CORPORATE STRATEGIES FOR CURRENCY RISK MANAGEMENT

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PREFACE

Firstly, we would like to thank our supervisor Sigvard Herber for his help and support with our work on this thesis.

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Last but certainly not least, we would like to thank our respondents for taking the time to answer our questions and making this study possible.

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ABSTRACT

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Background: Currency fluctuations are a global phenomenon, and can affect multinational companies directly through their cash flow, financial result and company valuation. The exposure to currency risks might however be covered against or ‘hedged’, as it is called, by different external and internal corporate strategies. However, some of these strategies might include a risk themselves as they can be expensive and uncertain. It is therefore an interesting question whether if these strategies are actually applied in practice, and if so which strategies are favored and why.

Purpose: The purpose of this thesis is to present and explain the different external and internal hedging techniques and to see which, or if any, strategies are favored by large, medium-sized and small companies and for what reasons.

Method: Regarding primary data, interviews with a mostly qualitative profile have been used to discuss the subject with respondents from six companies, diversified in size using the classification from the European Commission. Secondary data has been collected through literature from the university library and internet sources.

Conclusion: Large companies primarily use the strategy of forwards, since they carry high elements of risk aversion, predictability and simplicity. For internal strategies, large companies prefer netting. Small companies extensively use matching because the routine is easy to establish and handle. Medium-sized companies can use either one so much depends on the risk-aversion and cash-flow management of the company.

Large companies continuously regard currency risk a big factor, whereas small companies have just recently started due to the dollar depreciation. Translation exposure should be considered a big risk regardless of the company size, if the company is the main one in a corporate group. Finally, the subject of currency risk management is very theoretically broad, but its appliance in practice is very slim as only a few strategies are actually favored and frequently used.
SAMMANFATTNING

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Syfte: Syftet med denna uppsats är att presentera och förklara de olika externa och interna hedging-teknikerna samt att se vilka, om några, strategier föredras av stora, medelstora samt små företag och för vilka orsaker.

Metod: För primärdata har intervjuer med en mestadels kvalitativ inriktning använts för att diskutera ämnet med respondenter från sex företag, uppdelade i storlek via klassifikationen från den Europeiska Kommissionen. Sekundärdata har inhämtats via litteratur från universitetsbibliotek samt internetkällor.


Stora företag har ständigt betraktat valutarisken som en stor faktor, medan småföretag precis har börjat på grund av dollarns värdeminskning. Översättningsexponering bör ses som en stor risk av alla företag som är moderbolag inom en koncern, oavsett företagets storlek. Slutligen kan sägas att ämnet valutariskhantering är väldigt teoretiskt eller, men den praktiska användningen är väldigt snäv då bara vissa få strategier faktiskt föredras och frekvent används.
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APPENDIXES

Appendix I – Interview question guide
Appendix II – Currency abbreviation list
1 Introduction

In this chapter a background to the chosen topic will be presented, as well as problem question, purpose, target group and delimitation.

1.1 Background

In business, there are always risks to be considered from the company’s point of view. However, as companies enter the global market and become multinational firms, a whole new world of opportunities opens up. However, with the aspect of new opportunities comes a new set of challenges and problems, which means that the risks multinational firms face are more and wider than those faced by domestic firms.

The goal of most companies is profit maximization, and in the case of limited corporations, shareholder interest. Due to these factors, it is imperative that companies do not neglect the risks that follow business in the international environment, but instead adapt proper strategies for identification and management of international business risks.

There are several types of international business risk factors, and in our opinion, one of the most interesting and important ones is the currency risk. Currency fluctuations are a global phenomenon, and therefore it affects all companies around the world involved in international business. The risks of currency can be either long-term or short-term and can affect the company’s cash flow, financial result and firm valuation directly. Therefore, it is not only of the company’s best interest, but almost an imperative factor, that the company has structured methods for dealing with currency risks. However, currency risk itself might be divided into several sub-categories and therefore the methods and strategies that companies use to deal with them might vary.

As will later be discussed in this thesis, the corporate strategies for managing currency risks might be a bit of a gamble. Many of the strategies used for currency risk management come with a high risk and a high cost themselves. Therefore many companies face the question whether they should use appropriate risk management strategies at all despite the risk and cost, or take a chance and not protect themselves against currency exchange rate fluctuations at all. As international trade has steadily increased throughout the years, it might be argued that any strategies that companies can use to gain competitive advantages should be of value. Therefore the question regarding the currency risk management strategies costs versus the benefit that the companies could gain is an interesting one.

1.2 Problem statement

With the different currencies and risks that come with them, it is in our interest to see how Swedish international companies assess currency risks and which strategies they use for this matter. Moreover, as business students who ourselves wish to work within risk management in the future, this thesis is seen as a very valuable way of getting a first-hand look at corporate strategies for currency risk management. An additional interesting point of view is the fact that managerial strategies differ between different companies with different sizes. When

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looking at an international phenomenon like exchange rate fluctuations, it is of interest to find out how companies of all sizes come to terms with such a problem. To come to a conclusion regarding the subject of the thesis, a set of problem questions need to be stated. Accordingly, the different types of problem questions that will be addressed in the thesis are:

- What is the definition of currency risk and which factors does it consist of?
- Which exposure to currency risk do companies feel is most important?
- What corporate financial strategies (external means) are used for the management of currency risk?
- What operational measures (internal means) are used for the management of currency risk?
- Do the opinions and management of currency risk vary between companies of different sizes?

These problem questions are the base of the information that the thesis will answer. By having discussions with representatives of different companies regarding the problem questions, the goal is to gain understanding of how currency risk management strategies are applied in practice and what affects a company’s opinion toward currency risks.

1.3 Purpose

The purpose of this thesis is to present information on currency risk management strategies as well as to provide different sized Swedish companies views and usage regarding them.

1.4 Target group

Our target group is individuals in managerial positions in companies who share an interest in currency risk management and/or wish to learn more about the subject.

1.4 Delimitation

Although it is stated that currency exchange fluctuations are a global phenomenon and affects companies around the world, the focus of the thesis will be export companies located in Sweden and the province of Västerås, hence easing the process of primary data information gathering. Moreover, as the topic covers currency risk which is a global subject, it is important as students in business to stay focused on the corporate aspects of currency risk and management, rather than the economical causes of currency fluctuation and volatility.

1.5 Reference system

This thesis uses the Oxford system\(^\text{2}\) with footnotes. A footnote over a word corresponds directly to that word, whereas a footnote before a break corresponds to that sentence. A footnote after a break relates to the whole part. Additionally, an ‘f’ (following page) or ‘ff’ (following pages) might be included in the reference.

2 Method

This chapter will present the study’s scientific research method and approach with a description of the data gathering and some critical views on the research procedure.

2.1 Research strategy

The field of research studies is wide and broad. However, many writers in methodological issues distinguish between two main categories in research methods, namely quantitative and qualitative research. It is argued that these two categories differ with respect to their foundation as well as other aspects, such as the connection between theory and research. By this differentiation, qualitative and quantitative methods can form two different research strategies, which are stated as a mean of general orientation of how the research is conducted.3

2.1.1 Quantitative Research

Quantitative research is described as very objective and distinctive research strategy where the procedure consists of involving numerical and statistical data. The study portrays a view of the relationship between the theory or hypothesis and the empirical research through the gathered numerical data.4

Due to the nature of quantitative research strategy, the researcher deals directly with the manipulation of empirical variables, prediction and testing. There is therefore a great emphasis placed on methodology, procedure and especially the statistical measures of validity. Consequently, quantitative research reports are usually organized to show a clear progression from theory to practical operations of concept, from choice of methodology and procedures to the data collected, from statistical tests to findings and conclusions.5

The quantitative research strategy usually contains the following elements,6

- The data is more structured and less flexible than qualitative research.
- The quantitative strategy tends to include larger samples of individuals than would be used in qualitative research.
- In comparison with qualitative research, quantitative reports are more easily replicated and direct comparisons between results are easier to perform.
- The gathered data provides answers that can be quantified in their extent.
- The final analysis is usually statistical and very objective in nature.

6 Wilson, *Marketing Research – An Integrated Approach*, 2003, p. 120 f
2.1.2 Qualitative Research

A qualitative research strategy can be defined as research which is commenced using a mostly unstructured research approach with a small number of carefully selected individuals to construct non-statistical insights into behaviour, motivations and attitudes.⁷

The different base of emphasis between quantitative and qualitative strategy is the priority accorded to the perspectives of those being studied, along with a related emphasis on the interpretation and understanding of the observations in accordance with the subject’s own understandings. Therefore, it is stated that qualitative research strategy emphasizes word rather than quantification in the collection and analysis of data. Because of this, the aim of qualitative research studies is to obtain a deeper understanding of the research subject’s motivations and incentives.⁸

The qualitative research strategy usually consists of the following key components:⁹

- Although the research study should be systematically and thoroughly constructed, the data gathering process is less structured and more flexible than quantitative research.
- The researcher should involve critical self-scrutiny and reflexivity that should take stock of their actions and their role in the research process.
- The study usually involves small samples of individuals who are not necessarily representatives of larger populations, although great care should be taken in the selection of respondents.
- Qualitative research should present explanations rather than measurement to questions.

2.1.3 Summary and Choice of Research Strategy

As seen in previous chapters, qualitative and quantitative research strategies vary in their concept of methodology. For evaluating the different types of strategy, a sample summary model of the characteristics of quantitative and qualitative strategy is often used (see table 1).

<table>
<thead>
<tr>
<th>Quantitative strategy</th>
<th>Qualitative strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard</td>
<td>Soft</td>
</tr>
<tr>
<td>Fixed</td>
<td>Flexible</td>
</tr>
<tr>
<td>Objective</td>
<td>Subjective</td>
</tr>
<tr>
<td>Value-free</td>
<td>Political</td>
</tr>
<tr>
<td>Survey</td>
<td>Case study</td>
</tr>
<tr>
<td>Hypothesis-testing</td>
<td>Speculative</td>
</tr>
<tr>
<td>Large sample population</td>
<td>Small sample population</td>
</tr>
</tbody>
</table>

Table 1 – Characteristics of quantitative and qualitative research strategy (own revision)

Source: Miller et al, Context & Method in Qualitative Research, 1997

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⁷ Wilson, Marketing Research – An Integrated Approach, 2003, p. 92 f
⁹ Mason, Qualitative Researching, 1996, p. 5 f
However, one should not differentiate quantitative and qualitative research strategies completely. There are many studies that encompass both strategies, for example having a qualitative research being used to explore and understand attitudes and behaviour, and quantitative research being used to measure how widespread these attitudes and behaviours are.

With these aspects in mind, the choice of research strategy for this thesis is a method that leans towards the qualitative strategy. Since the purpose of our thesis is to research the strategies used by companies to manage currency risk, it is possible to simply perform a quantitative research and show the strategies used by numerical values. However, it is our opinion that the thesis would be lacking with only such results, and therefore a qualitative approach will be used in order to be able to discuss the thesis subject with the respondents. Through this discussion, the purpose is to gain an in-depth understanding of why certain risk aspects as regarded more significant than other, why or if any different sized companies prefer different risk management methods and why or if any strategies are used or not used at all.

2.2 Original Data Collection

The procedure of data collection is relevant to the entire process of the research. Data collection methods are used in that part of the research procedure which is concerned with collecting original data. To present an overview of the data collection process, the following model is often presented (see figure 1)

![Diagram](image-url)

**Figure 1 – Overview of the data collection process (own revision)**

*Source: Hussey et al, Business Research, 1997*
2.2.1 Identification of variables

The variables in the process of data collection are the factors which indicate the unit of analysis for the study. Basically, the variables refer to the particular research problem about which data is gathered and analyzed. A variable is an attribute that can be either quantitative or qualitative in nature, but always remains an important part of the study as the variables constitute the data unit which forms the analysis.\(^\text{10}\)

Data variables are directly linked to the research problem, which in turn is linked to the theory that is used for the study. Since these two important aspects are thoroughly connected to each other, it is imperative that only relevant variables are used in the study that can either be linked directly to the theory or show relevance for the thesis. The purpose of the identification of variables is therefore to make sure that no unnecessary variables are included in the questions that are used in the empirical study.

2.2.2 Sample selection

Selecting a sample is a fundamental part of successful research study. The descriptive term of a sample is the range of one to several members of a specific population. A population, in the case of a study, may refer to a body of people or any other collection of items under consideration for research purposes. A definition of a population might be, for example, all the citizens of a specific city or all employees in a specific department in a company, all depending on the range of the study. Also, with consideration to the size and purpose of the research study, it may be necessary to use the entire population, or as little as just one sample out of the entire population. Therefore, in order to use the best sampling strategy for the study, there are different sampling methods that can be used by the researchers, some of the most common presented below:\(^\text{11}\)

Random sampling – For small populations, samples might be chosen completely at random, where every member of the population is included. For large populations, samples are given a random number created by a computer or similar, after which random numbers are chosen. The larger the sample chosen the better it represents the population as a whole.\(^\text{12}\)

Systematic sampling – In systematic sampling, the population is divided by the required sample size, and the sample is chosen by selecting a number and then picking every sample numerically in correspondence to that number. If, for example, the number chosen is nine, then every ninth sample of the total sample size is chosen.\(^\text{13}\)

Stratified sampling – Stratified sampling can be explained as a process where members of a population are chosen at random. However, they do need to live up to certain criteria, or “strata”. More or less any qualification can be strata, such as age, gender, employment status, job title, etc. An example can be shown as female, age 35 – 45, employed, job title: manager. Any samples from the population who fulfill these strata are then chosen at random until the required sample size is filled.\(^\text{14}\)

\(^{13}\) Hussey et al, *Business Research*, 1997, p. 146
Cluster sampling – With cluster sampling, the researcher may adjust an adequate sample frame. In short, cluster sampling is a procedure in which clusters of the population units are selected at random. Then, all or some of the units in the chosen clusters are studied.\(^\text{15}\)

Snowball sampling – Snowball sampling is a method commonly used in low-incidence populations that make up a very small percentage of the total population. This method, also known as networking, is a study where the researcher gets in touch with some very specific sample subjects. After the study has taken place, the researcher might ask the respondents if they know others who fulfill the same specific criteria. That way, the responding samples themselves identify further samples for the study.\(^\text{16}\)

Judgement sampling – The method of judgement sampling, also known as purposive sampling, refers to a procedure where a researcher consciously selects one or more samples that are considered to be most appropriate for the research study. The sample decision is made prior to the commencement of the study and each sample choice is deliberate.\(^\text{17}\)

Considering the choice of population and sampling method for this thesis, it is imperative to connect this to the problem statement. As the choice of subject is to study corporate strategies, the main populations that can provide answers consist of employees in the chosen companies. One whole set of employees in one specific company makes a population. However, as there is a need to choose appropriate samples, the method of judgement sampling will be utilized. The reason for this method selection is that the samples required for this thesis should be professionals working within a specific financial department or similar, having proper education and work experience that should enable them to give proper answers regarding the study. Moreover, judgement selection allows the opportunity to consciously decide on a specific number of samples, which is an important tool so that no over or under-representation of samples exists. For this study, one sample per population is chosen as a representative for the specific company. More samples are not necessary as it is deemed that employees within a certain department utilize the same corporate strategy, which makes the need for several samples from the same population redundant.

2.2.3 Selection of required type of data

Data itself can be described as either qualitative or quantitative. As the name suggest, these types of data correspond to a particular research strategy, where qualitative data is concerned with qualities and non-numerical characteristics, and quantitative data which is connected to numerical and statistical forms. The important factor in here is to make sure that the data received in the research matches whichever research strategy that is chosen. Therefore, it is important for researchers who have selected a qualitative approach to make sure that the response in form of data they receive also is of qualitative nature, and vice versa. The selection of type of data is a link that connects the gathered data with the research strategy and is therefore an important part in the process of the investigation.\(^\text{18}\)

Moreover, the selection of required type of data correlates to the source of the data. Unlike the validity of the sources (which will be discussed later in this chapter), this factor is connected

\(^{15}\) Wilson, *Marketing Research – An Integrated Approach*, 2003, p. 183 f


to the very core of the problem statement, where it is stated that the study will investigate
different sized companies. Therefore, it is deemed that two large companies, two medium-
sized companies and two small companies should be included in the study. To make sure that
the correct type of data is selected, a proper diversification of large, medium-sized and small
companies needs to be done. For this matter, the classification prepared by the European
Commission will be used. As of January 1: st 2005, a Recommendation\(^\text{19}\) by the Commission
classified the different sizes of companies, which can be seen below in table 2.

<table>
<thead>
<tr>
<th>Enterprise category</th>
<th>Headcount</th>
<th>Turnover</th>
<th>or</th>
<th>Balance sheet total</th>
</tr>
</thead>
<tbody>
<tr>
<td>medium-sized</td>
<td>&lt; 250</td>
<td>≤ € 50 million</td>
<td>≤ € 43 million</td>
<td></td>
</tr>
<tr>
<td>small</td>
<td>&lt; 50</td>
<td>≤ € 10 million</td>
<td>≤ € 10 million</td>
<td></td>
</tr>
<tr>
<td>micro</td>
<td>&lt; 10</td>
<td>≤ € 2 million</td>
<td>≤ € 2 million</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 – Classification of company size

Although the definition of a large company is not presented, it can be concluded that a large
company has a headcount (total number of employees) of over 250, a turnover of over € 50
million or a balance sheet total of over € 43 million.

### 2.2.4 Choice of appropriate collection method(s)

Similarly with sampling methods, there are many methods that can be used for collecting
data. Some commonly used methods consist of diaries, interviews, questionnaires,
observation and focus groups.

Diaries are a method of collecting data which can be described as a daily record of events or
thoughts and is typically used to capture and record what people do, think or feel. Most
commonly, participants in the study are asked to record relevant information in diary forms
over a specified period of time.\(^\text{20}\)

Interviews are a commonly used method and the type of interview differs depending on the
structure imposed by the researcher. This in turn determines the freedom of the respondent in
the reply to questions. There are three types of interview questions: open-ended, semi-
structured and closed. Open-ended (also known as unstructured) types of questions are those
in which the responded can reply in their own words, meaning that there is no pre-set of
choices and the respondent is free to choose how to provide an answer.\(^\text{21}\) The semi-structured
is slightly more organized than the open-ended one. The researcher will often use a guide or
questionnaire of sorts to aim the interview towards a certain direction and add some structure.
An important part of the semi-structured interviews is that it allows for focused,
convosational, two-way communication. Interviewer and respondent can be used both to give
and receive information.\(^\text{22}\) Finally, the closed interview is one that requires the respondent to

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\(^{19}\) Commission Recommendation 2003/361/EC
\(^{21}\) Wilson, *Marketing Research – An Integrated Approach*, 2003, p. 149 f
make a selection from a predefined list of answers. After the question is presented, the respondent chooses the most appropriate response to that particular question.\textsuperscript{23}

Questionnaires are lists of carefully structured questions, chosen after considerable testing, with a view to obtain reliable responses from a specific chosen sample. Much like interviews, the questionnaire can consist of open-ended or closed questions. By using a questionnaire, respondents can be contacted face to face, via telephone or through postal means.\textsuperscript{24}

Observations are methods used for collecting data that can take place in a laboratory or natural setting. The purpose of the method is to observe and record what the selected participants do in terms of their actions and behaviour during a specific period of time and situation.\textsuperscript{25}

The focus group method usually is used for purposes of gathering data relating to the feelings and opinions of a group of people who are involved in a common situation. Under the guidance of a group leader, selected participants are stimulated to discuss their opinions, reactions and feelings about a certain aspect (such as a product, event, situation or concept).\textsuperscript{26}

As there are a number of data collection methods, it is imperative that an appropriate method corresponding to the purpose of the thesis is selected. From that point of view, it is deemed that the interview method is most suitable for this situation. The reason for this deduction is that an interview allows for more two-way communication which means that the questions can be more thoroughly discussed by both the respondent and the interviewer. Moreover, it allows for a more in-depth approach to the questions and resulting answers. By choosing a semi-structured interview, it is possible to both give the respondent enough freedom to discuss about the subject in the questions, all the while also giving the interviewer the means of steering the interview to make sure that the answers do not begin to enter territories not important to the thesis. With these aspects in mind, a method consisting of interviews with semi-structured questions is deemed most optimal for the research study. A guide with the semi-structured questions can be found in appendix I.

To look for suitable companies, the internet search engine \textcolor{blue}{www.largestcompanies.se} was used. From there, the companies were assessed according to the criteria stated in chapter 2.2.3 and six suitable companies were selected. Accordingly, a first contact was made with the information/reception desk of the companies in question, where the study and purpose of the thesis was explained. A direction towards the division that works with the subject of the thesis was requested. An e-mail was sent to the manager of that department, explaining who the authors were, and the purpose of the thesis together with a request for an interview with a particular respondent from the division. Since the respondents were deemed acceptable, they were picked as a sample and an e-mail was sent to that respondent for the booking of an interview. It is also important to note that since some of the respondents requested anonymity for them and the company they are representing, a decision was made to present all the companies in the thesis anonymously. However, a list with contact information to all of the respondents can be found at the School of Sustainable Development of Society and Technology at Mälardalen University.

\textsuperscript{23}Wilson, \textit{Marketing Research – An Integrated Approach}, 2003, p. 151
\textsuperscript{24}Hussey et al, \textit{Business Research}, 1997, p. 161 f
\textsuperscript{25}Remenyi et al, \textit{Doing Research in Business and Management}, 1998, p. 73 f
\textsuperscript{26}Hussey et al, \textit{Business Research}, 1997, p. 155 f
2.2.5 Data collection

Finally, data collection is not a methodological process per se. However, this aspect is to point out the importance of the previous steps while collecting the data. Therefore, as researchers, it is significant that the method chosen is well structured and appropriately followed, to make sure that the data collection process is as accurate and faithful to the chosen procedures as possible.

2.3 Secondary Data Collection

Secondary data consist of information that has previously been constructed. Secondary data may come in many different forms, some of which include books, articles, reports, organizational internal records, electronic databases and the internet. 27

2.3.1 Obtaining secondary data

Secondary data is the type of data that has mainly been used for the theoretical part of the thesis. To find suitable books for the thesis, the library search engine of Mälardalen University was used. Keywords such as “currency risk”, “financial risk”, “risk management”, “international business” and “international finance” were utilized. From the various hits, the books were reviewed and assessed for relevance to the thesis. Similarly, searching for articles and journals were conducted using the same key words. The search was performed in various article databases linked to the university library web-page. Ultimately, the internet is also used, specifically web-pages belonging to organizations and companies that are important to the thesis.

2.4 Critical views on the research method

Doing research on a high academic level also means that the researcher must assess some self-critical views on the research in question. The more aware a researcher is about the study, the better understating the researcher will have about factors that will help improve the quality of the study.

Usually, a research is critically reviewed through three different aspects, namely reliability, validity and generalisability. There is also a specific set of criteria, the source demands, to be taken into account when critically assessing the secondary sources used in the research. 28

2.4.1 Reliability

Reliability is an aspect that is concerned with the findings of the research and is one aspect of the credibility of the findings. The higher the reliability, the better the evidence and conclusions can stand up to scrutiny. Basically the reliability measures a study’s stability and trustworthiness. To obtain a high reliability, similar researches, which measure the same

27 Hussey et al, Business Research, 1997, p. 86 f
28 Eriksson et al, Att Utreda, Forska och Rapportera, 1999, s. 151 f
variables in similar situations, are to give similar results. The higher the reliability, the more similar the results will be.²⁹

There are threats to the reliability of the thesis that need to be addressed. First of all, currency rate is a factor that varies and fluctuates. It is not a constant factor, which may have a high influence on the corporate strategies for currency risk management. Since the currency rate may not be the same today as it is tomorrow, this is a factor that might affect the companies and their strategies for currency risk management. Therefore might similar researches, if done in the future, show different results than the ones presented in this thesis.

Another threat to the reliability is that the answers provided by the respondents cannot be verified. If the respondents are not truthful when giving answers, it is not something that can be detected and those answers will find themselves to the analysis. Such might be the case if for example a respondent might try to show that the company’s management strategies are better or more accurate than they actually are. This is a factor that the reader should be aware of as it cannot be adjusted. However, by using in-depth interviews with qualitative method, the ambition is to provide a much more detailed explanation of the risk management strategies, thereby hopefully reducing the risk of untrue information.

Finally, it is important to make sure that the respondents are reliable as well. For this purpose, a set of questions concerning the respondent’s professional position, education and experience will be utilized.

### 2.4.2 Validity

Validity is the extent to which the research findings accurately represent what is really happening in the situation. Basically, the validity is the critical connection between a concept and the specific measurement of the concept. The purpose of validity is to make sure that the research measures what it is supposed to measure. Research errors, such as faulty research procedures, poor samples and inaccurate or misleading measurement, can undermine validity.³⁰

The aspect of the study primary connected to validity is the collection of original data. When using the interview method, there is a risk that the respondent might provide answers or discuss a topic not correlating to the main purpose of the thesis. By using semi-structured interviews, the ambition is to have a guiding tool to make sure that the answers provided by the respondent are of use for the thesis. However, there is a risk to this too as it is important not to steer the respondent too much. Even though the analysis of a qualitative study is somewhat subjective, it is imperative that an objective approach is used through the interview process to make sure that the validity is not negatively affected.

A threat to the validity is if respondents who are not part of the target samples are included in the research, but this is counteracted by the use of judgement sampling.

2.4.3 Generalisability

Generalisability is concerned with the application of the research results to cases or situations beyond those examined in the study. The better a research study can be generalized, the more can the conclusions found in that study be applied on other populations.\footnote{Hussey et al, Business Research, 1997, p. 58 f}

The generalisability in this thesis may be viewed upon from two aspects: generalisability on corporate level as well as generalisability on an external level (meaning the populations outside of the particular company). The generalisability is deemed to be quite high. This is because the respondents are representatives of each company and since it is believed that different risk management strategies do not differ within a company, the study can be generalized on the company as a whole.

The generalisability on the external level is not seen as particularly high. Since the aspect of international business might change greatly through various companies, including aspects such as choice of transaction currency, percentage of export turnover, company size and overall revenues, the views and choices of currency risk management strategies might also vary greatly. It is therefore important to remember that this thesis might generalize the conclusions found in the analysis on the studied companies in question, but not the whole numbers of companies on the market as a whole.

2.4.4 Source demands

When critically assessing the sources used for a study, there are usually four demands to take into consideration, namely the contemporary demand, tendency demand, independency demand and genuineness demand.

The contemporary demand is the factor regarding the date of information from the sources. If a source is outdated, or if new information has been discovered but is not covered in the source, the source is not deemed to live up the contemporary demand.\footnote{Eriksson et al, Att Utreda, Forska och Rapportera, 1999, s. 151 f}

To counteract this, the latest version of each book has been utilized. In the cases of the latest version not being available, an assessment has been done whether or not the new version of the book holds important information not included in the previous version. In such cases where only the older version exists but without many significant changes, older versions of books have been utilized.

Tendency demand is the aspect of if the source is free from personal bias. If a source is not objective, the tendency demand is not deemed to be fulfilled.\footnote{Eriksson et al, Att Utreda, Forska och Rapportera, 1999, s. 152}

It is deemed that the books used for this thesis are free of personal tendencies and bias. Should there be any case where it is found that a source has partiality towards a certain aspect, that source will not be used. This factor is slightly complicated when it comes to journals and articles, as many pieces are usually written by authors with a very subjective angle. Such sources are only to be used when information on praise or criticism towards a certain subject in the thesis is purposely shown.
The independency demand correlates to the factor whether the source used is dependant of other sources. The more independent a source is, the better it lives up to the independency demand.  

In most cases, there are references to written pieces by other authors stated in the literature books. However, this is not a factor that can be controlled. It is believed however that the literature utilized for this thesis is usable, as it is deemed that the authors of the books have verified the sources they themselves are referring to, as these are books on an academic level.

An additional independency factor to take into consideration is the fact that some books in Swedish language have been utilized. As the thesis is to be written entirely in English, there is a connection between source and translation. For translation purposes, the Swedish National Encyclopedia (www.ne.se) has been used.

The final demand is the genuineness demand. This is an important factor, as it measures to which extent the sources used are deemed to be genuine and reliable.

To make sure that all the books used are of academic level, only literature from the university library has been utilized. Articles have been searched for only in the university library database. These steps are deemed enough to fulfill the genuineness demand.

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34 Eriksson et al, *Att Utreda, Forska och Rapportera*, 1999, s. 152 f
3 Theoretical framework

The purpose of this chapter is to present the theories used for this thesis with a focus on the factors of currency risk and currency risk management strategies.

3.1 Categories of international business risks

Multinational companies stand before a much wider market than domestic companies due to the global potential. However, with an increased global market come increased risks. Multinational companies stand before a much higher variety of risks than their domestic counterparts, with each risk correlating to a specific aspect of international business. Although it is debated which risks correspond to which specific business aspect, one can generally argue that the different categories of international business risks can be divided into five sectors, namely product risks, commercial risks, political risks, financial risks and currency risks, seen below in figure 1.

Figure 2 – International business risks (own revision)
Source: Grath, Företagets Utlandsaffärer, 1999

3.1.1 Product risk

Product risk is the definition of the risks that one of the partners automatically is responsible for through their own commitment. The commitment is usually stated in the sales contract and mostly applies to the products nature, such as operational quality, performance or service and maintenance responsibility. Depending on the conditions stated in the sales contract, it is either the exporter or the importer who bears the responsibility for such factors.\(^{36}\)

There are many situations in international business where product risks become important factors, such as for example if specific conditions or environments in the buyer’s country have a negative impact on the performance of the products or a question of reckless managing, lack of continuous maintenance or humidity and/or rust damages due to a different climate. Additional risks can include direct payment conditions correlating to the products, such as the exporter gets paid when the delivered products have been installed by the buyer, but the buyer extends the installment time, so will the payment date be postponed.

An important factor here is the transport risk, in which the physical delivery of the product plays a vital part. Not only will goods damaged in transport increase the costs for the exporter,

\(^{36}\) Grath, Företagets Utlandsaffärer, 1999, p. 14
but it is also a question of knowing which transport methods work in various countries. It is therefore important to state insurance and responsibility clauses in the contract regarding factors like these.\textsuperscript{37}

\textbf{3.1.2 Commercial risk}

In basic context, the commercial risk is the risk of non-payment by a non-sovereign or private sector buyer/borrower in their domestic currency arising from default, insolvency or bankruptcy and/or failure to take up the goods that have been shipped according to the supply contract.\textsuperscript{38}

However, in connection to a pre-financing operation, commercial risk may also arise from the insolvency of a private supplier. In both cases, the commercial risk can simply be stated as the risk of a counterpart not fulfilling their contractual duty, may it be a product delivery or payment, due to financial reasons all the while the first part has fulfilled its contractual demands.

As the commercial risk probably is the best known and noticeable business risk, there are many managerial strategies developed for this feature. Methods such as credit backup researching, export credit financing, insurance premiums, letters of credit and reimburses.\textsuperscript{39}

\textbf{3.1.3 Political risk}

Political risk is a factor that covers many areas and is quite wide-spread. Defining political is done by classifying it into three different categories, which consist of firm-specific risks, country-specific risks and global-specific risks.

Firm-specific risks, also known as micro-risks, are those political risks that have an affect the project or corporate level. The most common risk factor in this case is the governance risk, which can arise due to goal conflict between a multinational company and its host government.

Country-specific risks, or macro-risks, are risks that originate at the country level but also have an effect on a corporate or project level. The two main country-specific risk categories are the transfer risk and the cultural/institutional risk. Transfer risk mainly concerns the problem of blocked funds which limit a company’s ability to transfer funds into and out of a host country without restrictions. Cultural/institutional risk correlates to specific factors such as shared ownership requirements by the host government, requirements to employ host country citizens, nepotism and corruption, the protection for the company’s intellectual property rights and protectionism which is defined as attempts by governments to protect certain of its designated industries from foreign competition.

Global-specific risks are risks that are usually quite difficult to forecast and correlate to major factors, such as for example terrorism and war, environmental concerns and effects and cyber attacks.\textsuperscript{40}

\textsuperscript{37} Grath, \textit{Företagets Utlandsaffärer}, 1999, p. 14 f
\textsuperscript{38} http://stats.oecd.org/glossary/detail.asp?ID=5896 2008-04-05, 18.55
\textsuperscript{39} Eiteman et al, \textit{Multinational Business Finance}, 2007, p. 643 ff
\textsuperscript{40} Eiteman et al, \textit{Multinational Business Finance}, 2007, p. 550 ff
3.1.4 Financial risk

The financial risk is a large level type of risk that affects companies both through a global level and a micro level by unexpected changes in the financial environment. The typical aspects included in financial risk are interest rate risk, inflation risk, the current account balance and the balance of trade. More than often, these factors are beyond a company’s control as they are influenced by a government’s monetary, fiscal and trade policies.

Additionally, there are underlying features to take into consideration that also have traits of a political dimension which are also closely tied to political risk. Such aspects include loan defaults or loan restructurings, payment delays, cancellations of contracts by a host government, losses from exchange controls and expropriation of private investments. Companies might include assessments of the extent of restrictive trade practices, tariffs, trade regulations and the state of private ownership and bankruptcy laws.41

3.1.5 Currency Risk

The currency risk is one of the best known and ever-present types of business specific risks. It can be defined as the volatility of the currency exchange rate. It is stated that the exchange rate has major consequences on a country’s level and composition of output and consumption, as well as on its overall economic well-being. The risk also involves large consequences for non-residents investing in the country or doing business with it. The currency risk might make or break profitable transactions since it can cause the profit to be diminished if the exchange rate moves in the wrong direction.42

The current system of floating exchange rates has made currency risk an important component of international business risk. The effect of currency variations can be seen as a gamble, as the exchange rate can appreciate or depreciate. Therefore it is often stated that major international business risks as the currency risk often go hand in hand with underlying factors, such as the market risk which refers to variations in the return of an investment in the host country currency. For that particular reason, currency risk usually demands that the behaviour of the exchange rate is analyzed in order to determine returns on investments in the investor’s base currency.43

3.2 Factors of currency risk

The currency risk is often regarded as only being a global risk that should be treated on an economic level. However, currency risk being a macro-level risk does not mean it is simply a global issue. On the contrary, currency risks affect the company on a direct level through the company’s business and transactions by having an impact on the company’s payables and receivables which in turn directly affect the overall financial result. Simply put, currency rate fluctuations may affect the settlement of contracts, cash flows and the firm valuation, therefore it is of value to the firm and the shareholders that the currency risk is properly

41 Butler, Multinational Finance, 2004, p. 362
42 Clark et al, Managing Risk in International Business, 1996, p. 50
43 Clark et al, Managing Risk in International Business, 1996, p. 50 f
managed in order for the firm to be able to stabilize its cash flows and enhance the firm value.\textsuperscript{44}

The source of the appearance of currency risk is basically when a company deals with international business. Companies are exposed to risk when fluctuation in the currencies, be it short term or long term, occur and affect the company’s results. Multinational firms can be exposed to both direct and indirect currency risks.

Direct currency risks occur when\textsuperscript{45}:
- Companies export and import in foreign currencies.
- Companies buy and sell in their domestic currency, but with a currency clause in the contract that enables the counterpart to change the currency under certain conditions.
- Companies have financial debts and assets in foreign currencies.
- Companies have foreign investments/subsidiaries.
- Companies have foreign subsidiaries that pay returns/royalties in foreign currency.

Indirect currency risks occur when\textsuperscript{46}:
- Companies buy and sell in their own currency, but the price is affected over time by currency fluctuations.
- Companies work in domestic and international markets, with domestic competitors who have a cost structure exposed to currency exchange rates.
- Companies work in domestic and international markets, with foreign competitors who have different capital cost structures.

It is argued that more or less most company is in one way or another are exposed to currency risks. In some cases are the currency risks very noticeable, whereas in other cases they might be difficult to define and measure. The results on the companies balance and result sheets might also vary; effects of currency fluctuations on companies exposed to direct currency risks will affect the result of the present operational year, whereas the affect on the result on companies exposed to indirect currency risk might not show until later.\textsuperscript{47}

It is conventionally stated that the exposure to currency risk is categorized into three factors; seen below in figure 3.

![Diagram of Currency Risk Exposure]

Figure 3 – Types of currency risk exposure (own revision)

\textsuperscript{44} Eun et al, *International Financial Management*, 2007, p. 192
\textsuperscript{45} Bennet, *Finanshandboken*, 2003, p. 162
\textsuperscript{46} Bennet, *Finanshandboken*, 2003, p. 162 f
\textsuperscript{47} Bennet, *Finanshandboken*, 2003, p. 165
3.2.1 Transaction exposure

Transaction exposure can be defined as the sensitivity of realized domestic currency values of the company’s contractual cash flows denominated in foreign currencies to unexpected exchange rate changes. Basically, it is a measure in changes in the value of outstanding financial obligations incurred prior to a change in exchange rates but not due to be settled until after the exchange rate change. If a specific currency a company uses to do business with fluctuates, any and all contracts, starting from the seller’s quote to the final day of cash settlement, are affected during this period of time it takes for the transaction to be fulfilled.\(^{48}\)

Transaction exposure arises from\(^{49}\):

- Purchasing or selling products with prices stated in foreign currency
- Borrowing or lending funds when repayment is to be made in a foreign currency
- Being a party to an unperformed foreign exchange forward contract.
- Otherwise acquiring assets or liabilities denominated in foreign currencies.

An ordinary example of transaction exposure arises when a company has a payable or receivable denominated in a foreign currency. The total transaction exposure consists of quotation exposure, backlog exposure and billing exposure, see figure 4.

The transaction exposure is actually created the moment the seller quotes a price in foreign currency terms to a potential buyer (T\(^1\)). With the placing of an order, the exposure created at the beginning of the quotation is converted into backlog exposure (T\(^2\)). Backlog exposure lasts until the goods are billed, which forms an account receivable, A/R (T\(^3\)), at which time it becomes billing exposure, which remains until the seller receives payment (T\(^4\)).\(^{50}\)

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\(^{50}\) Eiteman et al, *Multinational Business Finance*, 2007, p. 258
3.2.2 Economic exposure

The economic exposure, also called the operating exposure, measures any change in the present value of a company resulting from changes in future operating cash flows caused by unexpected changes in currency exchange rates. The analysis of economic exposure assesses the result of changing exchange rates on a company’s own operations over coming months and years and on its competitive position in comparison with other companies. By measuring the effects on future cash flows related to economic exposure, the goal is to identify strategic moves or operating techniques that a company might wish to adopt in order to enhance its value in the face of unexpected exchange rate changes.51

Exposure to currency risk is calculated by the sensitivities of the future home currency value of the company’s assets and liabilities as well as the company’s operating cash flows to random changes in exchange rates. Thus, the exposure is measured by forecasting and analyzing all of the company’s future individual transaction exposures together with the future exposures of all the company’s competitors worldwide.52

It is argued that while there is an understanding of the effects of random exchange rates changes on the home currency value of the company’s assets and liabilities denominated in foreign currencies, the effects of volatile exchange rates on operating cash flows are not fully understood. As the economy becomes increasingly globalized, more companies are subject to international competition. Fluctuating exchange rates may gravely alter the relative competitive positions of such firms in domestic and foreign markets by effects on the operating cash flows.53

From a broader perspective, economic exposure can be seen as not only the sensitivity of a company’s future cash flows to unexpected changes in foreign exchange rates, but also its sensitivity to other macroeconomic variables, such as interest and inflation rates. Therefore it is argued that aspects of economic exposure are more important for the long run health of a company than changes caused by transaction or translation exposure. However, economic exposure is perceived as something subjective, because it depends on estimates of future cash flows over an arbitrary time horizon. Thus it does not arise from the accounting process, but rather operating analysis and therefore includes factors of total managerial responsibility, such as the interaction of strategies in finance, marketing, purchasing, technology and production.54

3.2.3 Translation exposure

By consolidating its financial statements, a parent company with foreign operations must translate the assets and liabilities of its foreign subsidiaries, which are stated in a foreign currency, into the reporting currency of the parent firm. Basically, foreign subsidiaries must restate their local currency into the main reporting currency so the foreign values can be added to the parent’s reporting currency denominated balance sheet and income statement.55

51 Eiteman et al, Multinational Business Finance, 2007, p. 301
54 Eiteman et al, Multinational Business Finance, 2007, p. 302 ff
55 Butler, Multinational Finance, 2004, p. 333 f
The definition of translation exposure, also called accounting exposure, is the potential or risk for an increase or decrease in the parent’s net worth and reported net income caused by a change in exchange rates since the last translation. The specific aspect of translation exposure is that the impact occurs on consolidated financial statements. In other words, it can be stated that while the transaction exposure is concerned with cash flows and affects the items set out in the profit and loss account, translation exposure is concerned with values and mostly affects the items set out in the balance sheet.\textsuperscript{56}

Generally, it is not possible to eliminate translation exposure together with transaction exposure. In some cases, the elimination of one exposure actually creates the other. Since transaction exposure involves real cash flows, it is traditionally argued that it should be considered the more important of the two. That is, companies should not legitimately create transaction exposure at the expense of minimizing or eliminating translation exposure. A main motivation for this reasoning is that the translation process has no direct effect on reporting currency cash flows, and will only have a realizable effect on the net investment upon the sale or liquidation of the assets.\textsuperscript{57}

\section*{3.3 External currency risk management strategies}

As it is shown, the exposure to currency risk may involve current business transactions, future business transactions as well as financial statement translations. However, as there are factors or risk, so are there strategies for dealing with them. For companies, there are a number of external methods to use for the management of currency risk, namely the use of financial derivatives.

The name derivative arises from the fact that the value of these instruments is derived from an underlying asset like a stock or a currency. By using these instruments it is possible to reduce the risks associated with the management of corporate cash flow, a method known as hedging. Financial market hedging instruments include:\textsuperscript{58}

- Currency Forwards
- Currency Futures
- Currency Swaps
- Currency Options
- Money Market Hedge

\subsection*{3.3.1 Currency Forwards}

The usage of currency forwards provides a way of eliminating exchange rate risk when a company is to receive or make a foreign currency payment in the future. Basically, a forward transaction involves pre-selling or buying a specific amount of currency at a rate specified now for delivery at a specified time in the future. By using this method, it is possible of totally removing risk of currency fluctuation by locking into the rate quoted today by the forward market.\textsuperscript{59}

\textsuperscript{56} Eiteman et al, \textit{Multinational Business Finance}, 2007, p. 335  
\textsuperscript{57} Eun et al, \textit{International Financial Management}, 2007, p. 256 f  
\textsuperscript{58} Butler, \textit{Multinational Finance}, 2004, p. 296  
\textsuperscript{59} Smith et al, \textit{The Link Between Price and Profit Margin in a Global Market}, 2005, Volume 8
The method of forwards is the most widely used external hedging technique. Banks usually offer forwards in short and long-dated time periods in a variety of currencies for such situations. However, it should be noted that while this method is common and reduces the exchange rate risk altogether, the company is excluded from any gains if the currency fluctuations shifts in its favor, because the currency rate is locked into the rate of the forward quote.  

As an illustrative example, a UK company is set to export goods to a US company with a sales value of 10 million USD. The companies agree on payment in three months time. The current currency spot rate is USD 1.6 / GBP 1, which means the sales value is USD 10m / 1.6 = 6.25m GBP. Assuming the exporter is concerned that the USD will depreciate in value, it will turn to the forward market offered by banks and similar financial institutions which offer forward contracts. Assume that the market quotes a ‘2c discount’ on the value, which means that the forward outright is USD (1.6 + 0.02) = 1.62 / 1 GBP.

If the company believes in the predictability of the forward market, it may decide to sell its anticipated USD 10m receipt for USD 10m / 1.62 = 6.17m GBP, which is collectable after payment date that is three months. In such a case, the hedging method cost the company (GBP 6.25m – 6.17m) = 80 000 GBP, which is slightly over 1 percent of the total sales value. However, this has protected the company from any depreciations in the dollar that would have resulted in losses worth over 80 000 GBP. Whether or not this is a lucrative deal is a decision for the management of the company, as there is always the chance that the sales currency would not depreciate at all, or perhaps even appreciate, in which case the company would lose revenues.

3.3.2 Currency Futures

In principle, a futures contract can be arranged for any product or commodity, including financial instruments and currencies. A currency futures contract is a commitment to deliver a specific amount of a specified currency at a specified date for an agreed price incorporated in the contract. The futures perform a similar function to a forward contract, but it has some major differences.

The specific characteristics of currency futures include: They are marketable instruments traded on organized futures markets. Futures can be completed (liquidated) before the contracted date, whereas a forward contract has to run to maturity. They are relatively inflexible, being available for only a limited range of currencies and for standardized maturity dates. The dealings occur in standard lot sizes, or contracts. They require a down-payment of margin of about 5 percent of the contract value, whereas forward contracts involve a single payment at maturity. Futures are usually cheaper than forwards contracts, requiring a small commission payment rather than a buy / sell spread.

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60 Pike et al, Corporate Finance and Investment, 1999, p. 469
61 Pike et al, Corporate Finance and Investment, 1999, p. 470
62 Pike et al, Corporate Finance and Investment, 1999, p. 472 f
However, it should be noted that the main difference between futures and forwards lies within the settlement price. Whereas the price of a forward contract is completely locked at the spot rate of the quotation, the settlement price of futures can fluctuate and be unpredictable in regards to the changes on the futures market.

As an illustrative example, a UK based company agrees to buy goods worth 10 million USD from a US company. The spot rate is USD 1.5 / GBP 1, valuing the sales contract at USD 10m / 1.5 = 6.66m GBP, with a cash settlement date three months later.

The UK based company fears an appreciation in the dollar, so it looks into the futures market. Currently, the market price for GBP futures is USD 1.48. As futures come in standard lot sizes, in this case the size of GBP 62 500, the company purchases the amount possible, which is (USD 10m / (GBP 62 500 * 1.48)) = approximately 108 futures contracts.

Assuming the dollar does appreciate, and on the settlement date the spot rate is USD 1.49 and the futures price is USD 1.475. As payment is to be done, the UK company converts its currency to dollar at the cost of USD 10m / 1.49 = 6.71m GBP, thus receiving an impact loss of (GBP 6.71m – 6.66m) = 43 334 GBP.

However, the company still holds 108 futures contracts, which it can exchange for the rate of the time of the purchase; USD 1.48. This transaction will give the company (108 * 62 500 * (1.48 – 1.475) = 33 750 USD.

Valued at the spot rate, the company has received USD 33 750 / 1.49 = 22 651 GBP. Thanks to this transaction, the total net loss of the company has decreased from GBP 43 334 to (43 334 – 22 651) = 20 683 GBP. As this example shows, it is hard of acquiring a perfectly hedged position with currency futures, due to the fact that the futures market not always moves to the same degree as the currency spot market.\(^\text{63}\)

3.3.3 Currency Swaps

Currency swaps have their origins in controls applied by the Bank of England over foreign exchange movements prior to 1979. Companies wishing to obtain foreign currency to invest overseas found that they could avoid these controls by entering an agreement with a foreign company that operated a subsidiary in the UK. In return for receiving a loan from the foreign company to finance the UK company’s activity in the host country, the UK company would lend money to the foreign company subsidiary. Thereafter, the two companies would agree to repay the loans in the local currency after an agreed period, thereby locking in a particular exchange rate. The interest rate would be based on the general local rates. Such arrangements, called ‘back-to-back loans’, involved from the UK company’s perspective agreeing to make a series of future foreign currency payments in exchange for receiving a flow of GBP income.\(^\text{64}\)

After exchange controls were removed in 1979, such loans were replaced by the current currency swaps, which do not need to involve two companies directly. In general terms, a currency swap is a contract between two parties, usually between a bank and a company to exchange payments denominated in one currency for payments denominated in another.

\(^\text{63}\) Pike et al, *Corporate Finance and Investment*, 1999, p. 473
\(^\text{64}\) Pike et al, *Corporate Finance and Investment*, 1999, p. 474
The usual motivation for a currency swap is to replace cash flows scheduled in an undesired currency with flows in a desired currency, which usually is the one in which the company’s operating revenues are generated. Companies often raise capital in currencies they in which they do not possess significant revenues or other natural cash flows. The reason for this is cost; specific companies may find capital costs in specific currencies attractively priced to them under certain conditions. Having raised the capital however, the company may wish to swap its repayment into a currency in which it has future operating revenues.\footnote{Eiteman et al, \textit{Multinational Business Finance}, 2007, p. 480}

Currency swaps involve matching up two companies’ mutual requirements in terms of type and amount of currency required and term of financing. The final agreement will then be settled when each company has a differential borrowing advantage in one currency which it can transfer to the other. This is an important factor, as a currency swap regularly involves an interest swap.

As an illustrative example, consider two companies; an EU based company and a US based company. The EU company, which can borrow Swiss Francs (SFR) at 5,5\% and USD at 7,75\%, is seeking US dollar financing of 40 million USD for three years. A subsidiary of a US bank is prepared to act as intermediary, which involves finding a suitable matching company which has a borrowing advantage in USD and is seeking SFR financing.

The bank finds a suitable US company, which can borrow USD at 7\% and SFR at 6\%, is seeking SFR financing of 52 million. At the ruling rate of 1,3 SFR per USD, this is a match. With the intermediation of the bank, the two companies now agree to swap currencies and assume each other’s interest rate obligations over a three year term. The final transaction process can be seen below in table 3.

<table>
<thead>
<tr>
<th>Time</th>
<th>EU company</th>
<th>US company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outset</td>
<td>Pays SFR 52m</td>
<td>Pays USD 40m</td>
</tr>
<tr>
<td></td>
<td>Receives USD 40m</td>
<td>Receives SFR 52m</td>
</tr>
<tr>
<td>Years 1 - 3</td>
<td>Pays 7% on USD 40m</td>
<td>Pays 5,5% on SFR 52m</td>
</tr>
<tr>
<td></td>
<td>Receives 5,5% on SFR 52m</td>
<td>Receives 7% on USD 40m</td>
</tr>
<tr>
<td>End year 3</td>
<td>Pays USD 40m</td>
<td>Pays SFR 52m</td>
</tr>
<tr>
<td></td>
<td>Receives SFR 52m</td>
<td>Receives USD 40m</td>
</tr>
</tbody>
</table>

Table 3 – The transaction process of currency swaps (own revision)

Using the swaps, the EU company has received a USD loan to the favorable interest rate of 7\% and the US company has received a SFR loan with in interest of 5,5\%. By using currency swaps in practice, it is possible to shift the currency risk. That is because the loans that the parties have are included in the accounting sheets but are not valued by the loan currency, but by the swapped currency. Moreover, since swapping basically involves a spot buy of foreign exchange and a simultaneous offsetting forward sale, it can be seen as a series of forward foreign exchange contracts.\footnote{Clark et al, \textit{Managing Risk in International Business}, 1996, p. 285 f}
3.3.4 Currency Options

A foreign currency option is a contract giving the option purchaser the right, but not the obligation, to buy or sell a given amount of foreign exchange at a fixed price per unit for a specified time period. There are two types of options; ‘calls’ and ‘puts’. A call is an option to buy a foreign currency, whereas a put is an option to sell foreign currency. Accordingly, the term buyer of an option is ‘the holder’, while the seller is referred to as ‘the writer’.

There are three different price elements to an option; the ‘exercise’ or the ‘strike price’ which is the exchange rate at which the foreign currency can be purchased or sold, the ‘premium’, which is the cost or value of the option itself and finally, the underlying or actual exchange spot rate in the market.

As an illustrative example, a US based company has sold products to a UK company with a sales contract worth 1 million GBP. Cash settlement is due three months later and the current spot rate at USD 1,764 / 1 GBP, valuing the sales contract at 1,76m USD. In such a case, the company can speculate on the upside potential for appreciation of the GBP while limiting downside risk to a known amount.

By looking into the financial market, the company finds a bank offering a three-month put option on 1m GBP with a strike price of USD 1,75 / 1 GBP, with a premium cost of 1,5%. The cost of the put option with a strike price value of 1,75 is calculated as the size of the option * premium * current spot rate, which equals GBP 1 000 000 * 0,015 * 1,764 = 26 460 USD. Additionally, an investment rate is added to the purchase, in this case the cost of capital. Assuming the company’s annual cost of capital is 12%, the cost of capital for three months is then 3%. Total cost for the option is thereby calculated as USD 26 460 * 1,03 = 27 254 USD.

Assuming the GBP does appreciate to USD 1,8 / 1 GBP, the US company will simply allow its option to expire unexercised and exchange GBP for USD at the spot rate, which would result in USD 1,8m. The only loss the company would feel is the price of the option. Generally speaking, if the spot rate at the maturity date is higher than the strike price, the option should be left unexercised. However, should the GBP depreciate to a rate below the strike price (USD 1,75 / 1 GBP), the company would exercise its right to sell the option at USD 1,75 / GBP and collect 1,75m USD minus 27 254, the price for the option.

The currency options involve a factor that are unique from other hedging techniques, namely the fact that the upside potential of gain is unlimited, since the options do not lock into a particular currency value. Although the thought of unlimited gain might seem very favorable, it is also important to remember that the downside result is not as well protected as it is with other hedges. Moreover, the cost of options is almost always much higher than the cost of other hedging methods, due to the option premium.

Thereby, it is argued that options should specifically be used under special circumstances, namely if there is an expected movement in the exchange rate one way but there is also a strong possibility of a move in the opposite direction. If a change in the exchange rate is

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expected and the probability of it is very high, options should not be used but rather less costly methods like forwards.  

### 3.3.5 Money Market Hedge

A money market hedge is similar to a forward hedge, in the way that it also involves contract and a source of funds to fulfill that contract. In this instance, the contract is a loan agreement. The company seeking the money market hedge borrows in one currency and exchanges the earnings for another currency. The difference between the money market hedge and the forward hedge is that the cost of money market hedge is determined by different interest rates rather than a forward rate quotation.

The method of using the money market hedge is to borrow an amount of the transaction currency, immediately convert the loan into the company’s operating currency and then repay foreign currency loan within a cash settlement date with the proceeds of a particular transaction.

As an illustrative example, assume a US company selling goods to a UK company worth one million GBP. Cash settlement is due three months later and the current spot rate at USD 1,764 / 1 GBP valuing the sales contract at 1,76m USD. To hedge in the money market, the company will look into a loan of GBP and the annual interest rate for such a loan. Assuming the interest rate is 10% per year, the rate for three months is then 2.5%. The amount to loan is calculated as sales value / (1 + interest rate), making GBP 1m / (1 + 0.025) = 975 610 GBP the amount to loan.

Should the company decide to hedge, they should borrow 975 610 GBP now and in three months at the cash settlement date repay the loan plus 24 390 GBP of the interest from the sales profits. The company should after acquiring the loan transfer the GBP to USD at the current spot exchange rate, receiving an amount of dollars at once. The money market hedge practically creates a GBP-denominated liability (the loan) to offset the GBP-denominated asset (the account receivable). The money market hedge works by matching assets and liabilities according to their currency of denomination. This can be illustrated by balance sheet accounts, see figure 5.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities and Net Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account receivable 1 000 000 GBP</td>
<td>Bank loan 975 610 GBP</td>
</tr>
<tr>
<td>Interest payable 24 390 GBP</td>
<td></td>
</tr>
<tr>
<td><strong>1 000 000 GBP</strong></td>
<td><strong>1 000 000 GBP</strong></td>
</tr>
</tbody>
</table>

Figure 5 – Money market hedge accounts description

The loan acts as a balance sheet hedge which not only covers transactions but also translation exposure. The decisive factor between money market and forward hedge should be the rate of

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interest of the loan proceeds. If the loan us used for an investment which yields high interest profits, the money market hedge is desirable; otherwise the forward hedge should be applied.

3.4 Internal currency risk management strategies

Internal currency risk management strategies are a tool used when companies wish to minimize the currency risk within the corporate group itself. The internal hedging techniques use characteristics of the company’s trading relationships without recourse to the external currency or money markets and therefore are usually simple in concept and operation. There are four main types of internal currency risk management strategies, namely:

- Netting
- Matching
- Lead & lag
- Choice of invoice currency

3.4.1 Netting

The strategy of netting applies when the company and its foreign subsidiaries net off intra-organizational currency flows at the end of each period, leaving only the balance exposed to risk and hence in need of hedging.

As an example, it can be illustrated that a US-based company has an operating foreign subsidiary. In a particular month, it transfers components worth of 20 million to the subsidiary. In the same month, the subsidiary transfers finished goods worth 40 million to the main company. With the netting system, the cash values of receivables and payables are “netted” against each other, thus leaving the foreign subsidiary to only make a net currency transfer of 20 million, rather than the corporation as a whole making two separate transactions totalling 60 million. Netting reduces exposure as well as saves transfer and commission costs, but it however requires a two-way flow in the same currency.71

The netting technique itself can be categorized into bilateral netting and multilateral netting. Bilateral netting applies when pairs of companies in the same group net off their own positions regarding payables and receivables, without the involvement of a central treasury. Multilateral netting is performed by a central treasury where several subsidiaries interact with the head office. The subsidiaries in multilateral netting are required to notify the treasury of the intra-organizational flows or receivables and payables, and again, a common currency is required.72

3.4.2 Matching

Matching is a technique similar to netting, but involves third parties rather than foreign subsidiaries. With this strategy, a company strives to match its currency outflows by amount and timing with its expected currency outflows.

71 Pike et al, Corporate Finance and Investment, 1999, p. 467
72 Pike et al, Corporate Finance and Investment, 1999, p. 467 f
For example, an exporting company anticipating receipts in a specific currency could try to match this by arranging an outflow of the same currency, perhaps by contracting to import from the currency country, a method known as “natural matching”. As with netting, a two-way flow of a common currency is desirable. However, a technique called “parallel matching” can also be used, in which the company tries to match cash flows in currencies that tend to move closely together over time. 

### 3.4.3 Lead & lag

An additional operating technique that can be used by companies is leading and lagging foreign currency receipts and payments. To “lead” means to pay or collect early, whereas to “lag” means to pay or collect late. A company would like to lead soft currency receivables and lag hard currency receivables to avoid loss the loss from depreciation of the soft currency and benefit from the appreciation of the hard currency. For the same reasons, companies should attempt to lead hard currency payables and lag soft currency payables.

The lead & lag strategy is often used as an internal strategy rather than an external because managements of various subsidiaries of the same firm are presumably working for the good of the entire corporation, rather than two different companies concentrated on their own financial revenues thus making them both want to use lead & lag. Also, as this strategy involves forecasting future exchange rate movements, it therefore carries an element of speculation that management should be aware of.

### 3.4.4 Choice of invoice currency

By using the strategy of hedging through the choice of invoice currency, a company can shift, share or diversify the exchange risk. For example, if a company invoices in its own currency, it does not face the currency exchange risk anymore. It should be noted however, that the exposure has not disappeared; it has merely shifted from the company to the buyer. Instead of shifting the exposure entirely, the company can share the exposure by for example invoicing half of the bill in its home currency and the remaining half in the currency of the buyer. In such a case, the company’s risk exposure is reduced by half. In order for this technique to be useful, the chosen invoice currency should be presented at the same time as the sales quote, or be included as a clause in the sales contract. As a practical matter however, the company may not be able to use risk shifting or sharing as much due to fear of losing sales to competitors. Only a company with a substantial market power can use this method.

As a final approach, a company also can diversify exchange exposure to some extent by using currency basket units such as the SDR as the invoice currency. The SDR (Special Drawing Right) is an artificial currency basket used by the International Monetary Fund. The SDR serves as the unit of account of the IMF and some other international organizations. Its value is based on a basket of key international currencies. The SDR now comprises four individual currencies; the US dollar, the euro, the Japanese JPY and the British pound.

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73 Pike et al, Corporate Finance and Investment, 1999, p. 468
75 Pike et al, Corporate Finance and Investment, 1999, p. 468 f
76 Eun et al, International Financial Management, 2007, p. 204 f
Because the SDR is a portfolio of currencies, its value should be substantially more stable than the value of any individual basic currency. Currency baskets can be a useful hedging tool especially for long-term exposure.\(^{78}\)

### 3.5 Motivations for currency risk management strategies

As it is mentioned, currency risk management tools are not just a method within finance, but also a strategy. Just like all business related strategies, there are motivations for the usage as well as rejection of them. Management in companies should be well aware of the risks as well as benefits that are included in certain strategies, and therefore might the motivations regarding these strategies play an important part. It might be argued that in connection to the business environment today, there are three specific motivations that could be considered significant, namely the increase of Swedish export, the depreciation of the dollar and the cost/benefit of currency risk management strategies.

#### 3.5.1 The increase of export

Swedish export has steadily increased over the years. Just recently, a study done by the Swedish Trade Council showed that amongst other factors, export of services had increased with a figure close to 17 billion SEK, or 17\(^{\%}\),\(^{79}\) and that small companies with fewer employees than 50 increased their export with almost 10\(^{\%}\), an increase that outmatched even bigger companies even if they too experienced an increase in export\(^{80}\).

Since the export has increased, it can be deducted that more companies are entering the global market and/or the existing export companies have increased their trade. However, as more business is conducted on an international scale, the exposure to currency risk is also heightened. This may act as an incentive for international companies, because currency risk does not only target them but the market as a whole, including their competitors. Using currency risk management strategies correctly may result in a company having a market advantage over competitors by appropriately covering business transactions. Similarly, the company might fear not using hedging techniques since they could be applied by their competitors thereby giving them an advantage.

Thereby the increase in export should be seen as a contributory factor in the motivations for currency risk management strategies, as by operating in the global market is entering a whole different court than the domestic market. And similarly to entering new territory, one might wish to know which risks are involved and what way to protect one against them.

#### 3.5.2 The depreciation of the dollar

An interesting fact is that the USA is one of Sweden’s most important export partners. The export to USA is close to 9\(^{\%}\) of Sweden’s total export and the figures in 2006 were over 100 billion SEK in total.\(^{81}\)

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\(^{79}\) [Link](http://www.swedishtrade.se/dagensexportnyheter/?pageid=9653) 2008-03-22, 17.31

\(^{80}\) [Link](http://www.swedishtrade.se/DagensExportnyheter/?pageid=8284) 2008-03-22, 17.37

\(^{81}\) [Link](http://www.swedishtrade.se/usa/?objectid=1196&pageid=1132) 2008-03-22, 17.33
However, an important factor regarding the USA is that its currency, the USD, has depreciated rapidly during the last year and in March, it hit an all time low against the Euro\textsuperscript{82}. In fact, it is argued that was it not for the weak direction of the dollar, the export to the US in particular would have increased. Conversely, while the Swedish export increased in business within the global market, export to the USA particularly decreased with 14% in value during 2007.\textsuperscript{83}

With this in mind, it might be argued that this topic is becoming more and more acute. While exports increase globally but decrease regarding the USA, one of Sweden’s most vital trade partners, due to currency fluctuations, the need to manage against currency risks might just be heightened.

3.5.3 Cost/benefit of currency risk management

A final motivation for the usage or rejection of currency risk management strategies is the cost versus benefit of such methods. The strategy and appliance of strategies for currency risk management is not something that falls within usual business accounting skills and therefore might require specialized knowledge within the subject. This in turn might demand that companies might have to hire or employ specialized consultants, which might be very expensive.

Added to this is the cost for the hedging techniques themselves. Although some external hedging techniques cost more than others, there is no currency risk management strategy that is completely free. All of them include a cost, and when adding in the fact that the currency might move in a favourable direction when the company has spent money on consultants and financial derivatives might prove to be a risk not worthy the possible gain. Also, although internal hedging techniques might not require a cost themselves, a company might experience costs for implementing such routines and procedures which might require changes in business systems and financial control.

Similarly, the gain due to currency risk management strategies might not be worth the cost. Even if correct hedging methods are used and the currencies fluctuate in the anticipated matter, the exchange rate itself might move so little that the cost for the hedging outmatches the revenues gained.

Putting all these factors into consideration, it might therefore be understood why there are motives for usage as well as refusal of currency risk management. The currency risk hedging strategies might be seen as too much of a risk gamble for the company, if there is an uncertainty whether or not the gains actually will cover the costs. However, if the currency fluctuations can be correctly predicted hedging might be a very useful tool.

\textsuperscript{82} http://www.iht.com/articles/2008/03/07/business/?dollarFW.php 2008-03-22, 17.10
\textsuperscript{83} http://www.kommers.se/templates/News____4145.aspx 2008-04-24, 2008-04-24, 18.15
4 Empirical study

This chapter will present the companies’ views on currency risk, if and why certain strategies are used to deal with the matter and the motivation for the choice of strategies.

4.1 Company A

- Company & respondent information

Company A is one of Sweden’s largest industrial companies. The company’s main area of business is providing fuel, services, technology, plant design and equipment to utility customers and others in the worldwide commercial nuclear electric power industry. The respondent in this company is Mr. A.H, chief financial officer. The respondent has an academic degree in business administration and has received continuous further education within the company. He first started as a business system consultant but later advanced to the financial division and after that to the position of chief financial officer, and has now worked within the company for over twelve years.

The basic annual turnover of the company is around 2 billion SEK (approx. 215 million EUR), and approximately 60% consists of international sales. This is a number that has grown over the years, as their market has turned from being focused on Scandinavia to the global market, with Europe in particular. The currencies used in international transactions are USD and EUR, mainly because them being the ‘major’ currencies and because the company is focusing their business towards the west and Europe. Although the company does business with Asia as well, those transactions are also carried out in USD, as is requested by the customers.

- Currency risk exposure & management

Regarding currency risk exposure, the transaction exposure is by far seen as the biggest risk exposure, followed by the economic exposure due to its long-term aspects. Translation exposure is not seen as a risk because the company is actually a daughter company to a corporation based in the US. Since the main company does the balance sheet consolidations and translations they carry the translation exposure risk.

To reduce the risks within transaction exposure, the hedging method with forwards, and to some extent futures, is extensively used. That is because they are very straightforward, easy to use and do not carry high costs or big risks. Currency swaps have previously been used to some extent but is not a strategy that the company uses anymore. The directives the financial department has are to be as risk averted as possible, thereby options are not used, despite them not diminishing the chance of gain from currency fluctuations. High risk aversion with low costs is the prime goal when it comes to currency risk management. The CFO acts according to directives from corporate rules and it is then up to the financial treasury department to apply the best and most practical hedging strategies.

However, internal hedging methods are very rarely used. Lead & lag is seen as difficult to apply in practice and the choice of invoice currency is not used, as it is believed that competitors do not use this method either. Thereby, primarily for the sake of the customer,
this method is rejected. The company tries to use the matching strategy but it is claimed that they do not have effective routines for forecasting cash flows and thus matching them yet. For similar reasons, the netting system is also sparingly used, simply because the routines for such a technique are not yet incorporated within the company.

- Aspects & costs of currency risk

The currency risk is seen as a very important risk, especially when regarding the company’s sales. Not hedging business transactions is seen as a competitive disadvantage as it might cost them significant losses. However, regarding the company’s purchasing, the currency risk is not seen as a large factor, as those dealings consist of several transactions with small figures and short cash settlement dates, in contrast to the company’s sales. The view on currency risk management has been fairly consistent throughout the years, although the respondent would welcome a bigger focus on it, particularly by investing time and resources in an efficient netting system.

The cost of currency risk management strategies is somewhat difficult to view, as the cost is more or less the extra amount of money needed to buy a forward or future based on the bank’s quotation contra the current spot rate. Since expensive derivatives like options are not normally used, any significant costs in regard to hedging are not noticed. Long term analyses are usually done regarding the hedging methods of the previous years to see if the strategies paid off, and in most cases they did. All small business transactions that were not hedged usually balanced out, as some experienced loss and others gain. All transactions valuing over 2 million SEK are hedged and therefore the net impact of any currency downsides on the company’s result is not large.

- Motivations for hedging & comparison to other risks

The main motivation of currency risk management is the cost/benefit of it. Low cost derivatives that can protect large sales figures are therefore preferred. Factors outside the company such as increase in export, competitor’s strategies and even the dollar depreciation do not change the view on the strategies. The company is very risk averted and therefore the main incentive is prognoses and forecast regarding fluctuations done by the treasury. Naturally the dollar depreciation goes hand in hand with this but the motivation itself has not been affected.

According to the respondent, better internal currency management routines should be seen as motivation as it will ease the risk management process. As is previously stated, it is urged that a netting system is developed but also methods for forecasting cash flows for matching purposes. It is believed that with better internal strategies one can better control all aspects of currency risk management and thereby adapt quotations, contracts, control systems and other factors in regard to currency fluctuations.

The political risk is seen as the major one, as the company is operating within the commercial nuclear industry. Since there are a lot of laws and politics regarding this matter, the long-term risks are mostly political, which makes them especially difficult since one cannot use protective strategies against governmental decisions. Product risks are also an important factor as flawed nuclear power products may have very serious consequences. Still, the currency risk is seen as very important and better internal hedging methods will probably be developed within time.
• Summary

Turnover & export percentage: 215 million EUR, of which 60% is export
Main currencies used: USD and EUR
Largest currency risk exposure: Transaction exposure
Favoured external hedging methods: Forwards
Favoured internal hedging methods: None (plans for netting in the future)
Motivations for hedging: Cost/benefit
Comparison to other risks: Product & political risk highest, then currency risk

4.2 Company B

• Company & respondent information

Company B is a major international corporate group and a leading competitor in power and automation technology. The company has subsidiaries in several countries and a head office in, Zurich, Switzerland. The respondent is Mr. L-J.M, country treasurer. The respondent has an academic education in international business management and has worked within financial services since 1983. He has worked in his current position for 1.5 years.

The annual turnover is around 25 billion SEK (approx. 2.7 billion EUR). Out of this, approximately 75% is due to export sales. The percentage of international sales is fairly consistent through the years, varying only some percents up and down. The main currencies in international sales are the USD and the EUR. Although there also are instances when other currencies are used, such as the JPY and the GBP.

• Currency risk exposure & management

Concerning exposure to currency risk, transaction risk is seen as very important. The depreciation of the dollar is in particular connected to this, as many transactions are carried out in USD. However, the view on currency risk exposure varies depending on if seen from the corporate group itself or a single company within the group. Translation exposure is seen as a threat when looking at the corporate group as a whole, although the translation procedure is handled by the main office in Zurich.

The usage of forwards is dominating. The reason is that their purpose of risk coverage is well carried out and the price is fairly good. The company is restrictive with using options. They have a higher cost and with usage of options alone it would be difficult. The main purpose of using currency risk management strategies is, besides the obvious protection of revenues, to make sure that the company’s financial result will be as predictable as possible. That is for that purpose that futures and forwards are used. The company tries to be risk averted and therefore are speculative derivatives like options not favoured. There previously was a financial services division within the company that speculated with derivatives, but such speculative business does not occur today. Therefore the motivation is to be as predictable as possible with the derivatives which is why forwards are used. Other currency risk management strategies like futures and swaps have been somewhat utilized, although the usage is very rare and unusual.
There are corporate instructions regarding currency risk management strategies that the company abides by. As a general rule it is stated that the currency risk should be carried by the selling unit, and the financial division can help by analyzing the risks. The choice of forwards is used despite the transaction currency, although if the currency in question is ‘too exotic’ other methods might be used.

Internally, the company extensively uses the netting system. The netting takes place twice per month and the part requesting the payment, i.e. the seller, should be the driving force. The netting centre in the head office in Zurich is responsible for the netting system. The company also works somewhat with matching, but there aren’t quite developed routines for making this a regular procedure. Regarding countries with exotic currencies, the choice of invoice currency is used. In such cases, half of the invoice might be in the customer’s currency, and the other half in EUR or USD.

- Aspects & costs of currency risk

The currency risk is seen as a very important factor and the company constantly works to secure itself against it. Although the EUR is not perceived as such a threat since it has not been moving much against the SEK, the depreciation of the USD is seen as a very big risk, especially in the long run.

The usage of currency risk management strategies has indeed protected the company, and the respondent cannot see that the company would stop using hedging techniques. The amount of international sales is so large that it is motivation alone to use currency risk management strategies, making the currency risk an important factor in the company’s whole risk management process. The head office decides on policies for currency risk management which the different subsidiaries abide. Otherwise, each subsidiary works for its own result and therefore the corporate group as a whole exercises a lot of hedging.

- Motivations for hedging & comparison to other risks

The depreciation of the dollar points to the need of hedging. Since a significant amount of the company’s sales are carried out in dollars, this is a very important factor. Other factors, such as the increase of export and competitors’ usage of strategies are not looked into. The company is still obliged to follow whatever policies are decided by the main office, regardless of the situation concerning export and competitors in Sweden.

However, one major motivation, or rather demand, regarding currency risk management is the accounting standard that the company abides by. Since the corporation is listed on the US stock market, they follow the rules states in US GAAP (Generally Accepted Accounting Principles). Although US GAAP more of a collection of standards & recommendations and not a law, it has been decided by the American Securities and Exchange Commission that all listed companies shall abide by the rules in US GAAP. The framework itself has specific rules for the application and accountancy of currency management derivatives, such as the inclusion of forward contracts in the annual accounts and the presentation of them in market value, enabling the use of hedge accounting. The hedge accounting works by modifying the usual accounting treatment of a hedging derivative and a hedged item, so as to recognize their offsetting changes in fair value or cash flows in profit or loss at the same time. Thereby the accounting standards have a large impact on the practical financial work.
The impact of currency risk in comparison to other risks varies depending on the current situation. The political risk would be the one with high priority, but under special circumstances. At times, the company is involved in large project sales with very high figures in exotic places like Africa, the Middle East and South America. The political risk in those areas is considerably higher than the rest of the world, and putting in the fact that such risks can normally not be covered against and that the projects values are high, it therefore might be of top importance. Since commercial risk is fairly easy to cover one against, the currency risk would therefore have highest priority behind political risk since it can be very dangerous due to the company’s large turnover.

- **Summary**

  Turnover & export percentage: 2,7 billion EUR, of which 75% is export  
  Main currencies used: USD and EUR  
  Largest currency risk exposure: Transaction exposure  
  Favoured external hedging methods: Forwards  
  Favoured internal hedging methods: Netting  
  Motivations for hedging: The dollar depreciation, accounting standards  
  Comparison to other risks: Political risk highest, then currency risk

### 4.3 Company C

- **Company & respondent information**

  Company C is a medium-sized company that is part of a major international corporate group specializing in the metal industry. The company’s customer market consists of the process and machinery industry as well as the construction and electronics market. The respondent in this company is Mr. B.F, who has the position of controller as well as personnel manager. The respondent has a university degree; master of political sciences with a major in economics, and has worked with financial questions since the 70’s. He has been within this current company for ten years.

  The annual turnover for company C was approximately 300 million SEK in 2007 (approx. 32 million EUR), of which 20% consist of export sales. This is a number that has grown, as the company previously was focused on the domestic market. The main currency used in international sales is the EUR, since Europe is the main international market of the company, although to a low extent GBP and NOK are used as well.

- **Currency risk exposure & management**

  Regarding the exposure to currency risk, transaction exposure is seen as the primary one. All the transactions are firmly priced with no room for marginal change, and therefore the revenues calculated by a sales person can be diminished. The company is very dependant on the sales transactions due to its purchasing to sales routines. All components that are bought are worked on and processed and then sold, leaving a marginal for profit between the purchasing and processing costs and the sales price. Transaction exposure can reduce this profit margin which is why it is seen as important.
To deal with this, forwards and futures are used. However, the majority of the hedging is done with forwards. The reasoning for this is that one is assured that the company will receive a cash flow which is the main motivation. There have been times that a money market hedge has been used when dealing with very long-term transactions, if the interest rates are favourable enough. Currency swaps are not used because they are deemed to unnecessarily complex in comparison with forwards, and options are not used due to their speculative and expensive nature. According to the corporate policy, the company is not to take any risk, be as risk averted as possible and try to minimize the risk with appropriate methods. The usage of currency risk management strategies are decided by the respondent and the management of the company.

The basics for the internal strategies are the netting and matching. Matching is the primary method used however. Lead & lag as well as choice of invoice currency are not used. They are deemed to unnecessary in comparison to netting and matching, all the while there is a belief that customers might be put off if the invoice currency is changed and the corporate group itself has no motivation for leading/lagging payments. The financial department of the corporation acts as a bank, whereas the netting and matching procedures are handled locally by the companies in the group. It is the respondent who has the authority to decide on these procedures, but there are established routines since several years and it is not believed that this will change.

- Aspects & costs of currency risk

Since the main view is that offered price is not changeable during the transaction process, there is a strong wish not to lose profits. The currency risk is applicable to the price as a whole, and therefore is seen as important. The company therefore is not willing to take any risks by remaining unhedged and thus covers all transactions seen as important, which are the ones with a value of around 200 000 SEK and higher. It is believed that the company does have a good focus of currency risk and is aware of the matter. Further focusing on currency risk is therefore not necessary today.

In the company the usage of derivatives is not really seen as a cost. Expensive strategies like options are not used and therefore are the costs very limited. The specific marginal costs regarding forwards is not really perceived as a cost as one knows from the beginning at what price the forward is offered and how much cash flow that will generate. All in all, it is believed that the company’s usage of hedging has indeed filled its purpose by covering transactions and protecting revenues.

- Motivations for hedging & comparison to other risks

Looking in broad terms, competitive advantages are very important. Thereby as more companies enter the global market due to increase in export is somewhat seen as a motivation factor. Having proper risk management strategies might therefore be seen as an advantage. The company believes there might be a risk they would fall behind other international companies if they stopped hedging their transactions. However, it does not matter much if the other companies also hedge their transactions or not, this company would still be doing so for the purpose of self-reservation. From that point of view, cost/benefit is an important factor as the hedging methods used serve their purpose well for in contrast to the price they require. As USD is not a currency used in international sales, the depreciation of the dollar has had very little impact. However, it is stated that if USD would be the main international currency rather
than EUR, the motivations for currency risk management would be very different as the impact could potentially be quite large. It is also stated as company size and control of market shares plays a big part in the long-term view on motivations regarding currency risk management. The larger a company is, the better they can adjust their prices and thereby cover long-term exposure like economic exposure. Derivatives like forwards and futures are not as effective in the long run, when looking at the company’s future of years to come, and therefore the motivations might be different regarding how far ahead the risk is measured.

It is difficult to compare currency risk to other risks, but it is perceived as very important. The main international sales of the company take place in Europe, and therefore there is not much political. Product risk is seen as something that comes along every type of business and is therefore not something that stands out, and commercial risk is guarded against by using export credit insurance. Since the account receivables of the company contain elements of components which have been bought and processed before sold, the currency risk is a very important overall aspect that the company is aware of.

- **Summary**

  Turnover & export percentage: 32 million EUR, of which 20% is export
  Main currencies used: EUR
  Largest currency risk exposure: Transaction exposure
  Favoured external hedging methods: Forwards
  Favoured internal hedging methods: Matching and netting
  Motivations for hedging: Cost/benefit, increase of export
  Comparison to other risks: Currency risk highest

### 4.4 Company D

- **Company & respondent information**

  Company D is of medium size and is working in the investment casting market. The company is one of the leading companies in regards to this market in Scandinavia and has been a manufacturer of investment casting for several decades. The company is a daughter company of a larger corporation. The respondent here is Mrs. M.T, the company’s finance manager. The respondent has a degree in business administration and has worked as finance manager since 1993.

  The company’s annual turnover in 2007 was approximately 170 million SEK (approx. 18 million EUR). The export made up 51% of the turnover, something that can vary somewhat with different years. The most common currency used in international sales is the EUR, although USD and GBP are used as well.

- **Currency risk exposure & management**

  The company regards transaction exposure as the biggest currency risk factor, namely in regard to the transactions that are done in USD. The dollar depreciation has caused losses in USD sales revenues. Exposure regarding to transactions carried out in GBP and EUR are not considered a threat since they are believed to eventually even out. Translation and economic
exposure are not considered since it is believed that those are to be treated by the corporation’s main company and not by them.

There are no external currency risk management strategies that are used. Previously, when the company had larger inflows of foreign currency, forwards were used. The person responsible was the company’s CEO at that time. However, this did not turn out well and the company actually experienced some losses due to this usage. Since then there has not been a need for the usage of derivatives.

Internally the method of matching is used. The company tries hard to constantly develop this procedure and so far there have been some positive changes. First, the company has tried to invoice as much in EUR as possible. This has been difficult with some customers who prefer to pay in USD but the company is constantly pushing for this. Secondly, some of the purchasing currencies have been changed. The primary factor here is that the GBP is not used in purchasing anymore as requested by the company, but rather in EUR, which eases the matching procedure. The one difficulty with the matching routine however, is that the payment morale amongst international customers is very low as they often drag out on payments to pay later than the invoiced date. This is difficult since it makes it harder to match inflows and outflows of the same currency, but now the company has developed a new routine which includes not paying their suppliers until they have received payments from their customers. The respondent is responsible for the matching procedure and she, together with the management of the company, has the authority to decide on which hedging strategies to use. There have been thoughts of using netting as well but as of now this is not a routine that the company is prepared to establish.

- Aspects & costs of currency risk

The company does not put much emphasis on the currency risk. With the current matching method, the respondent feels they have good focus on the inflows and outflows of currency, and thereby there is no need for further attention on the currency risk. The total revenues lost due to currency fluctuations were less than one percent of the total turnover and therefore the company believes the situation is acceptable as it is. However, much of this is because they are able to buy and sell in EUR as much as possible. If the purchasing would be done in SEK or another currency then they would probably have to rethink regarding the usage of external hedging methods.

However, the matching method works very well now and has been easy to apply in practice since the respondent is the one taking care of it. Sometimes this has brought trouble as some of their suppliers have been paid later than agreed but that is something usually solved in the end. A lot of the company’s view on currency risk management is dependant on the balance between inflows and outflows of currency. Since that works quite well currency risk does not have a high priority in the company’s total risk assessment.

- Motivations for hedging & comparison to other risks

The main motivation for using matching is the cost/benefit factor. This method has cost next to nothing to adapt and has indeed filled its purpose. The dollar depreciation is another motivation, which is why the company is trying to exclude dollar from their transactions and work with EUR instead. The increase of Swedish export is not seen as a main motivation as the choice of not using derivatives not necessarily means it is something negative. Each
company on the global arena has to find the method that best suits them and the matching technique works very well in this company.

In regards to international risks, commercial and financial risks are seen as the most important ones. Financial risk is especially important as delayed payments might disturb the balance between inflows and outflows or currency. The company is very sensitive in regards to customer payments and therefore they use cash discounts and other incentives to influence early payments. Thereby currency risk is not regarded as one of the main risks in the total international risk assessment.

- **Summary**

  Turnover & export percentage: 18 million EUR, of which 51% is export
  Main currencies used: EUR
  Largest currency risk exposure: Transaction exposure
  Favoured external hedging methods: None
  Favoured internal hedging methods: Matching
  Motivations for hedging: Cost/benefit, the dollar depreciation
  Comparison to other risks: Financial and commercial risk highest

### 4.5 Company E

- **Company & respondent information**

  Company E is a small-sized company working with integration of engines in electrical and mechanical systems. The company has recently established two daughter companies in Shanghai and Taipei, China. The respondent here is Mrs. M.S, finance & personnel manager. The respondent has an academic degree in business administration and law, and is one of the two founders of the company.

  The annual turnover in 2007 was approximately 80 million SEK (approx. 8,5 million EUR). Out of this, around 60% consisted of export sales. This figure has varied with the years, but the company expects the number to be steady the following years. The currencies used in international transactions are the USD and EUR for invoicing, but purchasing also may occur in JPY.

- **Currency risk exposure & management**

  There are two exposures which are considered a risk for the company, namely transaction and translation exposure. As the company is the mother company in the corporate group, the effects of the balance sheets translation are very noticeable. The daughter companies arrange their financial reports with currency figures in USD, which is then translated into SEK by the mother company, causing a loss in the translation process. Also, the transaction exposure is a threat because the heavy fluctuations regarding the USD which is one of the two main invoice currencies. However, it is not seen as the primary risk exposure because the cash settlement dates used by the company are usually quite short, thereby reducing the life span of the transaction exposure.
The company does not use any external currency risk management strategies. The reason for this is that the company has previously had meetings with banking consultants specializing in currency risk management who had given them the advice to improve their internal hedging techniques rather than to use external ones. This was before the heavy depreciation of the dollar and it was difficult for the company to foresee such a thing, therefore they decided to follow the advice of the consultants and thus no derivatives were utilized. Looking back on these things, the company now feels that this was not the best move and that they perhaps should have used forwards to lock in the dollar value at that time. However, the short cash settlement time on business transactions together with the fact that even bank experts could not predict the dollar crash made the usage of forwards and other derivatives a difficult thing to forecast. And now the company feels that it is unnecessary to use external hedging techniques since the value of the dollar is so low, locking in on it would not help much. Instead they choose to remain unhedged with the hope that it will rise again and thus that things will be evened out in the end. The responsibility of currency risk management decisions lie with the respondent and the other founder, and both agreed to follow on the advice of the consultants.

Nevertheless, the advice to improve on internal hedging techniques was followed up on. The company does not use any netting or lead & lag, however, the matching technique is extensively used. The first part of the company’s routine was to make sure that as many transactions are carried out in the same currency as possible. The next step is trying to make sure that the cash inflow and the outflow match, and it is the respondent’s responsibility to establish the routine. So far the matching system works very well. At times the strategy of choice of invoice currency is used. The company has had troubles regarding their purchasing/sales currency procedure, as much purchasing is done from countries in the EU which are bought in EUR, and then sold to customers with invoicing in USD. The company agrees that this is a problem, and few international customers are willing to agree on a currency change since this is favourable for them. However, the company has tried to secure the SEK against the EUR. Quotations to customers in Sweden now include a currency clause, stating that if the EUR fluctuates with 2% or more, the company reserves the right to invoice them in EUR instead of in SEK.

- Aspects & costs of currency risk

Right now the currency risk is seen as a very important factor in the company’s total risk management. The translation exposure itself is very important and the company is presently starting to develop methods for coming to terms with this. Even if the company right now does not have the perfect system for dealing with currency risk, the matching system they have proves adequate for dealing with transaction exposure. The respondent believes that the company does have good focus on the currency risk and is well aware what consequences may arise, simply because they have experienced it the hard way.

As the company does not use any external hedging techniques, there have not been any costs to mention. However, there is of course the loss of revenues that occurred because the company did not secure itself against the USD when the time was right. The usage of matching however has helped to cover transaction exposure, and since the respondent is the only one who handles the matching procedure, there were no costs in trying to establish company routines and procedures. Looking from that perspective, the internal hedging technique is very favourable, as it could be applied without any direct costs.
Motivations for hedging & comparison to other risks

The cost/benefit of hedging is a very important factor. As the company previously has had negative experience with the forecasting of currency fluctuations, it is feared that the usage of external hedging techniques might cause additional losses if the predictions are not accurate. The usage of simple derivatives like forwards and futures are not desired today, as the dollar value is already so low the company hopes that it will rise. Other external hedging techniques are considered too complicated, and the usage of options is deemed to be too expensive and speculative. As an additional factor against this, the usage of derivatives will require further personnel and administration costs, which the company is not prepared to accept today.

The additional competitors on the global arena due to the increase in Swedish export is not seen as a major factor, as it is believed that larger companies have a much wider variety of hedging choices and other small companies experience the same difficulties as they do. The depreciation of the dollar is a very important factor and it is wished that it was predicted correctly and thus might have prompted usage of derivatives. In the current situation, it is the motivation for the company’s development of hedging against translation exposure.

The currency risk today is seen as one of the top two most important international business risks; the other being political risk. As the company has two daughter companies in China, they experience a lot of negative effect due to the Chinese government’s repeated changing of legislation.

Summary

- Turnover & export percentage: 8,5 million EUR, of which 60% is export
- Main currencies used: USD and EUR
- Largest currency risk exposure: Translation exposure
- Favoured external hedging methods: None
- Favoured internal hedging methods: Matching
- Motivations for hedging: Cost/benefit, the dollar depreciation
- Comparison to other risks: Currency risk highest, then political risk

4.6 Company F

Company & respondent information

Company F is a company of small size operating in the industrial market. The company specializes in construction and consulting within industrial energy, heat and processing. The company is the head of a corporate group with associated companies in Canada and USA. The respondent in this company is Mrs. C.E, finance manager. She has an education in business administration and has worked as a certified accountant before moving to this position, which she has had for eleven years.

The company’s annual turnover in 2007 was around 90 million SEK (approx. 9.7 million EUR), of which 10% consists of export. Although this might be perceived as a low number, it is actually an increase from previous years. The currencies used in international sales are USD and CAD, mainly because the associated companies being in USA and Canada which are the ones in charge of sales.
• Currency risk exposure & management

The company considers translation exposure to be the biggest risk factor. The financial reports from the sales divisions in Canada and USA are stated in their home currency before being translated into SEK and the dollar depreciation has caused significant losses. Transaction exposure is seen as the second biggest risk since the cash settlement time on the transactions can be quite long, but since it is the sales divisions who invoice the customers and they work with their own currency, it is not perceived as such a major risk. The translation exposure is by far of the highest concern regarding currency risk exposure.

No external hedging techniques are used. That is because the aspect currency risk has not been perceived as a major factor until recently with the dollar depreciation. Likewise, the percentage of international sales has been relatively small and therefore there has not been much incentive for the usage of derivatives.

Internally, the company uses the matching method to deal with currency risk exposure. The company has a specific currency account where all inflow and outflow of the same currencies are gathered and matched. The respondent, together with the CEO, has the responsibility of deciding on proper currency risk management strategies and she is also the one who takes care of the matching system.

• Aspects & costs of currency risk

Up until now, currency risk has not been a major aspect in the company’s total risk assessment. It is with the heavy depreciation of the dollar that the company’s management has truly understood the gravity of the risk. Since the company’s export sales are so small in comparison to the total turnover, it is a shame that the currency risks lower the export revenues that they do collect. Therefore the respondent wishes that not only should they have considered this a risk factor sooner, but also decided on proper strategies to cover against it. Right now there are many discussions within the company on how the currency risk should be managed and which company within the corporate group should carry the risks. Therefore more focus should be put on the currency risk because of how the situation is today.

The usage of matching has been put to well use, and since the respondent is the one handling the procedure, there has not been any costs for routine development or similar. Although this method works quite well and fulfils its purpose, it covers transaction exposure but not translation exposure which is the bigger risk. Therefore additional hedging methods are welcomed by the respondent.

• Motivations for hedging & comparison to other risks

The main motivation for developing currency risk management strategies is definitely the depreciation of the dollar. The increase of Swedish export is not seen as a major factor since the company’s export percentage is so small; therefore the competitive advantages hedging might include on the global arena are not perceived as important. The fall of the dollar is the main concern as it can diminish whatever revenues the company actually gains from export. Cost/benefit is not seen as a major factor per se, since the appliance of the matching technique has not included any costs. However, it is believed that the cost for using external currency risk management strategies has too high costs in comparison to the figures they are to cover.
Comparing currency risks to other risks, commercial and financial risks are the ones that have been perceived as most important. Delays of payments or customer bankruptcy have been the main factors in the company’s risk assessment. The currency risk has just recently been seen as a major risk and therefore much resources has not been put into currency risk management previously. This is something that is changing with the situation of the dollar today.

- **Summary**

  Turnover & export percentage: 9.7 million EUR, of which 10% is export
  Main currencies used: USD and CAD
  Largest currency risk exposure: Translation exposure
  Favoured external hedging methods: None
  Favoured internal hedging methods: Matching
  Motivations for hedging: The dollar depreciation
  Comparison to other risks: Commercial, financial and currency risk highest

### 4.7 Summary

A short summary of the data gathered in the empirical study can be seen in the below table.

<table>
<thead>
<tr>
<th>Company</th>
<th>Largest currency risk factor</th>
<th>External hedging methods</th>
<th>Internal hedging methods</th>
<th>Motivations for hedging</th>
<th>Largest business risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Transaction exposure</td>
<td>Forwards</td>
<td>None (netting to be developed)</td>
<td>Cost/benefit</td>
<td>Political &amp; product risk</td>
</tr>
<tr>
<td>B</td>
<td>Transaction exposure</td>
<td>Forwards</td>
<td>Netting</td>
<td>Dollar depreciation, accounting standards</td>
<td>Political &amp; currency risk</td>
</tr>
<tr>
<td>C</td>
<td>Transaction exposure</td>
<td>Forwards</td>
<td>Netting &amp; matching</td>
<td>Cost/benefit, increase of export</td>
<td>Currency risk</td>
</tr>
<tr>
<td>D</td>
<td>Transaction exposure</td>
<td>None</td>
<td>Matching</td>
<td>Cost/benefit, dollar depreciation</td>
<td>Financial &amp; commercial risk</td>
</tr>
<tr>
<td>E</td>
<td>Translation exposure</td>
<td>None</td>
<td>Matching</td>
<td>Cost/benefit, dollar depreciation</td>
<td>Currency &amp; political risk</td>
</tr>
<tr>
<td>F</td>
<td>Translation exposure</td>
<td>None</td>
<td>Matching</td>
<td>Dollar depreciation</td>
<td>Commercial, financial &amp; currency risk</td>
</tr>
</tbody>
</table>

Table 4 – Compilation of the empirical data (own creation)
5 Analysis and conclusion
The analysis of the empirical data and the conclusions drawn by the authors will be presented in this chapter

5.1 Corporate strategies for currency risk management

To provide an analysis, it is important to keep focus on the purpose of the thesis. Therefore, the questions introduced in the problem statement are hereby presented and answered in order.

- What is the definition of currency risk and which factors does it consist of?

Currency risk is a risk factor that affects all companies doing business on the global market by direct or indirect manners. The definition of currency risk is described as the volatility of the currency exchange rate, which can involve large consequences for business and investment transactions. By moving in an undesired direction, the currency fluctuations can heavily reduce the revenues obtained from exports and can have a negative impact on a company’s settlement of contracts, cash flows and firm valuation.

In order to specify the factors of currency risk, it is generally divided into three categories; transaction exposure, economic exposure and translation exposure. Transaction exposure can be explained as changes in the value of outstanding financial obligations incurred prior to a change in the exchange rate but not due to be settled until after the exchange rate change. This exposure is in turn divided into quotation exposure, backlog exposure and billing exposure which means it is present in all business transactions from the seller’s quote to the final day of cash settlement.

Economic exposure measures changes in the present value of the company resulting from changes in future cash flows caused by unexpected currency exchange rates. By measuring the effects of future cash flows in regard to economic exposure, the goal is to identify strategic moves that a company might adapt in order to augment its value in the event of unexpected exchange rates. It is argued that economic exposure is most important regarding the long run health of a company, but it is a subjective matter since it arises from operational analysis and therefore includes factors of total managerial responsibility.

The final currency risk factor is translation exposure, which occurs when a parent company in a corporation must translate the assets and liabilities of its foreign operations into the reporting currency of the parent firm. Thereby there is a risk for a decrease in the parent company’s net worth and reported net income caused by exchange rate changes. Translation exposure is connected to financial values and mostly affects items in the balance sheet. However, translation exposure has no direct effect on reporting currency cash flows. Instead, it will have a realizable effect on the net investment upon the sale or liquidation of those assets.

As a sum, currency risk exposure is connected to a company’s present business transactions, valuation in regards to future cash flows and financial statements.
Both of the large companies as well as the medium-sized companies considered transaction exposure to be the biggest currency risk factor. One of the small companies chose transaction as well as translation exposure as the main threat, and the last small company deemed translation exposure to be the biggest threat. In our view, this is due to transaction exposure being connected to the most straightforward of a company’s profits, namely sales revenues. This can also be concluded as a bigger risk for large companies, as the business transactions values do not only have higher figures, but also longer cash settlement days, which increases the life span of transaction exposure. Thereby this might be a daring venture in companies; longer cash settlement dates might be offered to attract more customers but at the same time it faces the company against more transaction exposure. On the contrary; shorter cash settlement dates might be used against the risk of putting off customers. In our opinion however, transaction exposure might be the easiest one to hedge against, and therefore customers should not be alienated for the purpose of minimizing transaction exposure. Customers are the source of sales revenues, and therefore the importance of transaction exposure should not outweigh them, as there are proper methods for fairly low risk and cost that can deal with this issue.

It might seem odd at first glance that large and medium-sized companies, who usually have higher figures in their financial statements, do not consider translation exposure as a high risk factor. However, an important aspect regarding this question is not only the size of the company, but if the company is included in a corporate group or not, and if so, is it the main company or a daughter company. As is shown by examples with the small companies, being the main company in the corporate group leads to the burden of carrying the translation risk, despite the company size. This is an important aspect to keep in mind as it highly affects the views on currency risk exposure.

No company deemed economic exposure to be the primary currency risk threat, and only one company looked at it as a secondary threat, which can be because its long-term aspects might be less noticeable in a company’s risk assessment. Transaction exposure and translation exposure affect present-day cash flows and company valuation, and a thought amongst companies might therefore be that if the company constantly and continuously deals with present-day risks they thereby protect themselves from undesired future losses regarding to currency fluctuations. However, a question that arises from this issue is whether that is enough and if economic exposure should be considered a main threat right now? In our opinion, it might already be too late, as incidents relating to big losses such as the heavy dollar depreciation have already occurred and companies have already felt the effects, which is why companies should indeed be focusing on transaction exposure and translation exposure right now. On the contrary, economic exposure should have been a big factor previously, before the dollar depreciation, as a risk management strategy should have been drawn up what the company should do in the events of one of the currencies that the company uses in international business experiences heavy fluctuations.

However, it is a simple thing to think of this afterwards, but for companies to actually have such precise forecasts is a difficult thing. As is shown by one of the small companies who even had discussions with banking experts, currency predictions is a difficult area. Thereby doing continuous economic exposure measures and developing routines for an incident which might never occur might include costs for companies which are never made up for. This explains the very problem that international companies face with currency fluctuations:
should the company consider possible future losses in cash flow as the main risk and draw up routines against this which might cost money, or should the company venture into the future and deal with translation and transaction exposure as they occur. Of course, it might be easy to voice the opinion that a company should always be risk-averted and thereby develop routines for handling future cash flow losses, but in practice this is a more difficult question as companies not only have other risks to consider but also limited resources to work with, thereby making economic exposure something that is not always prioritized.

- What corporate financial strategies (external means) are used for the management of currency risk?

There are five primary external strategies to deal with currency risk, namely currency forwards, futures, swaps, options and money market hedge, instruments known as financial derivatives. Forwards work by a bank offering a particular amount of a currency at a particular rate for a particular time, thereby locking into the agreed exchange rate. Futures work similarly, although they are cheaper than forwards but do not have the locked in exchange rate which means that the settlement price can vary. Swaps work by two companies loaning money and then swapping the loan interest payments with each other. Options are a contract giving the option purchaser the right to buy or sell a given amount of foreign exchange at a fixed price per unit for a specified time period. Although the options do not cover currency risks as well as other derivatives, they do not diminish the possibilities for potential gain. A money market hedge is a loan in a foreign currency, which acts as a balance sheet hedge by creating a foreign currency denominated liability to offset the foreign currency denominated asset.

The one common factor regarding companies’ usage of financial derivatives is that each company who did utilize external currency risk management strategies always preferred the usage of forwards. The futures were used on occasion, and the currency swaps and money market hedge were used very rarely. Currency options were not used at all. This particular view on financial derivatives can lead to a main conclusion. Primarily, judging by the responses on the interviews, there are three main factors which are vital for companies when choosing external hedging techniques, namely risk aversion, predictability and simplicity.

Risk aversion was the prime goal of all companies, and this might be especially particular to large companies as they have shareholder interest to consider. This is due to the fact that unlike small companies, where management and shareholders often are the same persons, the major part of shareholders in large companies usually is not within the management. Thereby the management has an obligation to the shareholders to ensure the safety of the company, in contrast to shareholders/managers in small companies who can choose more risky strategies if they want to. An additional fact is that large listed companies are to show public quarterly reports, which could be incentive to be as risk averted as possible so that investors and shareholders see that the company covers their risks and secures revenues. Therefore the usage of forwards is prioritized, as they can cover the risk of the entire sum of a transaction for a fair sum that the companies are well aware of when they sign the forward contract. Predictability is the wish to lead the attained revenues to a total result and thereby making the result as predictable as possible. The forwards work efficiently even in this area, as the forwards lock in on a particular exchange rate, making the attained revenues after the cash settlement date completely accurate and predictable. It is in our opinion this reason that futures and options are not used. Although futures work similarly and are cheaper, the final settlement price may vary, thereby threatening the predictability of the attained revenues.
Companies are in this case willing to refrain from the cheaper price for the added safety of a locked-in exchange rate. Options are more hazardous instruments which not only cost more, but cover the currency risk less efficiently, decreasing their risk aversion ability. This factor, added in with the speculative nature of options, makes them a difficult instrument to use if the company wishes for the attained results to be as predictable as possible. Finally, simplicity is a factor that is important when some derivatives can offer the same protection, which is why we believe currency swaps are not used. Because even though swaps can be seen as a series of forward foreign exchange contracts, they are more complicated to attain since there are three parties involved: the company, a foreign company and a bank. In the case of forwards, they are very simple to use as the company simply requests a quote from the bank on forward contracts, but in the case of swaps, the company must first contact the bank who then has the task of finding a foreign company who not only can borrow a currency at a favorable rate, but is also in need of a currency that the original company can borrow at a favorable rate. Comparing this procedure to the simple task of a company acquiring a forward contract from the financial market makes it clear to see why the simplicity factor has a large impact. Finally, we also believe the simplicity factor has an impact on the decision between forwards and money market hedge. Although the money market hedge can be an effective hedging instrument in theory, it is our belief that it is more difficult to apply in practice due to the actual number of transactions that need to be hedged. Large companies, who primarily were the ones who preferred external hedging methods, deemed transaction exposure the biggest risk and it can therefore be concluded that they have many international sales transactions that need to be covered. Therefore it is more easy to simply request a forward contract per transaction that needs to be covered, than to actually request a bank loan for each and every transaction, taking into consideration that the interest rate and the possible loan investments need to be calculated in order to see if the process will be favorable or not.

However, it is our belief that the smaller companies who were the main company in their respective corporate group could benefit from a money market hedge since they deemed translation exposure to be the biggest risk factor. It would have been easier to make this recommendation to a larger company since they usually have more resources to apply for these kinds of circumstances, but in these cases we recommend that the smaller companies do a measure of how much valuation losses the translation exposure causes them. The second step would then be to acquire resources for a foreign currency loan, obviously not large enough to cover their entire balance sheet assets, but enough to hedge the most important assets. If the company can find a way to invest this loan to yield proper earnings and thus efficiently use the money market hedge, they can develop this strategy more and more to fit their company and then within time cover more and more of their balance sheet assets. However, the companies we included in our research only had one individual working with these tasks, so this can be too much of an overload for only one person which could mean that additional recruiting would be necessary. The companies in such a case would have to decide whether the recruitment and salary costs would outweigh the potential valuation gains coming from effective hedging against translation exposure.

The recommendation for money market hedge aside, it is an interesting view on external currency risk management strategies that we as authors have concluded. Namely, the theoretical aspect of external currency risk management strategies is very broad, and there are several strategies to choose from. However, the appliance of these in practice is very slim, and only the currency forwards is a favored method amongst companies.
What operational measures (internal means) are used for the management of currency risk?

There are four internal methods for hedging currency risk that can be used within a corporation. Netting allows the company and its subsidiaries to net off intra-organizational currency flows, leaving only the balance sum exposed to risk. Matching involves a company matching its currency outflows by amount and timing with its expected currency outflows. Lead & lag means that a company tries to pay/collect early (lead) or pay/collect late (lag). A company would like to lead soft currency receivables and lag hard currency receivables, and vice versa regarding the payables. Finally, choice of invoice currency is a method involving a company strategically choosing the currency on its invoices to shift or share the currency risk with its buyer.

A common view amongst companies is that matching is the favored method, which also works very well and fulfills its purpose. Although netting is the primary method chosen by one of the large companies, matching is the method most companies feel content with. It should be mentioned though that one of the large companies did not use internal hedging methods at all, which means that the matching technique is primarily used by medium-sized and small companies. Since the large company who did not use internal hedging techniques wishes for a netting system to be developed and the other large company already uses netting, it can be concluded that matching works for medium and small companies and netting works for larger companies.

In our opinion this has a lot to do with the financial and operational structure of the companies. For larger companies, who might have many sales divisions working separately and with a wide range of products and transactions, it is simpler to have a main netting center which takes care of all the netting procedures, rather than using matching and having each division itself trying to match all the different currency inflows and outflows. On the contrary, establishing a netting center might be very costly and time-consuming for small and medium-sized companies, who might instead profit from using the matching system, since the total number of sales divisions and transactions are not as high as in the case of large companies.

Although the choice of invoice currency is utilized very lightly, it draws up two interesting conclusions. For the first, it can be effective to share the risk when doing business with countries that have an exotic currency, making it difficult to hedge with netting or matching since no outflows of this particular currency occur. Secondly, it can be used to protect sales in the domestic market with the domestic currency of the company, in case the purchasing currency fluctuates to undesirable levels. To sum up, the method of lead & lag is not used at all, and the choice of invoice currency is very sparsely used. Thereby, the same conclusion can be drawn about internal hedging techniques as the external ones, namely that although there are a number of theoretical internal hedging methods, only a few of them are actually applied and favored in practice.

Do the opinions and management of currency risk vary between companies of different sizes?

Indeed, there are conclusions that can be drawn about the difference in views on currency risk management between companies of different sizes, especially between large companies and small-sized companies. Medium-sized companies exist in a type of grey-zone regarding the views and management of currency risk, which will be discussed further ahead.
The primary conclusion that can be drawn is in regards to the aspect of currency risk within the company and comparison to other risks. Larger companies regarded product risk and political risk to be of highest importance, while currency risk was still regarded to be very important and under continuous observation. In the case of small companies, currency risk had not been thought of as a major risk until the recent events of translation exposure made the company reconsider the risk factors.

As an additional difference, the aspect of internal contra external hedging techniques can be seen. No small company uses any type of external currency risk management strategies. Although this can be alluded to a number of reasons, such as currency risk not being seen as a major risk factor or that the company or that the company has been advised against it, it is a major contrast to large companies who primarily use currency forwards for hedging purposes.

As was previously stated, this conclusion can be drawn due to the size and organizational structure of the companies. This can be illustrated by an example, taking the form of an international company not using external nor internal hedging techniques. Now, if it is a large company, it might be easier and cheaper to simply buy forward contracts from the financial market, rather than developing internal corporate routines, which might be very time-consuming, include many sales divisions, foreign subsidiaries and different individuals on diverse levels taking part in the entire process. On the contrary, small companies might not have the knowledge or resources for successfully utilizing financial derivatives, but they have better opportunities for establishing internal routines in the form of matching, as it is often only one division or even one individual who has to handle the routine, thereby making it an effective and economic method. It is for the same reason that netting and matching differs between small and large companies, although this has already been covered in the pages above. Therefore we believe that larger companies should primarily use forwards for hedging purposes, and then develop a netting routine, whereas smaller companies should use a matching routine.

However, small companies not using external hedging techniques if they are the main part of a corporate group can be seen as a great disadvantage. As has previously been stated, the small companies in our research who did not regard currency risk a main factor were also the ones who were the main companies in their respective group and thereby are the ones who primarily feel the effects of translation exposure and to whom we know recommend the usage of money market hedge, if the gains can outweigh the extra costs. Therefore an important conclusion that can be drawn from this is that regardless of the size of the company, currency risk should be considered a main risk factor if the company is the main one in the group. Being a small company, such risks can easily be overlooked in contrast to other risks than can feel more important, such as commercial and financial risk, until the negative effects of the currency risk exposure take effect and the impact is felt. This is in our opinion a crucial point especially for small companies, as they are still in their growing phase and thereby would wish their company valuation to be as strong as possible.

Medium-sized companies however are different, since we believe they have both the resources and internal capability to use external or internal currency risk management strategies. In their case, much is depending on the structure of the company, their business transactions and thereby which methods work for them in particular. One company in our research used both internal and external methods, and the other only internal. Thereby a lot of focus can be put on the currencies used, the responsibility of currency risk management and the expected cash flows. If risk aversion is top priority, internal methods can be utilized,
complemented with external methods like forwards if need be. If the cash flows are managed to be predictable to a certain level, matching might be enough to cover the risk exposure. However, this is enough if the company is not the head of a corporate group. An important point in our conclusion is that internal matching techniques do not cover against translation exposure; therefore the position of a company always plays an important part, regardless of its size.

5.2 Summary and final words

As has previously been written, the management and view of currency risk management strategies differs between companies of different sizes. Therefore, this summary of the key analytical findings are presented as a final synopsis.

- Transaction exposure is deemed as the largest currency risk factor.
- Economic exposure is not regarded as a risk factor, which might be due to the companies already feeling the impact of currency losses and therefore are more concerned with present-day strategies than future ones.
- Large companies primarily use external currency risk management strategies.
- The most favored external strategy is the currency forwards, due to its characteristics of risk aversion, predictability and simplicity.
- Small companies primarily use internal currency risk management strategies.
- The most favored internal strategy is matching, due to it being a routine easy to establish and handle in comparison to the company’s size.
- In cases of large companies developing internal strategies, netting is favored due to it being simpler from a practical view due to the company’s size.
- The different views on external and internal risk management strategies depend on the size and organizational structure of a company. External hedging strategies are easier to use for larger companies since they can easily be purchased and do not affect the structure and responsibilities within the organization, while internal strategies can easier be adopted by small companies and handled by few individuals.
- Medium-sized companies stand in a grey-zone as they have possibilities for both internal and external hedging strategies. The choice is then dependant on how risk-aversive the company is and how well the cash-flows are managed. If the company can structure sufficient internal hedging techniques this might be enough, otherwise they can complement with external hedging techniques.
- Cost/benefit and the dollar depreciation are the usual motivations regarding the usage or rejection of currency risk management strategies.
- Translation exposure is an important risk factor that should be a high priority if the company is the major one in a corporate group, regardless of the company size.
- The subject of corporate strategies for currency risk management is very theoretically broad but the appliance in practice is very slim, as only a few external (forwards) and internal (matching, netting) strategies are favored and frequently used.

In conclusion, we would like to express that this thesis has brought a lot of insights regarding currency risk management. We are somewhat surprised that so few of the strategies are actually adapted by companies and thereby the conclusion that not all theories are effective in practice can be drawn. Hopefully our target group will feel this research is a valuable tool in their work as we certainly will use the knowledge gained in our future careers.
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APPENDIX I – INTERVIEW QUESTION GUIDE

1) Information about the respondent.  
(job title, job assignments, years in job position, academic/professional/company education, etc)

2) Percentage of the company’s turnover in foreign currency?  
(constant percentage, varies through the years, etc)

3) Currencies used in business transactions?  
(why this choice of currencies, has this changed throughout the years, influence of international partners, etc)

4) Type of currency risk exposure to the company?  
(transaction, translation or economic, why this particular exposure, etc)

5) Choice of method for external currency risk management strategies?  
(futures, forwards, options, swaps, money market hedge, why these particular methods, tradition of usage or newly incorporated, who decides on the choice of strategy, different strategies for different currencies, etc)

6) Choice of method for internal currency risk management strategies?  
(netting, matching, lead & lag, choice of invoice currency, why these particular methods, tradition of usage or newly incorporated, who decides on the choice of strategy, different strategies for different currencies, etc)

7) Aspect of currency risk in corporate risk management?  
(how important is currency risk in the company’s total risk management strategies, does this vary with time, should more or less be focused on currency risk, etc)

8) Cost of currency risk management?  
(how much is the cost for currency risk management, how is the company’s result affected by currency risk management, has this previously lead to great costs/revenues for the company, are the costs too high in comparison to the gains, is the cost different regarding different strategies, etc)

9) Motivations of usage or rejection of currency risk strategies?  
(what affects the company’s view on currency risk management: the increase of Swedish export, the depreciation of the US dollar, costs in regard to risk security, competitor’s usage/rejection of currency risk management, etc)

10) Currency risk compared to other risks?  
(If comparing currency risk to commercial, financial, political or product risk, which risk do you see as the highest, why is that so, has this changed through time, what affects your views on total risk assessment, etc)
APPENDIX II – CURRENCY ABBREVIATION LIST

CAD – Canadian Dollar
EUR – The Euro
GBP – The Pound Sterling
NOK – Norwegian Krona
SEK – Swedish Krona
USD – United States Dollar
JPY – Japanese Yen