficial to the region. If they do not settle an agreement with a low-cost airline there is a slight chance of having to close down.

Too few passengers are a problem to the regional airport today. A low-cost airline could imply more passengers and through that strengthen their market position.

The airport has worked up the market to be able to establish a low-cost airline. They have been in contact with several companies and the contact has been mutual. And it is the airport who has conducted the negotiation which has been ongoing during the last two years. Apart from the airport there are several other interested parties involved in the discussions. For example the tourist trade has served as support and they saw a big potential in establishing a low-cost airline.

The airline companies’ demands have been possible to fulfil. But the low-cost airline has to provide a timetable that is attractive to people. “You do not carve gold with a butter knife when you are talking to the low-cost airlines”.

The airport has taken on business risk. Their risk analysis showed that establishing a low-cost airline is a poor business to the airport. But for the region it is a stroke of business. It is up to the owner to make the decision of having or not having a low-cost airline. Despite the fact that it is unprofitable, the respondent is still interested in a low-cost airline and he is sure that it is the right thing for the region. A low-cost airline establishment could imply higher income and turnover to the society.

Previously there was no inclination to risk taking by the airport. But there has been a change in risk taking during the last years. The airline companies search to share the risk and the airport is one component. One risk is how present customer reacts. People believe that the low-cost airlines do not pay a penny which leads the customers to not wanting to pay a penny either. This is not completely true, you only have to be innovative when you deal with such businesses and reach outside the traditional box.

The airport has looked at several low-cost airlines when considering an establishment, but the respondent was not willing to reveal whether if it was a specific. They have look upon different regions and countries when deciding which airline company to choose. Another aspect they have looked at is what kind of people would fly to Växjö and who wish to explore their market.
Rules and regulations have to be followed. But the rules might not always be applicable when establishing a low-cost airline. Air taxes are a big problem and are working negatively to the airport as well as to the region. The negotiation regarding a low-cost airline to and from Växjö has been postponed until the government tax regulation has been settled.

6.1.4 Jönköping Airport

Jönköping airport is currently owned by LFV. It put focus on low-cost airlines which is a good way to position oneself on the flight map. They have today 100 000 to 125 000 passengers per year, but need 200 000 to 250 000 passengers to break-even if they would run a low-cost airline at the airport. The respondent claims that this is a bad business economically wise and it is hard to earn good money. The low-cost airline would give the passengers an alternative which is very practicable. It would give goodwill to the airport and make it well known.

Jönköping airport has today a capacity of 700 000 to 800 000 passengers per year. Therefore additional investments are not needed. They claim to already have all equipment needed such as machines and runway capacity. The only change needed is additional employees.

The situation today is critical to all smaller airports according to the respondent. The airlines look mostly at the bigger cities. Even though Jönköping has drawn up a map where you see that over on million people are within one hour reach of the airport and have a flourishing economy it has not been enough to settle an agreement. The respondent says that the low-cost airline would imply regional growth.

Operating low-cost airlines at the airport imply people’s interest, leading the airport to get larger passenger volume and larger capacity utilization.

Ryanair contacted Jönköping airport as early as 1995, but no one knew who they were or what a low-cost airline was at that time. Their business plan was crystal clear and they believed that Jönköping was ideal. Though Jönköping airport could not accept the conditions, which for example said that Ryanair only paid one tenth of the fees of what the present clients paid. This would have affected the operating airline companies and the other LFV airports. Since 1995 Ryanair has contacted Jönköping in 1997, 2001 and 2005. But after the news about imposing new air taxes it was a flat refusal to opening new routs from Sweden. After being put on the transfer list by LFV, Jönköping Airport has actively scanned Europe after low-cost airline companies such as Easyjet, German wings, Air Berlin and other companies belonging to the borderland of what a low-cost is and is not.

In 2001 Ryanair requested 5 million SEK in order to settle the agreement with Jönköping and establish routes from the airport. Representatives from the airport went over to Ireland to sign the contract and to find that Ryanair had changed their mind and said that
it would cost 10 million SEK and not 5 million SEK as previously said. There by the deal was off.

Jönköping airport have worked with the local authority and Smålands tourism. This means that they have to collaborate with others a part of LFV. When you present the airport to the airline company the airport is the least interesting part. Having a good market is important; the airport is only a harbour. The respondent points out the importance of showing good tourist attractions, good purchasing power, good infrastructure and having a reasonable good population density. “A couple of kilometres of asphalt can be found anywhere in the world”.

To make Europe aware of Jönköping Airport they have participated in so called match-making conferences where airlines meet airports. The airports have to pay a fee but the airline companies participate for free. Another way is to send out presentations to new companies or reminding companies who are considering an establishment within the country. They work together with the local authority and other collaborators.

It is important to make a thorough market analysis that brings up why the low-cost airline should fly to and from the airport.

The Region Jönköping consists of the local authority, the airport, Småland Turism and Location Scandinavia (a company working with ISA, who are working with foreign companies establishing in Sweden). These co-workers work together with questions regarding the development of the airport.

Taking on additional risk have been a problem because they do not have permission to that since the airport is run by LFV. Through cooperation with the region they can raise money from the visiting industry and tourism in Småland. Due to this Jönköping do not consider the LFV ownership to be a problem.

Not having a low-cost airline is not a threat to the airports existence. A low-cost airline would work as a complement bringing big passenger volumes. But the money does not have its origin in a low-cost airline. The airport ought to have a flight that works for the economy and the industry but the traditional low-cost airline is in this case not the working product. Hence regular and low-cost airline should both operate at the same time.

Jönköping believe that a low-cost airline would bring regional growth to the community, especially to the tourist trade. The low-cost airline has not only changed the air traffic world, but also the tourist trade in countries where they operate.

Tourists who fly to Skavsta are often aiming at going to Stockholm. If the tourist would fly to Jönköping he would stay in the region and through that he would spend money and experience the landscape Småland offers. “Passengers do not exist, they are created”.

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The airport needs to share the risk if establishing a low-cost airline. They have to ask the tourist trade if they would like to participate and scarify money to be a part of acquiring 50-100,000 passengers in return. Even the local authority and the industry are possible financiers; the money has to come from somewhere, because the income from the tickets does not cover the costs of a low-cost airline. And LFV are not willing to be one of the financiers.

The low-cost airlines are not willing to come until a decision of introducing new taxes has been settled. Compare with Denmark where the airline companies had to pay the same kind of taxes, it is understandable. It turned out to work negatively towards both the tourist trade and the aviation, leading to an abolishment of these taxes. If the future taxes in Sweden would vanish, it would not take long to get a low-cost airline operating at Jönköping airport since the low-cost airlines expand and have yet only penetrated 20 percent of the market. But still the competition between airports is big.

The DFG incentive program could be used to establish low-cost airlines, but until now it has only been used for charters.

6.2 Representatives from Region Värmland

LFV is not keen on continuing owning the airport in Karlstad according to the vice president of Region Värmland. Since no partner in Värmland is interested in taking over the operation, the current situation will remain unchanged. If LFV want to leave they have to consult with the Swedish government who will make the decision of ongoing running of the airport or not. LFV cannot make that decision itself since they are a business driven company and not an authority with power. The airport is seen as a regional interest, but the state should provide a reasonable good transport network.

One of the respondents pointed out that the airport is a government matter. He claimed that the airport will never disappear, not physically, but airline companies might chose not to provide flights from the runway. He mentioned four reasons why the amounts of passengers keep decreasing: train, authority changes i.e. a closure of governmental agencies, general decrease in international passengers and change of the airport location from inner city to the outskirts of the city.

The respondent believes that LFV is not interested in hiring a low-cost airline because no subsidies will be given. And they are not willing or able to pay the low-cost airline to start flying to and from Karlstad.

Freight and tourist flights are a part of the new era. If you look at tourism, the outgoing tourists are limited due to population grounds in the catchments area while the ingoing are unlimited. The freight face competition from Örebro, a neighbour airport, which have big market shares in the industry.
The responsible for communication and infrastructure at Region Värmland said the following:

Since there is a desire to have a low-cost airline a study about the possibilities to get a low-cost airline to Karlstad Airport has been made. The study showed that it might be possible to start such a project, but that the catchment area around Karlstad is not big enough. It is necessary to have a population of nearly 300,000 and you can acquire that if you calculate positively. The region abandoned the idea of a low-cost airline in Värmland since one is drawn to Rügge, Norway. There is also a question of financials. The demands are found in the report and cost roughly 15 million SEK annually. It is a pure contribution that goes directly to the airline company regardless of how many passengers are sitting in the aircraft. And the low-cost airline does not pay the airport a penny either. They have not yet found a financier willing to invest in a low-cost airline project. The Region of Värmland looks on the incoming charter together with the tourist council. The charter departs from Zürich will probably depart one from Düsseldorf. The travellers stay on average 10 days and spend roughly 1400 to 1500 SEK per day. There are no visions of a low-cost airline at Karlstad Airport today.

Before Ryanair became the size it is today there were contacts between them and Karlstad Airport. The negotiations failed due to Ryanair’s demanded guaranties. In principle you should guarantee a certain amount of passenger. “If you open the purse and pay, they will come”.

The Region of Värmland sees Rügge, Skavsta and Säve as competitors and it would be to fool oneself to believe it would work with a low-cost airline at Karlstad Airport as well.

It is estimated that the low-cost airline has an impact on surrounding activity, like car rental, camping sites and hotel that get a boost from it. The municipality counts on getting it back via taxes. The same basis does not exist in Karlstad. It might in principle have worked having an operating low-cost airline if Karlstad Airport would have been “in the game” from the beginning.

No additional investments are needed to establish a low-cost airline company at Karlstad Airport. It is one of Europe’s latest built. The airport has basically the ability to take on just about anything.

The incoming charter from Karlstad Airport does not demand the same commitments and guarantees as the low-cost airline. It does not give much to the people in Värmland, since there are only a few seats. During 10 weeks in the summer season there are possibilities to fly out, but it has an importance to the visiting industry.

The airport can not take any risks without LFV’s accordance. It is the region, region of Värmland, the municipality and the industry who could take on the risk. But the report showed that there was no money to dispose.
A low-cost airline would not save the airport. It will always remain, at least physically. The airport is running a deficit, but the traffic, for example from Karlstad to Arlanda functions well and has a good covering. In order for the Kastrup flight to make a good result at least four passengers per flight is needed. Karlstad Airport is satisfied with LFV as the owner, but the marketing around the airport could improve. Apart from that LFV runs the airport with perfection.

There are differences between airports depending on whether it is run by the government (LFV) or the municipality. If the airport is run by a company or a municipality owned company it has bigger freedom of action, and could nought that columns. There are pros and cons with all kinds of ownerships. If the airport was not State-owned it could adjust the fees and prices. Today it is controlled by rules and regulations. The traveller does not care who the owner of the airport is as long as it is clean and tidy.

The ”Flygrådet” has acted as a collaborator with the Airport. The collaborators are; the county administrative board, the Region of Värmland, Karlstad municipality, the industry, the Chamber of Commerce and several other parties as well as the tourist council of Värmland. No one of them is willing to pay for a low-cost airline. Therefore the establishment of a low-cost airline will not take place in the nearest future. Even without the low-cost airline the visit industry is increasing incredibly.

The respondent also says that DFG is of great help when establishing a new route or try out new routs. This is where the route developer comes into the picture. To use tax means to establish a new route is no option. However they are willing to support the airlines during the first years and they can even pay very well. But there has to be a long-term perspective in the project and an interest from the airline as well.
7. Analysis

In this analysis we interpret the theory and our case study. First we analyse why the airports want a low-cost airline and continue with the need of investments. Further focus is put upon decision making where the negotiation is needed. In the end of this part we deal with risks.

7.1 Eight possible interested parties to Karlstad Airport

The passengers are interested in getting around and use the aviation as a transport. It is also for necessary for the airport having passengers to fill the airlines. As understood from the previous text it is also desirable, by the passengers, with a low-cost airline. Enclosure 5 proves that the required amount of passengers for establishing a low-cost airline is found within the closest catchment area. A third of the population lives within 250 km from Karlstad and with attractive flight destinations people would travel from the airport despite the distance. Also the fact that Karlstad airport has flight connection with two capitals gives Karlstad an advantage against other low-cost airports in Sweden. Because the aircrafts between the cities are not filled also that airline company could be interested in an establishment. When being creative also these planes could be filled with travellers going with the low-cost airline.

LFV as the owner of the airport in Karlstad is one interested party. And as a subordinated to the government who is an indirect also a part, it will serve as a mandatory guide. Both the county council of Värmland and the municipality have earlier worked as a lender to the airport and are therefore possible interested parties.

The Region Värmland and the Chamber of Commerce represent the professional and industrial organisation. These interested parties affect or work with the enterprises in Värmland. It can therefore be said that they play a role in an establishment of a low-cost airline establishment.

In figure three below de describe the relation Karlstad airport has to its possible interested parties.
The airport and municipality are collaborating. The municipality has given the airport financial aid making the airport able to build the new airport. The airport in return is important to the development of community and its survival. In simplicity the community will earn more money in the end if more passengers visit the area, which imply an up going spiral. What the municipality gives to the airport will in return show increased taxes from money spending tourists. In return the inhabitants will be rewarded with a better welfare system.

The relation between the airport in Karlstad and its employees and their organisation has a minus sign because the airport is at a disadvantage in relation to the employees. The airport is at a disadvantage because it depends upon their employees in order to run the airport smoothly.

The airport in Karlstad is dependent of its customers but not vice versa because the offered destinations can be reached by other means of transport.
In the case with the airport and airline companies the airline company is the one who set up the criteria’s and requirements though the airport can agree to what suits them. The airline companies are independent and will always have other routes to cover if the airport does not accept the requirements. This leaves Karlstad airport in a crucial position, since they, in order to have a profitable business, need flights to attract passengers. It would be even more crucial to have a low-cost airline company operating at Karlstad airport since the low-cost company’s requirements are harder to fulfil and are more costly.

It can be said to be a conflict between the airport and the opinion forming organisation, like the media. Media gives the possibility for people to express their disappointment or pleasure with the airport. One conflict is the question of the survival of the airport that sometimes in media is incorrectly described.

LFV, being the airport’s owner, have the power which means that LFV will always be in charge of the money flow and final decisions. And LFV would not spend money in an establishment of a low-cost airline company in Karlstad. The airport does not have the possibility to arrive at an agreement without LFV’s accordance. This is one reason why a conflict might arise. On the contrary the airport is superior of LFV since without the airport LFV can not fulfil the governmental goals to have a fully functional air net.

The airport depends upon the county council of Värmland since the council has invested money in the constructing of the airport. The airport is also relying on the county council of Värmland if the airport should be able to get a low-cost airline to Karlstad.

The Chamber of commerce and Region Värmland understand the importance of a good working airport in Karlstad. The Chamber of commerce and their members rely a great deal on flights to and from Karlstad but neither of chamber of commerce or Region Värmland are willing to invest in an establishment of a low-cost airline company.

How great the amount of money an interested party should put in to a low-cost establishment is difficult to predict. Presumably the amount should be depending on what utility the interested party sees to achieve in return. Even the assumed risk should affect the investment sum.

If you take Ryanair, the required amount of money differs from airport to airport. It also depend how much the low-cost airline requires. Therefore it is impossible to even assume how much money each interested party should invest in the project before the negotiations has commenced between the airline and the airport.
7.2 Reasons to why the airport wants a low-cost airline

An establishment of an airline company is an investment since the airport is venturing a large amount of money in the project that implies financial consequences in the future. But establishing a low-cost airline is, to the airport, not itself a profitable investment because they do not earn good money. They sometimes need to pay a sum before the low-cost airline start operating. And they are demanded to offer low costs and good service. To make it profitable they turn to other activities at the airport such as car rental, shops, restaurants and car parks. Favours done in return makes it desirable project and are not always implying sacrifices. As one of the respondents said; “passengers do not exist, they are created”. And the low-cost airlines create these customers. More passengers can be drawn to other routes beside the low-cost routes, which can lead to higher earnings and the airport and the region gets well known. A low-cost airline company will help the airport to create a reputation around the world and open up a bigger market. This market provides further income and development possibilities to the airport and the region apart from the airline.

More passengers create a higher tourist rate that brings higher growth to the region and the community. If GDP is define as a measurement of growth, an increase in consumption could imply a positive growth (see equation 3.1 in section 3.6). Following that more work opportunities will be created which generate money to the community. This is seen as a positive and up going spiral.

Because a low-cost airline makes it possible for more of the population to make a trip to a foreign country it also affect the GDP, because more money goes out from Sweden. But for the region close to an airport with low-cost airline the visitors are not only foreigners but also in our case Swedes from other regions who spend time and money in the region before and after the trip. The GDP is affected less positive having a low-cost airline at the airport compared to having an in-charter. But because Karlstad Airport does not have many charter flights per year, a low-cost airline would be better because it would at least be 4 departures per week.

7.3 Investment needs

Generally an airport is not willing to make further investments in the airport only for a low-cost establishment. Reasons to that is that:

1. The airline companies are not willing to support the investments by fully paying all charges so they do not get more than they pay for
2. The airports are already fully equipped to admit the low-cost airline company.
3. Investments in the airport can be seen as an irrecoverable sunk cost.

But if the airport wants to advance it is necessary to invest and these investments should expect to be profitable. For example, one investment with high liquidity and a quick
repayment period are the car parks necessary to deal with more passengers. Another investment that is rarely profitable, but might be needed in the future is to rebuild the airport. Because the airline companies do not pay a penny this kind of investments has to be financed by surrounded business activities. The airport only does investments if it is absolutely needed due to heavy traffic on the runway or regular scheduled flights. The investments could also lead to increased income or a rationalisation of cost savings. These savings and increased income may derive from other businesses that pay rent for the premises at the airport.

7.4 Decision making

The principle-agent problem can occur between the airport and its interested parties, for example the airport’s management and the airline company or the airport management and its owner. Another example is when the airport hires the low-cost airline. A gap can arise between the partners.

The lack of information can lead to misunderstandings and that a decision that in the aftermath turns out to negative to the decision makers is made. An example is Ryanair who has bundles of conditions in their contract. And only signing and accepting it without fully understanding the consequences implies a risk. And as one of our respondents said, once you have signed the contract there is no turning back. After having settled the agreement between the airport (principle) and the airline company (agent), further decision obstacles that have to be overcome might occur. This is due to different incentives and prerequisites.

If an establishment of a low-cost airline would be pareto efficient, neither the airport nor the airline company nor the other parties would get worse off. In order to successfully establish a low-cost airline and generate pareto efficiency all information ought to be fully available. But this is not practically possible in low-cost establishments because both parties possess different information that gives them different advantages. This can influence future conditions due to their subjective estimations and solutions.

The airport can act as both a principle and an agent. But the airport is often seen as the principle and the airline as the agent. A low-cost airline is an agent since they perform services on behalf of the airport. Both parties possess hidden information since they do not want to share all details.

Hidden information might be present and work negatively in an establishment, not only to the airport or airline but also for the whole region. If an airline company has hidden information there is a risk to adverse selection. However an airline company possesses information that they do not want to share which can be interpreted as hidden information and lead to adverse selection. An example when hidden information lead to that wrong decision is made is in the case of Jönköping where the airport had a deal with Ryanair. But Ryanair later changed the terms of condition that Jönköping could not accept. When an airport has learned the game Ryanair is playing, the principle-agent problem might decrease because they will be more aware of the rules of the game.
The low-cost airline company is often a good negotiator and demands that the airport agree to vast undertakings. The low-cost airline company influences the action of the airport forcing it to agree to certain conditions to be able to reward them with higher passenger volumes. Our case studies indicate that the airports wish to get a low-cost airline though they do not accept everything. But it seems like they accept much more than what they do with regular airlines.

The airports decision making process depend upon how the airport is run. Besides that the airport culture can be one cause for the differences in a decision making. The norms differ a lot between a public and a private driven airport. A private airport has a greater freedom of action than a public because the public airport has to show respect to the other public airports. In other words one public airport can not be given special treatment. Airports are in general suspicious of special treatments of airline companies because current clients would require the same treatment as the low-cost airline would get in case of an establishment. If the present clients would be discriminated the airport might have to cut back on additional things which would make all parties worse off. This might lead to more hidden information for the parties in the future negotiations. Even today’s contracts are often a secret because if all its contents would be revealed the airport could obtain a bad reputation which can lead to no future deals. When making decision regarding low-cost airline establishment, the airport often use a special group representing the airport. But in the end it is the board who decides.

7.5 Agency costs

Our study show that agency costs exist, at least if you interpret the charges the airline company wants the airport to pay as an incentive cost. Sometimes the costs turn out to be higher than agreed to be, due to different circumstances or differences in preferences and goals. For example, advertising the local area at the destination airport. But it does not reduce the real cost; instead it redistribute the money and return something else. This can be what Smaland Airport meant with being creative when making businesses with low-cost airlines. The airline companies do not pay money, but give other things back.

It is possible for the airport to reduce the agency costs if they are estimated to be too high for a given contract. This can be done through influencing the reward. The airport can force the airline company to advertise facts about the region at the foreign airport. An example is implicitly the advertising costs that are paid to the airline company.

The fact that the airport must offer low costs and good service to the low-cost airlines implies that the airports gets higher costs which can be seen as incentive costs. The DFG program can also be seen as an incentive cost because the airport offers services they do not get compensated for.

An example of a discrepancy cost is what the airport has to pay for any eventual cost increases that will occur after signing the contract and that they have accepted in the
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contract. These costs are regulated by the government and can for example be increased taxes.

7.6 Diversifying the risk

To understand what kind of risk exist when establishing a low-cost airline company, risk analysis has been carried out. Thereafter these risks can be handled in at least the assumed best-suited way for their investment objectives. These are the two steps in risk management and can be seen as another way of identifying the uncertainty in the project.

Since the airline companies are not willing to take on risks, they search to share or even transfer the risk. One option is to put the risk on the airport. There is a difference in the possibility due to the kind of ownership. An airline company can not put their risk upon an LFV airport because it can not take on additional risk with a low-cost airline. The limits are set up by the government and are therefore unchangeable. If the airport instead is private it would not be a problem since they only need to ear in mind their own interest. That brings more possibilities to share the risk between the airport and the airline company.

Also the airport has to find a way to spread its risk to maximize the expected utility of an establishment. There is a need to share the risk if they are going to successfully settle an agreement with a low-cost airline company. Therefore several interested parties should be involved in the discussions and share the payment of different fees a low-cost airline requires. Besides that the utility could increase if you increase the risk.

A low-cost airline serve as a complement to railway services, bus transports, regular flight services, shipping and road traffic. The purpose of it is not to run the scheduled airline services out of the market. Therefore the DFG incentive program can always be used to low-cost airline establishments to reduce the risk of failing. Through the DFG incentive program an LFV airport can share the risk with an airline company during a three year period. This program is applicable at all LFV airports, though it is not enough to get a low-cost airline to their airport. It is possible however for an LFV airport to cooperate with other parties and through that they can indirect share the risk.

Both airports and airline companies strive to settle an agreement reaching over several years. For example Säve has contracts reaching over tree to twelve years, where the contract length works as a means to reduce risks of rapid changes in income and number of passengers.

Airports and especially airports run by LFV do not seem to be willing to take on additional risks. The LFV airports do not have the possibility to do it due to regulations set up by the government.
An establishment of a low-cost airline can be seen as negative, but through cooperation the risk could decrease. Therefore the airport should turn to others both to be able to go through with an establishment and increase its profit.

Risk sharing between the airport and the airline company may lead to a profitable project for both parties involved. In order to reduce the risk in a low-cost airline establishment, the risk should be diversified between more parties.

The rules and regulations that have to be followed are not always applicable. One example is taxes that are preventing the low-cost company to open new flights at a Swedish airport. These taxes are working negatively for the airport as well as for the region since it is preventing the regional growth and the unlimited amount of ingoing tourists from entering the Swedish market.

The risk taken when establishing a low-cost airline at the airport is according to one respondent meant to be the same as when establishing a regular airline company. It seems to be desirable to share the risk with interested parties when establishing a low-cost airline. But not when establishing a regular airline company, though it is an indication that there is a higher risk establishing a low-cost airline.

It is important with risk sharing when establishing a low-cost airline as all respondent airports shows a high level of risk aversion. Even though the uncertainty level is high, it is not necessarily negative to proceed despite the fact that the airport or airline company sees the project as negative.
8. Conclusions

In this section we present the conclusions that we have drawn from the analysis. We are trying to answer the purpose of this paper with help from the theory and the empery.

To start flying from a new destination is as well for the airline company as for the airport a risky project. To reduce the airline company’s feared risk the airport can present what the region can provide to the tourists, like the nature, and what other possibilities exist. The establishment is risky for the airport because the airline companies do not pay for all services. The reason why airports still wants a low-cost airline is that it makes the airport well known world wide.

To make an establishment of a low-cost airline beneficial the risk should be shared between the airport and its interested parties. A problem when making decision is the hidden information between the parts because of the overwhelming amount of information in the contract. It can be prevented by going through and evaluating it in detail. The investment decision should also be supplemented with a risk analysis.

The gap between the management group at the airport and the owner of the airport might prevent the airports freedom of action which affects the decision making process. Even the type of ownership matters. There are bigger obstacles to overcome if the airport is owned by LFV, compared to if the airport has another ownership. One reason is that it is more business driven if not owned by the government. A second reason is that the airport has to follow the same rules independently what prerequisites it has.

The DFG program seems to be a well-suited tool that pushed the development of flight connection in between different destinations. And the possibility for an LFV airport to take advantage of the DFG program is rarely done on low-cost airlines.

There is no need for additional investment to get a low-cost airline to the airports in our case study, since they already have the requirements.
9. Recommendations to Karlstad Airport

In this section we discuss around the whole paper and give suggestions to what Karlstad airport should do to succeed with an establishment of a low-cost airline.

When establishing a low-cost airline the airport in Karlstad can not expect to earn a lot of money. The airport has the same costs when establishing a low-cost airline as when establishing a regular airline. But the difference is that the low-cost airlines do not pay as much as the regular ones, who pay the airport for their services.

This implies that the airport runs higher risk and uncertainty and therefore it should seek help from the interested parties outside their organization. If they spread the risk they would put less at stake and play a less adventurous game. Collaboration with partners outside the flight business could be a solution that would be successful and bring growth to the region.

That means that not taking those chances can jeopardise the existence of the airport and that selling or closing down is the only remaining option. A reason to this can be because it might be too expensive for LFV to keep the airport. This also states that the airport needs help from outside in order to generate money and growth to the region. The region would probably earn millions in tourist income and export money if they agree to support financially an investment in establishing a low-cost airline.

It is the council at Karlstad airport who should identify who would like to participate in a project like the establishment of a low-cost airline and how much they are willing to sacrifice financially in order to reduce the risk each party would face.

For Karlstad Airport, it is needed to take some additional risk in order to draw a low-cost airline to their airport. But they should not make stupid decisions. If looking at the airport today, it has been making deficit (see enclosure one) for the last years which indicate that wrong decisions have been made so far. Therefore if they engage in finding cooperatives who believe in the region and in a low-cost airline, it should not, by being innovative, be any problem to come up with a plan or solution.

The airport should open up to possibilities that exist around them instead of focusing on the obstacles. Therefore they should widen their views and not be afraid of asking for help. An option is take advantage of the DFG incentive program the first three years, and sign only a contract that will run over these three years. After an evaluation they can see how it has turned out, and if the catchments area is big enough to have a low-cost airline operating at Karlstad airport.
Suggestions to further studies

In this paper we examined only if it was possible and how an airport should proceed if they wished to establish a low-cost airline. But the answers to these questions implies further inquires that we would like an answer to. Therefore we believe it would be of interest to examine which partners are willing to participate in a venture and how much they are willing to sacrifice in order to establish a low-cost airline at Karlstad airport. A part from that, find out who these partners be.

Further we think it is of interest to examine the tourist trade’s view of a venture regarding a low-cost airline in Värmland and their possibilities to collaborate.

Because it has been discussion around LFV as an owner, it would be of great importance to know whether it exist a national or international interest to take over an airport of this type.

It would also be interesting to put everything into figures and calculate the cost of establishing a low-cost airline.
References

**Books**


**Reports**

Håkan Brusks & Lars-Olof Ericsson, Lågprisflyg till Karlstad, DEMA Group, 2006-01-20

**Articles**

Larsson Daniel, *De vill fokusera på fraktflyg*, NWT April 28 2006
Martinson Kjell, *Skyways testar Köpenhamn*, NWT 29 April 2006
Sjögren Kent, *Byt flygplatsledning*, VF 2005-11-12
**REFERENCES**

Thorngren Nadia, *Ryanairs dolda kravlista*, Dagens Industri, 2003-09-29

**Political/press release**

Pressmeddelande, Finansdepartementet, December 22, 2005
Motion 2005/06:T591: *Karlstad Flygplats* av Berit Högman m.fl (s), förslag till riksdagsbeslut

**Internet**

www.investopedia.com

www.iva.se
http://www.iva.se/upload/Verksamhet/Projekt/Upplevelser/Upplevelsers_roll_f%C3%B6r_n%C3%A4ringslivet.pdf (2006-05-02)

www.lfv.se

www.ne.se
http://www.ne.se (2006-03-29)

www.shr.se

www.skavsta.se
http://www.skavsta-air.se/se/content.asp?area=4&id=285 (2006-03-29)

www.skyways.se

www.sweden.gov.se
http://www.sweden.gov.se/sb/d/5973/a/55595;jsessionid=aABoqbo4-hh5 (2006-04-20)
REFERENCES

www.tutor2u.net
http://tutor2u.net/economics/content/topics/buseconomics/principal_agent.htm (2006-04-25)

www.regionvarmland.se

www.scb.se

www.hitta.se
http://www.hitta.se/PlaceDistance.aspx (2006-10-18)

Interviews

- Fors, Jan, MD, Smaland airport, Växjö, May 10 2006 (Telephone interview)
- Josefsson, Lena, market assistant & Kulovuori, Dot Gade, MD, Stockholm-Skavsta Airport, May 10 2006 (E-mail questions and answers)
- Larsson Hall, Göran, CEO, Göteborg-Säve Airport, May 8 2006 (Telephone interview)
- Larsson, Herman, market responsible, Jönköping-Axamo airport, May 9 2006 (Telephone interview)
- Nisser, Per-Samuel, vice president Region Värmland, May 4 2006 (Personal interview)
- Thörn, Peter, responsible for communication and infrastructure, Region Värmland, June 1 (Personal interview)
Enclosures

Enclosure 1 LFV Information

During year 2005 LFV owned 15 airports and ran the civilian traffic at additional 4 airports. They are, ranging from most passengers;

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MSEK are Million swedish crowns

* means that the airports already has a new owner.

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101 A new owner is taking over during 2006
Enclosure 2 Interview with Göteborg-Säve and Skavsta

Airport background
1) Who/whom owns and runs the airport today?
2) Which low-cost airline operate at your airport today?
3) What other airline operate at your airport?
4) How long has a low-cost airline exist on your airport?
5) Why did you want a low-cost airline to your airport?
6) What low-cost airlines have you been in contact/negotiating with before?
7) In what way has the airport contributed to an establishment of a low-cost airline?
8) Has the establishment of a low-cost airline involved additional investments? (give examples, please)

Agreements and requirements
1. How long did it take to negotiate and come to an agreement?
2. How has the negotiations been done? Who or which organisation has been involved?
3. How long does the agreement last?
4. Which requirements has the airline company demanded?
5. Are there any requirements that you have been unable to fulfil? In that case, which ones?
6. Which requirements have you put on the airline company?

Visions
1. How do you thing the airport would look like today if you would not have a low-cost airline today?
2. What visions do you have with a low-cost airline?
3. What do you think that a low-cost airline contribute to the society?
4. What would the airport look like today if you would not have had a low-cost airline? Would it have been a risk of closing down?

Risks
1. Have you done any kind of risk analysis?
2. What kind of risks exists with having a low-cost airline at the airport?
3. Have this in anyway affected the risk taking from your side?
4. Which internal risk factors, business risks that affect incomes and cost have been taken?
5. Which external risk factors, business risks that affect incomes and cost have been taken?
6. Which collaborators have been used and have these collaborators taken on parts of the risk?
7. How did you make the decision? In other words have you followed a model or was the decision already reached before though you only needed arguments to officially make up your mind?
Enclosure 3 Interview with Smaland and Jönköping airport

Wishes and negotiation

1) Why did you want a low-cost airline at your airport?
2) In what way would a low-cost airline company change the situation at the airport?
3) What visions do you have with a low-cost airline?
4) What airline companies have you been in contact/negotiating with?
5) In what way has the airport been working to establish a low-cost airline at the airport?
6) During how long have you been negotiating with a low-cost airline company?
7) What requirements have the airline companies demanded?
8) Are there any requirements that you have not been able to fulfil? Which ones?
9) What requirements have you put on the airline company?
10) How did the negotiations take place?
11) What operators were involved?

Risk

1) Would an establishment of a low-cost airline imply additional investments?
2) Would an establishment of a low-cost airline affect the risk taking from your side?
3) Have you done any risk analysis? Why/why not?
4) What risks exists with establishing a low-cost airline at the airport?
5) Have you, up to not, taken any risks, business risks, that have affected incomes and cost?
6) Do you believe that a low-cost airline will decrease the risk for a possible close down of the airport?
7) What do you believe a low-cost airline could contribute to the society?
8) What collaborators have you used and have these ones taken on any part of the risk?

Future

1) Who has taken on the consequences for future outcomes?
2) When do you think you can offer a low-cost airline from your airport?

3) Has the incentive programme helped you in your negotiations? DFG (Division Flygplatsgruppen) has come up with a suggestion to a programme that gives discount on new routes from a LFV airport.
Enclosure 4 Interview with Region Värmland

Wishes and negotiation

1) Do you wish to have a low-cost airline company at Karlstad airport? Is there such a desire from the airport's point of view?
2) Would a low-cost airline change the current situation at the airport? If yes, in what way?
3) Are there any visions with a low-cost airline?
4) Has there been any kind of contact between Karlstad airport and a low-cost airline company? If yes, which one or ones?
5) In what way has the airport proceeded with a low-cost airline establishment?
6) Has any one from the airport of region been at a conference regarding flight schedules?
7) Have there been any negotiations between Karlstad airport and a low-cost airline? In what way have these negotiations proceeded? Who has been involved and for how long has a negotiation been going on?
8) What does the airline company require?
9) Are there any requirements that Karlstad airport has not been able to fulfil? Which?
10) Has the airport had specific requirements?

Risk

1) Would an establishment imply additional investments?
2) Would an establishment in any way affect the airport’s risk taking?
3) Has the airport made any kind of risk analysis? Why/why not?
4) What risks exists in establishing a low-cost airline at the airport?
5) Has the airport taken on additional risks, business risk, that has affected income and cost?
6) Could a low-cost airline company reduce the risk of a future closing down?
7) What would you say a low-cost airline company could provide for the society?
8) What collaborators has the airport been using and have these taken on any part of the risk or would any collaborator who take on parts of the risk?
Future

1) When do you reckon Karlstad airport could offer a low-cost airline?
2) Has the incentive program with discounts on new routes established by DFG brought help in the process of establishing a low-cost airline?
3) Tax subsidies are not a good method to establish a low-cost airline company according to you. Why not and what options are to prefer?
4) Do you think that the ownership of the airport has influenced the possibilities of establishing a low-cost airline?
### Enclosure 5 Table over possible travellers

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\(^{102}\) www.hitta.se (2006-10-18)

\(^{103}\) http://www.scb.se/templates/tableOrChart____167883.asp (2006-10-18)
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104 www.skyways.se (2006-10-16)  
105 Ibid.