The Effects of Changed Policies and Regimes within European Financial Markets on MNCs’ Foreign Exchange Exposure Management

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Abstract
This study investigates the foreign exchange exposure management of some Swedish and UK firms’ foreign exchange exposure management at three occasions, 1985, 1996, and in 2008. We find that foreign exchange exposure management has become a more centralised activity. This centralisation is driven by the introduction of new administrative systems, the introduction of new legislation (IFRS), earlier “shocks” from speculative behaviour, and a higher focus on shareholder value. Swedish firms use currency as a competitive advantage offering suppliers and customers to invoice in “home” currency, and the introduction of the Euro has not affected their operations. Types of products (standardized or customised) affect the hedging procedures. Forwards, netting, currency options and swaps are used as hedging techniques, and new advanced hedging derivatives are not popular. Many firms do not clearly distinguish between economic and transaction exposure, and translation exposure is not hedged.
1. Introduction

Since 1986 the international foreign exchange market has grown from $208 billions in daily turnover (including spot, outright forward and foreign exchange swap transaction) to $3.9 trillion in 2008 (Bank for International Settlement, 2010). The FDI activity of mainly MNC has grown from $86,316 million to 1,770,873 million in 2008 (UnctadStat, 2010). The international trade volumes have grown during the same period from $2,376,818 to $199,988,410 (UnctadStat, 2010). These numbers make evident the globalisation that has taken place during the last 25 years and the increase in international activities by Multinational Companies (MNCs). This study investigates the foreign exchange exposure management of Swedish and some UK firms’ management. In contrast to other qualitative studies (e.g. Aabo, 2006, Brown, 2001, Dahnani, 2004 and Dahnani & Groves, 2001, Bartram, 2001) we have had the opportunity to perform a longitudinal survey with repeating visits at three occasions during the period of extreme growth on the international financial markets between 1986 and 2008.

There is a controversy if companies should hedge currency risks or not. Those who favour hedging support the principle that a company should not take financial risks but should leave those risks to financial institutions like banks. Those who do not recommend hedging support a view that all risks will match in the long run. However, the extensive literature on foreign exchange exposure management states that large multinational companies do undertake hedging procedures, and that the degree of volatility on the exchange rates has lead to different strategies regarding how, when and why these kinds of risks should be managed. Furthermore, the combination of the risks for changes in the exchange rates (the currency risks) and the risks for sales that may become smaller than expected (the sales risks) not only hit firms that export goods and services on the international markets. It will also influence many firms that solely work on the domestic markets (Luehrman, 1991, Williamson 2001, Allayannis and Ihrig, 2001, Dekle and Ryoo, 2007). The reason is that such firms may suddenly realize a competition from foreign companies that make use of advantages that arise from changes in the exchange rates. Such evidences are e.g. the effect on domestic labour demand, Gourinch (1999), on specific firm level exports (Dekle and Ryoo 2007), and on changes in industrial structure (Williamson, 2001).

The hedging strategies of a firm are motivated by the existence of market imperfections, often referred to as transaction costs. The theoretical reasoning stretches back to the irrelevance proposition of Modigliani & Miller (1958). In a so called Modigliani & Miller world a firm should not hedge the kind of risk that diversified owners can diversify by themselves. So, from a financial perspective transaction costs are the main motivation for hedging, and hedging activities can be viewed as redundant on an efficient market. Consequently, the very extensive research on foreign exchange exposure management has in common to understand and to explain how transaction costs, such as taxes, asymmetric information, the risk attitudes of owners and managers, imperfect currency and product markets, undiversified owners, etc affects why, how and when firms choose to hedge currency risk.

The present study differs from most other studies on exposure management as it also has a longitudinal aspect. In 1985 we performed our first set of interviews here referred to as “FEEM 85” (Bergendahl & Nyberg 1986). In 1996 we repeated our interviews in a project which we call “FEEM 96” (see Bergendahl 2001). Finally in 2008 we performed a third set
of interviews to be referred to as “FEEM 08”. In so doing, we have been able to observe changes in policies between individual companies of various sizes, from different business sectors, and from two countries facing different regulatory regimes, which are the UK and Sweden. Our research also allows studying the differences in behaviour between companies from Sweden that operates with a small currency and those from UK, a country with a currency that is traded in large volumes. This has been of a special interest to us as when we started this project in 1985, Swedish firms were controlled by a currency regulation while UK firms were not. In addition, we will put a focus on behavioural aspects of treasury management such as risk attitudes and perception of market efficiency.

This study takes a broad perspective using a qualitative approach, with in-depth interviews. It concerns basically how firms organize their foreign management process, and how this process relates to managers’ perception on risk and market efficiency. Consequently, it concerns both how business firms measure different kinds of exposures, and how they avoid, reduce and hedge them. It focuses on how exposures may be avoided and reduced by the use of plans like netting or be hedged by signing forward contracts, future contracts, currency loans and currency options, including how firms will take use of bank services, and the choice of currencies of denomination.

1.1 Main Findings from the “FEEM 85” and “FEEM 96” Studies

For a firm the size of foreign exchange exposures depends on a) which currencies that are risky and b) which volumes that are exposed (e.g. sales quantities, purchasing volumes, or investment outlays). In many companies of today the sales risks and the currency exchange risks are estimated regularly and simultaneously in terms of currency exposures. In 1985, when the first set of interviews was made with 26 Swedish and UK firms, it was impossible to perform instantaneous and simultaneous measures of exposures. At that time we found (perhaps surprisingly), that the main objective for foreign exchange exposure management was to reduce the payment costs and not the exchange rate risks. That was the concern for both English and Swedish multinationals, and perhaps more obvious for smaller Swedish firms. At that time, the overwhelming part of the exposure management concerned the short term trade. Only two of the firms managed on a regular basis their long term economic exposures. For the fourteen firms that actually measured and managed their exposure, forward contracts were the main instruments for hedging. Only a couple of firms issued loans in foreign currencies as a means for hedging. The exposure was either netted out month by month one year ahead (in four firms), once a month (in eight firms), or once a week (in one firm). Only one single firm performed netting on daily basis. For seven of these firms the proportion to be hedged was 80% or more out of their net exposure.

When working on a project on international cash management ten years later1 we observed that a rapid change had taken place what concerned exposure management. First, the Swedish currency regulation had been eliminated. Secondly, the financial markets had expanded beyond any imagination as of 1985. Thirdly, interest rate risk management had become a central issue. Therefore a project was developed in 1996 to renew the study of 1985. One observed change was that it had become a common approach in cash management to invoice

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1 Global Cash Europe 96. (Bergendahl, G. and A. Birts, 1998) The Bank Relationship Consultancy, London
and to pay subsidiaries in their local currency in order to concentrate the currency risk management at the headquarters and to perform net transfers month by month in terms of a netting system (Bergendahl, 2001 pp. 253-266). Furthermore, many firms measured and managed their interest rate exposures in terms of ‘Gap Management’. Just a few firms used for that purpose concepts like ‘Duration’, ‘Volatility’, and ‘Value at Risk’ (VAR). Finally, in 1996 tender offers generated substantial economic exposures to the firms. These risks were seldom hedged by currency options. A few firms used currency clauses but most firms relied on an active management until a contract was signed. However, it became obvious that during these ten years the investigated firms increased their sophistication in how to manage foreign exchange exposures.

1.2 Motivations for the Third Investigation, “FEEM 08”.

Over the last years exposures as a concept have become much refined. Risk management is nowadays treated as an extremely important topic, and, a well developed, integrated and formalized part of treasury operations. The Euro has taken a dominant role as a currency for trade and investments. We have seen a revolution in information technology (IT), which has completely changed the conditions for international payments, the control of international bank accounts, as well as instruments to hedge currency exchange risks and interest rate risks. However, still companies face certain types of risks related to currency fluctuations and export/import activities, such as credit risk, antenatal risks, economic risks, market risks and price risks and, have to deal with them in different ways. With this background, it is still valid to find out and explore if whether or not the theory developed is applied in practice. To be more precise, our aim for the “FEEM 08” study has been to investigate principles and procedures used in the foreign exchange management of multi-national corporations (MNCs). This task will be performed by undertaking the following research activities:

1. to analyze how foreign exchange exposures are measured and managed in a number of Swedish and British companies.
2. to find explanations for the different ways of managing these exposures,
4. to explain how different perceptions on market efficiency and risk, affect how firms organize, and manage their exposures.

By relating our results to earlier research we aim to explain the driving factors behind foreign trade hedging strategies. This will be achieved by describing the choice of currency, the exposure management processes, the organization of exposure management including how firms organise, create policies and set goals for their foreign exposure management, and how they can manage their FEEM as a competitive advantage using currency denomination. It will also be achieved by including respondents own risk perception and aversion and their individual experiences on how institutional changes have affected their hedging strategies.

The remaining of paper is organized as follows. Section 2 describes the overall research methodology, including the sample of firms, the use of interviews and the relation between the three research rounds. In Section 3 we relate our findings to the theoretical irrelevance discussion. In Section 4, 5 and 6, the main results from this latest set of interviews are presented, and compared to the results from “FEEM 85” and “FEEM 96”. In Section 7 we
describe the respondent views on the changes they have perceived during the last 12 years, and how these changes have affected them in the management of their foreign exchange exposures. The paper ends with concluding remarks in Section 8.

2. Methodology and Data

Our main objective of the present study is to examine and to explain the foreign exchange exposure management in a set of Swedish and U.K based firms from the year 1985 to the year 2008. We will use a qualitative research approach (see e.g. Brown, 2001, Williamson, 2001, Dhanani and Groves 2001, Dhanani, 2003, 2004), which we consider to be a superior one for understanding motives and actions taken by managers in their own organizational setting. We have used a cross sectional approach by interviewing representatives from a set of Swedish multinationals, and comparing them with a number of U.K. based companies, as well as a longitudinal approach by starting from the similar study (FEEM 85) made in 1985 (Bergendahl & Nyberg 1986) followed up by a second one in 1996 (Bergendahl 2001).

In this paper the focus is on the results from a third set of interviews made in 2007/2008 among 15 Swedish and 3 U.K. firms, and how these results compares to the earlier mentioned studies. We have found it desirable to base each interview on the same set of basic questions used in the two first interviews made in 1985 and 1996, covering the choice of currency of denomination, foreign exchange cash management, currency risk exposure, organization and stages of development. When the first study was made in 1985 (Bergendahl & Nyberg, 1986) the purposes were stated as:

1. to analyze how foreign exchange exposures (the FEEs) are measured and managed in a number of British and Swedish companies.
2. to find explanations for the different ways of managing the FEEs.
3. to suggest alternative ways to measure and to manage the FEEs.

The choice of business firms for the “FEEM 85” was made to cover different business sectors as well as to include both large and medium sized firms. The study in 1996 (see Bergendahl 2001)) was based on interviews with approximately the same Swedish and English firms as the one of 1985. However, one firm had gone bankrupt since then. Others had changed their structures more or less completely. Consequently, out of the 26 firms of 1985, 18 Swedish and 5 English ones were interviewed once again in 1996.

The aim of the second project differed slightly from the one of 1985 as two more activities were added:

4. to analyze the interaction between the management of foreign exchange exposures (FEE) and interest rate exposures (IRE) in these companies.
5. to compare the principles of foreign exchange exposure management of 1985 and 1996.

Then in 2007/2008 a third set of interviews was performed with the general aim to follow up earlier studies. It focuses on how to understand the reasons for the choice of different hedging procedures. Hence, the interview guide of FEEM2008 includes questions that address the respondents’ personal opinion on risk taking, and their perception of risk. We have also added questions regarding issues we think may have affected the companies’ management during
the period since the last interview round in 1996. The task to cover a 23 year long period for the same companies has not been doable since companies have merged, gone bankrupt, changed names and businesses, or been acquired by other companies. Eighteen out of the twenty three companies interviewed in 1996 have been identified. However, eight companies have been bought by or merged with other companies or closed their activities. We made telephone interviews with five companies which have been overtaken and now existed as affiliated daughter companies. The purpose with these interviews has been to find out how these organizational changes have affected their procedures.

In our sample there are eleven listed companies and seven private owned. We have mostly multinational firms in our sample, and some smaller Swedish firms, with a large proportion of their sales in foreign currency.

Companies included in “FEEM 08” (and in “FEEM 85” and “FEEM 96”). Swedish: ABB, Atlas Copco, Atlet, Ekmans, Ericsson, Elof Hansson, Karner, Mölnlycke, SCA, Nimbus, SKF, Swedish Match, Transatlantic, Volvo, English: BP, Rolls-Royce.

Companies not included in the “FEEM 08” but in “FEEM 85” and in “FEEM 96”. Swedish: ABV, ASG Celcius, Consafe, Esab, Wilson, Skandia. English: BICC, Wimpey, Cadbury-Schweppes, and ICI.

Except for two occasions we were two interviewers present when interviewing the respondents. That gave the capacity to efficiently take notes and to follow the interview guide during the discussion. Each interview lasted for approximately 2-3 hours. Using a semi-structured guide (see Appendix 1) did allow the respondent to articulate firm specific details. We interviewed the head of the treasury department. Except for three company visits we also met with one or two other employees at the treasury department. During the interviews we often received written material, such as yearly reports, exposure data, and on one occasion the formal risk manual. This material, together with the structure of the interview guide made it possible to use a triangular method.

3. Risk Perception and Behaviour: Who Favour a Hedging of Currencies?

In our survey, all firms but one do hedge their currency exposures using instruments on the financial markets. Why firms choose to hedge is a controversial issue, and basically it depends on who in the end will carry the risk that originates from volatile exchange rates. From a shareholder perspective, the only risk a well diversified owner on an efficient market will get paid for is the systematic risk. A well diversified owner should not be willing to pay in order to avoid this type of exposure as it only will reduce the single firm’s volatility. The investor is assumed to reduce this risk by herself following the classical irrelevence paradigm of Modigliani & Miller (1958). Consequently, a hedging of exposure must be supported by the introduction of some market imperfection such as asymmetric information, agency costs, transaction costs, and taxes.

In the presence of such market imperfections an investor may prefer to hedge on the firm level if it is more efficient than to hedge via the stock market. Exchange rate fluctuations are an important source of macroeconomic uncertainty (Levi, 1983, Oxelheim and Wihlborg, 1987, 2005) and the fact the companies may face market inefficiencies such as convex tax
shields or transaction costs of financial distress may make short term hedging profitable (Smith and Stulz, 1985). Therefore, exchange rate exposures may have an effect on the value of a firm. Evidences on this effect seem to be more apparent among European based multinationals (Muller and Verschoor, 2006a) compared to U.S based ones (Jorion, 1990, and Bartov and Bodnar, 1994). Muller and Verschoor (2006b) and Hutson and Stevenson (2010) argue that one reason for this difference may be that U.S. market is much more closed. In their study the European multinationals showed both negative and positive exposure indicating that on aggregate firm level hedging may be irrelevant for investor’s portfolios. Allayannis and Weston (2001) show that hedging increases firm value. They found a positive relation between the use of currency derivatives and Tobin’s Q and that hedging may increase firm value. However, Bali, Hume and Martell (2007) found that the use of derivatives is not related to firms exposure or firm’s rate of return and a negative relation between the FX exposure and the use of financial derivatives is also reported (Hagelin and Pramborg, 2004). Bali et al (2007) suggest other operational and economic factors as important. Géczy, Minton and Schrand (1997) found that the use of currency derivatives affects the cost of capital.

Hedging is supported by shareholders as being an efficient tool to reduce the cash flow volatility and also to not preclude firms from exploring growth opportunities. They also found that firms that exhibit economies of scale from hedging costs may have a competitive advantage. Other evidence for the relevance of hedging is that that investors are valuing cash flow volatility negatively (Rountree, Weston and Allayannis, 2008). The fact that firms tends to hedge transaction exposures to a high degree and that economic exposure are more seldom hedged supports the idea that investors are willing to support managers to secure short term exposures and to leave costly long term exposures unhedged.

Those managers who believe that they can forecast a turn of the market they practice selective hedging (Stulz 1996). This type of speculative hedging will also be affected by managers’ attitudes towards risk and how their reward contracts are aligned with different goals of the company. Kenyon (1981) has made a systematic classification of methods for the management of foreign exchange exposures. He says that: “There are broadly three classes of implements: those which avoid risk, those which hedge it, and those which reduce the task of management.” (Kenyon 1981, p.49).

Take an agency perspective and assume that the agents are risk advert. In such a case, their behaviour will be governed by their perception about risk and market efficiency, by their individual incentive structure and to which degree the owners are diversified. If managers are aligned with well diversified shareholders, via incentive contracts, and forward rates are assumed to be unbiased predictors of future spot rates (market efficiency) hedging will not be performed. Under the perception that markets are efficient and that managers’ incentive contracts do not align them with well diversified shareholders hedging will be performed in order to increase the managements’ own utility. If managers base their decisions on the belief that markets are inefficient, either hedging or speculation will be the outcome, depending on the design of the incentive contracts, and the owner’s degree of diversification.

In our “FEEM 08” study, we asked the head of the treasury about his/her own perceptions of risk. The results did not provide unanimous answers. We asked if they perceived themselves as being risk averse, risk neutral or risk lovers. No respondent described her(him)self as a risk lover. The most common answer was “risk averse”, but many also described themselves as “risk neutral”, or “risk averse leaning to risk neutral”. We asked if they find a thrill in taking
on risk. A majority said that it actually was a thrill. At the same time they often added that this thrill kept them alert, and it did not affect them in their daily operations. We also asked how they define risk, if they are willing to accept risk, and if they were willing to take on risk in order to achieve higher returns? Even regarding these answers no unanimous view could be found among the respondents. Some of the respondents defined risk as the downside risk only, and others defined it (as in a text book in Finance) as “deviation from an expected value”. Some respondents were willing to take on higher risk, in order to receive higher return, some others are told to hedge all exposure (in this case transaction exposure).

Asking the respondents about their opinions on market efficiency many agreed on that the currency markets have been more stable than before, i.e. that there are less fluctuations in the currency prices. Two said that the market has become more efficient and that it is not possible to beat the market in the long run. An, in our view, experienced FE managers expressed this as “there is no mispriced securities on the market”. Another respondent said that they regularly collect historical data to make own tests on market efficiency, and their findings confirm market efficiency. Some respondent said that the markets are efficient in the long run, but in the short run they had to hedge their exposure. On the other hand, a few respondents, and especially the ones that organized their treasury in profit centres (four companies), said that they regularly made profit by taking positions.

The companies that organised their foreign exchange exposure management by the use of a profit centre have given their traders very strict mandates of action. Some firms operating with “cost centers” did allow their traders some small mandates to take positions with the argument that such a mandates would make them familiar and up to date with new instruments. Furthermore, firms with a profit centre and even some of those with a cost centre have arranged bonus systems related to how well they performed relative to the market.

We asked the treasurers if they think that shareholders of their company are well diversified all but one company stated that their owners are not well diversified, and that they should prefer hedging on a firm level. Respondents, working for listed companies, agreed on that the shareholder view has influenced their decision making and that there has been an increased focus on cash flows. Two private owned companies expressed that they were handling the owners’ money, and therefore are obliged to reduce risk by hedging exposure. Some representative citations are: “Yes they should, but we do it better”, “it is our obligation to reduce short term risk”, or “we are transparent and clearly reveal our exposure strategies. Shareholders have this information, and can price it accordingly”.

Our results contradict the findings in Brown et al (2006) investigating companies in the mining industry. They found that many managers believe they had an information advantage. In our study it seems that the respondents were more restrictive in taking positions. Brown et al (2006) also found that managers rarely beat the market, which some of our respondent, the ones speculating, said that they often did (however implicitly questioned by a majority of respondents having a market efficiency view). Collier et al (1990) investigating 51 firms in the US and in the UK divided their sample into a highly risk averse and a risk neutral group. The former group was aiming to avoid currency risk arguing that they are profitable in their operations and should not seek additional profit taking currency positions. The role of the treasurer was to hedge and to predict the market. In the other risk neutral group the treasury aimed at manage currency flows, and to perform selective hedging. They also find a
difference between U.K. and U.S. firms. U.S. firms generally was less willing to make selective hedging and U.K. firms more often hedged translation costs, both evidence that U.K. firms perceive the market less efficient. Our results rather points to the ideas of Bartram (2008) suggesting that managers take “savvy” actions and reduce exposure to very low levels.

4. Measuring and Hedging Currency Exposures

4.1 The Principal Use of Hedging

There are different ways to hedge exposures; through the financial markets, using financial instruments such as futures and forwards; netting; using lead and leg, and, to use operative hedging. A fifth way is to pass-through the risk related to the exposure to customers. Bertram, Brown and Minton (2010) show that pass through to customers and operational hedging both decrease the theoretical exposure by 10-15 %, and that financial hedging reduces about 40% in a sample of 1150 manufacturing firm in the U.S. Adler & Dumas (1984) and Kenyon (1990) make a distinction between foreign currency risk and foreign currency exposure. Risk is defined as the probability of a financial deviation from an expected outcome, and foreign currency exposure is to what amount a company has on risk, i.e. the amount which is exposed. Therefore, the notion of risk is market related and the exposure is how an individual firm will be affected. The foreign exchange exposures cover three different ways to measure currency risks in a firm², transaction exposure, economic exposure and translation exposure.

The transaction exposure is the most apparent and easily identified form of exposure. In principle, a transaction exposure is usually related to the flows of funds that starts at the moment of pricing, or more precisely at the moment an order is placed, and ends at the moment the payment is converted into the currency of the head quarter and placed on its current accounts. Transaction exposures originate from two broad categories of a company’s business (Donaldson 1987):

1. long-term contract business where individual contracts have to be bid for and, when won, are executed over a period, possibly of several years;
2. regular sales or service business where single or unconnected multiple transactions take place at irregular intervals.

The first category covers companies producing customised products. The second one covers companies, which present price lists over a large number of standardised products or services.

The economic exposure is the long term measure on how the value of a company will change relative to long term changes in exchange rates. This measure extends the transaction exposure to cash flows not yet realized but may influence future sales volumes, prices and also input costs (Dhanani & Growes 2001). Moffett & Karlsen (1994) relates this to strategic exposure defined as a changed in the present value of future cash flow due to exchange movements. They also distinguish between economic exposure and anticipated exposure defining the latter one as “… those expected future cash flows of the firm which are expected to give rise to transaction exposure” p. 159. This distinction is not that common in later literature, or in practice. Economic exposure is a result of a misalignment between firms’ future operative costs and future operative earnings. Consequently, other definitions are operational exposure or business exposure. Because of its long term nature, and due to the

² See e.g. Donaldson 1987, p. 8.
fact that companies face competition from foreign companies this exposure is best managed through natural hedges, and as such be included in the overall strategy of the company (Pringle and Connelly, 1993, Chow, Lee and Solt, 1997). Dhanini and Groves (2001) have found that strategic risk management plays an important role in the overall risk management process, and that its measure of operational risk has been the concern for strategic decision making and not only a concern for the treasure department.

Many transactions of funds are non-cash. That implies that a transaction is an action to clear a debt and the corresponding claim. Consequently, any transaction exposure may be treated as an expected future balance-sheet exposure or a translation exposure in the near future. The translation exposure is based upon the assets and liabilities shown in the balance sheet. A common definition of translation exposure is “the net balance position of foreign currency translated at the currency exchange rate” (Oxelheim and Wihlborg, 2005, p 62). Bergendahl & Nyberg (1996, p.5) note that a “translation exposure may be an aggregate of trading risks that are not settled at the annual reporting date. However it may also include the translation of fixed assets into the reporting currency. Thus it will consist of the net total of assets less liabilities specified per currency.” Consequently, it is not only a translation of financial (income) statements from affiliated firms into the parent one, but also a translation of assets and liabilities denoted in foreign currencies into the one of the parent. Theoretically, it is argued that this type of exposure is irrelevant to hedge as it only relates to past performance and therefore does not affect future cash flow. Reasons risen for hedging translation exposure refers to managers own perception on the importance of reported profit and loss statements. Volatile earnings may be negatively priced by investors (Rountree, Weston, and Allayannis, 2008) and also affect different key ratios. Volatile earnings also affect set targets and budget outcomes, and may therefore create internal risk hedging behaviour at different company levels, which would be more costly than to smooth accounting results on head quarter level. Translation exposure measure currency by currency the values of assets and liabilities and will translate them into the currency of the headquarter. Usually this procedure is performed for accounting purposes at the end of the year but it may also be done more frequently. Translation exposure is non-cash exposure that only affects the accounting profit and not the real value of the firm. This is according to theory. We mentioned earlier that some studies defend the hedging of translation exposure, and find evidence that firm value actually could increase. These results are explained by the idea that shareholders do not like volatile earnings, that transparency of accounting may increase and that it will facilitate internal control and budgets.

4.2 Choice of Currency

The above theoretical description gives the background to the conducted survey of how firms manage their foreign exposure. In this part we describe first the currency denomination, and later how firms do handle the net exposure as a result from their choice of currency. For a company located in a country with a strong currency (say EUR or USD) it may be tempting to invoice a non-affiliated company in its own currency. However, such an effort may be resisted by the customer, if competitors offer more flexibility and are willing to invoice him in his own currency. Consequently, it is often an advantage to sell in the currency of the customer as well as to buy in the currency of the supplier.
The same reasoning is available for assets in and liabilities to non-affiliated organizations like banks, suppliers and customers. Managers may try to reduce foreign exchange risk by concentrating assets to hard currencies and liabilities to soft currencies (see e.g. Jilling 1978, p. 149). However, the decisions to deposit or to borrow funds in a foreign currency should not be based upon how strong or how week that currency is. Other factors should be more apparent like the depth of the actual capital market or the extent to which the company may invest in the country of that currency. We have analyzed five important aspects related to the choice of denomination. They were:

a. The reasons for the mismatch
b. Actions in affiliated organizations
c. Risks generated by tenders and price lists
d. Traditional currencies for different sectors
e. The geographical effect.

Firms operating on markets with different currencies are constraint in choosing currency when facing competition. Some respondents expressed that their customers are allowed to decide the currency of denomination, and they allow their selling company bear this risk. Many of these companies did not put the same constraint on their suppliers, often leading to substantial exposure. For companies with pure sales companies this was even more obvious. Head quarter decides that to promote daughter companies sales the currency risk should be handled by central treasury, and not affect sales companies’ ability to perform.

Furthermore, the mismatch in currencies, and cash flow over time, not only concerns income and expenditures. Often the assets and liabilities mismatch as well. For example assets in terms of short term credits may have been denoted in US Dollars while liabilities in terms of bank loans may be in Swedish Kronor. This is the origin of balance sheet risks (“translation risks”).

First observe the difference between transactions with non-affiliated buyers and sellers, and those between divisions, subsidiaries or branches of the corporation. Transactions with affiliated units should be managed perfectly what concerns the choice of currency. For non-affiliated buyers and sellers the situation is often one of tradition and negotiation. The emphasis below is therefore on the non-affiliated ones.

Most problems of mismatching stem from the different conditions under which a firm purchases raw material and components and sells its products. In one firm in 1996, for example, 35% of the raw material is purchased from Germany according to price lists denoted in Deutsche Mark. On the other hand a large part of its final products is sold in US dollars and Pound Sterling as a result of negotiations using short-term and long-term tenders. Consequently, it is the mismatching between purchasing and sales in terms of currencies and conditions that generates a substantial part of the currency risk problems in multinational corporations.

In the case of actions among affiliated organisations, the management of transactions, assets and liabilities may be done with a much higher degree of flexibility then for the case of selling to separate customers. A usual procedure is to concentrate the foreign exchange management to the headquarter and to invoice and to pay subsidiaries in their local currency.
Furthermore, any lending and borrowing between subsidiaries and the headquarter should be performed in the local currency. That gives a platform for a central management of costs and risks for currency exchanges. An exception is given by one manufacturing firm. That firm has decided that each production unit must invoice in the currency of the purchasing unit. At the same time, it has to hedge such an invoice and to cover the cost of hedging.

The degree of variation is large between companies what concerns the type of products that are sold and the choice of currency for these products. For example, one industrial company sells 75% of its products in terms of projects, another 55% and a third one 10%. We find that some firms with customized products and with long term tenders did not include currency clauses. One firm said it is too expensive, and another firm said that we use currency clause only for very odd projects, when future uncertainty is high.

The choice of currency is especially important in case of tenders for large projects. In 1996 tenders were given in US dollars but other large currencies like, German Mark, Japanese Yen or Pound Sterling were used to a certain extent. On the other hand, general price lists were, and still are often given in the local currency. About 50% of the companies work actively with price lists in foreign currencies (the same in 1996 as in 2008). These price lists are often set for one year ahead but may be revised in cases of a rapid change in the inflation rate. A few other firms operate in markets where prices fluctuate day by day and are given in US dollars, Japanese Yen or Pound Sterling. Tender offers generate substantial economic exposures concerning projects with long-term transactions as such transactions are not yet contracted. Few companies have admitted that they are willing to present tender offers in small currencies, they prefer dollar in these cases. Certain firms did actually perform substantial trade in countries with small currencies. In such a case, the tender was always combined with a currency clause. Currency options were rarely used for tenders of that type as the costs for such an option is viewed as being too expensive.

For trade in most industrial sectors, the products are sold in the currency of the purchaser. In 1985 and in 1996 about 50% of the companies work actively with price lists in foreign currencies often set for half a year or one year ahead. Nowadays, price lists are only given for very standardized products as treasuries are aware of that price lists of that type generate substantial currency risks. Consequently, the price lists that exist are revised in cases of rapid changes in exchange rates or in inflation rates.

In 1985 and in 1996 US dollars, Deutsche Marks and Pound Sterling were the main currencies used for tenders. Nowadays, with no Deutsche Marks the Euro has taken a leading role. The introduction of the Euro currency has resulted in change for most of the companies that are focused on trade. In 1985 and 1996, price lists were given in a large number of currencies, which resulted in that many firms were regularly devoted to a large work to control the currency risks. Nowadays, the introduction of the single currency Euro has reduced the work with foreign currencies. A larger share of the transactions are netted, which implies a reduction in currency exposure.

For the Swedish firms with a small domestic currency it can be a competitive advantage to sell in the currency of the customer and to buy in the currency of the supplier. That implies a high degree of risk management. The respondents in some of the larger firms considered the choice of local currency as a service for their suppliers and customers, that they could use as a
bargaining tool. In most cases the foreign exchange risks are managed by the head quarter. As a consequence the subsidiaries will have to pay for their supply in their own currency and to sell their products in their own currency. In 1985 the choice of currency was often open to negotiations. A multi-national firm would find it easier to sell its products when the price was set in the currency of the customer. That is the main reason for that most firms in this study operate with a large number of currencies instead of pricing in the currency of the costs. When discussing this subject during the interviews made in 1985 many of the respondent said that they tried to control which currencies to use. Sometimes a corporate finance department had discussions with the sales department about priorities between sales currencies. When using the foreign subsidiary’s local currency the group could centralize the currency exposure in order to match payments and receipts. Swedish companies, being in a seller’s market, often use SEK as a sales currency, in order to avoid currency exposures.

In certain sectors a dominant currency is used like U.S. dollars for petroleum products, paper and pulp and Pound Sterling for copper (in 1996). The choice of currencies of denomination is often dependent on the sector in which the firm operates. For example, US dollar is the dominant currency for a company that sells minerals and mineral products. Pound Sterling is a currency often used for another company that exports machinery. One treasurer said: “We want to increase our assets in US dollars, because everything is oriented towards dollars.”

4.3 The Hedging Procedures

In 1985 we found that the main part of the companies being interviewed was hedging their transaction exposures according to the following principles:

1. Estimate future transaction exposures for a relevant set of time periods,
2. Plan to net out as much as possible of these exposures.
3. Then, the residual (net) exposure can either be hedged by forward contracts, local borrowing etc., or it can be left open to be exchanged in the spot market.
4. Hedge a certain percentage (say 50-75%) of these exposures month by month one year ahead.

Obviously, most companies at that time actually hedged both transaction (“contracted”) exposures as well as a potential part of their economic (“estimated”) exposures. One treasurer expressed it as follows: “We forecast transaction exposures a year in advance based upon a multi-lateral netting system. Then we cover about 50% of these amounts in order to allow for changes in the sales volumes”. Another treasurer stated “We don’t have any cash management system. We cover every morning 80% of our new sales. In average we aim at 70% cover, but in certain currencies we cover 100%.”

Today, and also in 1996, the majority of the investigated firms state that the use a “stair case policy”. For example, they may hedge 25% of the expected net inflow 12 months ahead, an additional 25% 9 months ahead, a new 25% 6 months ahead and the remaining 25% 3 months ahead. The argument for this policy is that the exposures get more and more certain the closer you come to the dates of delivery. Another example of this “stair case policy” comes from firms that state that they hedge their transaction exposures to 100% four months ahead. Beyond those four months they made a proportional hedging with a proportion of 40-60% for several cases. Motivations for using a staircase policy was mainly to maintain flexibility as
two firms expressed “we only hedge 50-70% of the exposed values just to preserve flexibility in case any estimated sales is not realized.” and “We would like to be flexible. That means that we hedge 30-60% of the annual flow of foreign currencies”. One firm hedges all currency exposures three months ahead and longer economic exposures are sometimes covered by using interest rate swaps.

Several firms do not separate between an economic exposure and a transaction exposure. They often include estimated but non-contracted transactions into their transaction exposures. On the other hand these firms seldom hedge 100% of such an exposure just because it is not completely contracted. Most firms measure their transaction exposures once a month and at least three months ahead. Two firms indicate that their estimations go up to six months and two other ones aim at a nine month planning horizon. For those cases, the transaction exposure is actually converted into one of economic exposure, as most transactions are estimated but not confirmed.

The economic exposures originate from several actions in a firm. However, the major source seems to be price lists and tender offers. One company, producing services in foreign countries, give tenders in local currency. Production capacity might be chartered from a subcontractor at the same time (and in local currency). If the tender is not accepted, there is a risk that the services from the subcontractor cannot be efficiently utilized, even if the production costs (in a reporting currency) are avoided. One firm gave the following comment: “The tender’s period is a difficult one. You do not know from where the raw material will come”.

The investigated companies have different degree of standardized and customized products affecting their choice of exposure measure. In our sample there are eight companies with very standardized products. Four companies with more or less only customized products, and five companies with a mix of customized and standard products. For standard products, often accompanied with a price list the transaction exposure are easier to predict compared to customized products. This holds to some extent also for estimating the economic exposure. Selling customized products the payment occurs during the production, and in discrete and in larger sums, all affecting the accuracy of exposure measurement.

Another source of long term economic exposure is the one of foreign direct investments. We found that these exposures are mainly hedged by currency loans. Currency options would be suitable instruments for hedging economic exposures of this type. However, those exposures are usually very costly to hedge as the market for long term currency options is rather thin. One construction firm declares: “The customer has to cover the currency risk. We can impossibly use long term currency clauses, and currency options are too expensive”. Another construction firm states that “It is too expensive to hedge everything. If we do so we take away the possibility to earn money”.

Related to this is the issue of delivery contracts which are difficult to handle, “You cannot estimate when you get the payments and how large they will be”. Some firms hedge long term delivery contracts by currency loans. Firms with price lists may handle this type of economic risk using currency clauses. However, most firms seem to rely on an active management until a contract is signed, especially when it comes to larger deliveries. We observed a difference among firms with standardized products and firms giving tender offers.
The use of interest currency swaps has not been very common among the investigated companies, over the 23 years. However, one firm being active in the large scale construction industry presented a case with an economic exposure as long as ten years or more. To manage the corresponding risk they used both currency loans and interest rate swaps. For the main part of the firms of today forward contracts are the most common instrument for hedging. About 8-10 firms confirmed a simultaneous use of options for that purpose. And, at least one firm does not consider that it is exposed to substantial transaction risks and leaves that exposure unhedged.

In 2008, tender offers were still the most risky activity for firms selling capital goods and related long term service contracts. A standard procedure recommended nowadays is to finance such a project by loans in the same currency as the contracted sales currency. However, many of the long term service contracts are still equipped with currency clauses.

Just a few companies were concerned about translation exposures except for the time when closing the accounts. Some treasurers measured the exposures regularly in order to reduce balance sheet risks. One of them expressed it as follows “We measure the translation exposure every quarter of the year. We may then use it when we choose the currency of the loans that we take in order to buy a foreign company.”. Another firm said “We must cover the equity in our foreign subsidiaries by loans in the same currency. For that purpose we take short term credits which we renew regularly”. One firm even performed a regular hedging on the translation exposure “in order to preserve the net capital intact”. All other firms did not hedge this kind of exposure.

Our results do not differ from other studies of currency management. Most firms measure transaction exposure currency by currency on the contracted net inflow of funds per time period (usually measured month by month at a predetermined date) and use derivatives such as forwards and options (see e.g. Collier et al 1990, Brown 2001, Dhanani, 2003), netting and occasionally leading and lagging payments (e.g. Dhanani 2004). In so doing, the transaction exposure is often used to estimate the immediate effect of unexpected changes in the exchange rates. A longitudinal observation made is that in 1985 and in 1996 many firms did hedge a substantial part of their non contracted economic exposures. Today most firms seem to be more cautious and concentrate their hedging to their contracted transaction exposures. As most of the trade nowadays concerns a period of 3-6 months from contract to payment with the use of staircase policy, the hedging will concern a corresponding period of months. That is a substantial change from 1985 and 1996 when most firms did hedge a large part of their non contracted economic exposures, which could run for one year or more.

4.4 The Use of Netting

In 1985 only some of our companies used bilateral netting. At that time it was unusual to include external transactions in a netting system. In 1996, one group used netting with its subsidiaries in the country of the parent company only. Seven of the companies operated a multilateral netting system. In most cases, netting was performed once a month. However, one firm did so twice a month, another firm every fourth week and a third firm once a week.
Low costs and a low float is usually the objective of netting. Certain firms with flows in many directions may net away 50-80% of their transactions. One firm estimates that the netting system will save them about 25 million SEK per year (1996). One treasurer gave the following comment: “The netting procedure takes us 10 days per month. Consequently, we cannot do it more frequently than once a month”.

For a few companies a netting system has not been a profitable approach even in 1996. One company almost balances its surplus and deficits country by country. That company makes a very few transfers from the subsidiaries to the head quarter. Another company in the financial sector borrows liquidity locally during certain days of a month. Another one with a permanent surplus of liquidity renews its portfolio positions at least five times a year. That company has established an internal bank in order to obtain an efficient portfolio management.

In 1985 and in 1996 several firms included both affiliated and non-affiliated companies in their netting systems. Often the non-affiliated ones were large customers with a stable demand for which it was rather easy to forecast the transaction volumes. Taxation systems, laws, and regulations give a framework for the accumulation of liquidity in different countries. Today this is not so common. Actually, only one firm did offer foreign exchange exposure services to some major customers.

Nowadays, the electronic revolution has resulted in that netting may easily be performed more often than once a month. One firm states that “we net as often as needed”, and about half of the firms perform netting daily. Otherwise, the same procedures are used nowadays as in 1996.

**4.5 The Use of Lead and Lag**

In year 2008 we found no firm taking active use of lead and lag. However, in 1985, there were still a number of firms that used lead and lag in order to reduce the currency risk exposures both from internal and external transactions. But the awareness of a good payment discipline was growing and one treasurer stated that “We want to keep a good reputation among our suppliers by paying in time”.

At that time many of the companies used lead and lag regularly for group internal payments. A couple of firms actively controlled lead and lag from their headquarters. For them it was an easy way to handle short time liquidity problems within the group even if it would not have any effect on the total exposure. Today this is often a natural part of the cash management system.

**4.6 The Use of Natural Hedging**

A natural hedge is available for a company, when payment inflows from sales in a foreign currency are balanced with equivalent outflow of payments for purchasing and production in the same foreign currency. The netting of the cash flow is a measure on the extent to which a firm has a natural hedge. Increasing the natural hedge can be done by strategic decisions on e.g. changing suppliers into other currency areas, by FDI in production or sale capacity, the location of new R&D activities, or to pay salary in different currencies. Research has found that FDI reduces the economic exposure (Miller and Reuer, 1998). However, it seems that
increased network of activities through location of subsidiaries do not reduce the exchange rate exposure. Geographically dispersed firms tend to use financial hedging to a larger extent and operational hedging seems only effective in combination with financial derivatives (Allayannis, Ihrig and Weston, 2001). This supports the idea that operational hedging is a complement to financial hedging rather than a netting strategy (see Kim, Mathur and Nam, 2006).

In our study all the companies have more or less wide spread export activities. However, it was nearly an unanimous answer that export strategy, the location of R&D and other FDI:s was not directly influenced by the currency exposure. The choice of markets where often described as finding opportunities from logistical and other cost minimization or revenue seeking rationales. Thus, we can confirm the standard problem of natural hedging which is to find purchasing or production locations matching the sales currencies regardless.

Three respondents said that the decision on where to invest in R&D facilities mostly depend on where to find centres of excellence. All the respondents saw the positive effects of creating a natural hedge, but only one said that it actually had affected any strategic decisions. Our results are somewhat contradicting Dhanani (2003) who found that the investigated firm actually takes use of operational hedging, and that this hedging is a complement to financial hedging. Moreover, Dhanani and Grooves (2001) found that MNCs are seeking to minimize their strategic exchange risks by operative hedging and that financial hedging often was short termed. This is not the case in our study. We have firms that use financial instruments for one year hedging, and even use interest swaps and currency loans to hedge up to ten year long contracts. Dhanani and Grooves (2001) found that none of their investigated case companies had decided the location of a new production facility.

4.7 The Use of Bank Services

Since in 1996 it seems as if most firms have established an evaluation system in order to obtain more efficient bank services. In each country several banks are approached in order to obtain more competitive services. After that the best banks have been chosen, detailed contracts are set up for a period of 2-3 years. The following comments illustrate this situation:

- “We have had 50% of our Swedish services with Bank A and 50% with Bank B. But last year we changed that to 70% with Bank A and 30% with Bank B. The main reason was that Bank A offered much better services abroad.”
- “We make use of five banks for the main part of our transactions – Den Danske Bank, Handelsbanken, Nordea, SEB and Swedbank”.
- “We operate with about 30 banks, out of which one Swedish bank is a coordinator, 10 banks are the main foreign banks, 10 other banks are supplementary banks and the remaining ones are used only sporadically”.

Also in 1996 most firms performed a regular rating of existing and potential banks in order to assure that they get the best services as possible for their money. Most firms did put a stronger emphasis on a service quality than on low price alternatives. It was a common practice to use one bank (say the Citibank) for international transactions and another one (say SEB) for their local services. One firm may change bank every other year in case the service qualities have not been satisfactory. Many of the firms mentioned the same international bank as the
preferred one for their international payment services. Some other firms split between different banks. Finally, there were firms that switch regularly between banks. It has though been an increased focus on evaluating bank services and the number of banks used.

It seems like banks have become more specialised, at least looking form the companies’ perspective and their answers. For example, one Swedish firm selling capital goods reports that it uses one bank for payments inside Sweden, another bank for its payments in US dollar, a third bank for payments in Denmark, a fourth bank for payments in France, and a last one for liquidity needs. A British firm also selling capital goods reports that one third of its foreign sales are in US dollar, one-third in EURO and one-third in pund sterling, and they use different banks for different currencies.

5. Organization and Policy

A vast amount of literature confirms that netting and strategic hedging are important tools for the firms. For example, when interviewing 12 large MNCs, Dhanani and Groves (2001) found that companies make operational adjustments and actively managed their strategic exposure, and that these actions were often planned and executed by the financial department. It is obvious that the organisation of the foreign exchange management affect the ability to effectively manage the currency exposure even if not directly investigated in depth in earlier research. There is a need for some centralisation in order to deal with these issues in an efficient manner.

5.1 The Formation of the Treasury

We have analyzed the management of currency exposures as a part of the international financial management of a firm. In small and medium size firm these activities often take place inside its department of accountancy, and are often administrated by a single person. For the large firms the currency management is performed in a special unit either inside a certain treasury department or financial department or as a separate department. We found that the tasks for such a unit/department of “Corporate Treasury” are often specified as in Table 1.

Table 1. Task and Topics for the Corporate Treasury

<table>
<thead>
<tr>
<th>Tasks for the Corporate Treasury</th>
<th>Topics</th>
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<td>• Formation of the capital structure</td>
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<td>• International cash management</td>
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<td>• Liquidity management</td>
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<td>• Currency exposure management</td>
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<td>• Interest rate risk management</td>
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<td>• Bank relations</td>
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<tr>
<td>• Value and finance of debt, short &amp; long term lending</td>
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</tr>
<tr>
<td>• Control and transactions of international payments, currency exchange and losses in float</td>
<td></td>
</tr>
<tr>
<td>• Control and placement of cash surplus on collection accounts and currency accounts.</td>
<td></td>
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<tr>
<td>• Forward &amp; future contracts, currency options and swaps, etc</td>
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• Borrowing and lending to fixed or floating rates, interest rate swaps, etc
• Different banks for different currencies and different tasks such as payments, lending, finance of long term investments.

A treasury function may be organized in different ways. Among our respondents a classical approach was to form a special department for these activities. It could either be formed as a “cost centre”, or as “profit centre”. Another approach of organization is to form the treasury function as a special subsidiary, which may be treated as an “internal bank”. In 2008 only three companies operated their treasury as a profit centre. That was a substantial change since in 1996, and reasons given by companies were that excessive speculation has led to substantial losses, and that a new risk avoidance policy is better suited in a cost centre. In two firms the profit centres are separate companies, which may sell their services to other companies within the group or in one case even outside the group.

In many firms, the board has formed a special Asset & Liability Committee (ALCO) in order to follow up regularly the actions taken by the treasury. Such a committee may meet once a month. One company has replaced an ALCO with a Credit Committee given the purpose to hedge the balance sheet. This committee can even suggest investment strategies aiming at reducing currency exposure with so called natural hedges.

We have categorized all companies included in the 2008 interview round as either centralized (8 companies) or very centralized (10 companies). In the very centralized group the treasury sets the policy, often act as an internal bank, collect information on all currency flows, and conduct netting and hedging. These tasks are performed either as a cost or as a profit centre. In firms belonging to the centralized group, head CFO at subsidiaries are responsible for the currency risk and responsible that the policy is met. It is very rare that subsidiaries are allowed to perform currency or interest hedging on the market themselves (only one company). Certain studies have shown that it is most efficient to operate with a centralized treasury (Collier and Dennis, 1985, Dahnani 2003). Central coordination can negotiate superior financial contracts compared to each subsidiary, which allows the company to take full advantage of internal netting. A disadvantage with such a principle is that there will be little stimulation locally to utilize local conditions. The manager of one subsidiary has expressed these fears as “We have had enough of centralization. It takes away the competence. And people will lose interest in being efficient managers”. In one company it was up to the subsidiaries to find out if the local bank may provide it with better conditions than the treasury function. If so, they were allowed to use the local services. Back in 1996 the treasury in many firms was more decentralized than it is today. It has been a trend towards centralizing these activities.

Over the period from 1996 to 2008 more and more firms do hedge their transaction exposures centrally in the head quarter. We only found one firm that instead instructed each subsidiary and division how to hedge its own net exposure. Such a hedge may be done either with its local bank or in terms of internal forward contracts with the treasury. The headquarter estimates the remaining exposure for the end of each month and hedges a relevant part of
them. Another consequence of the increased centralisation is how firms deal with the transaction exposure with the aim of an effective cash management. A majority of all foreign transactions are organized as bank payments without reimburses or similar instruments. A procedure that is recommended is to direct these payments into currency accounts of the headquarter or into collection accounts for the subsidiaries and then reported to the headquarter.

One conclusion made by Dhanani’s (2003) is that industry will shape the management processes. We cannot find such clear evidence, when looking at our cross section case with companies operating in different industries or between UK and Swedish based companies. However, it seems that firms with standardized products seem more centralized than firms with customized products. Furthermore, in 1985 and especially in 1996 we find a size effect that larger firms tend to be more decentralized than smaller ones. Today, in 2008 this difference is not that obvious as larger firms tend to be more centralized than earlier.

5.2 Policy Documents

The control of the treasury function may be formalized in terms of a “financial policy document”. Such a document will then include a set of rules specially designed for currency issues and for interest rate policies. Below is an example from a firm of what its financial policy included:

- currencies the company is dealing with,
- ways to measure currency exposures,
- types of currency risks,
- the time period for currency management,
- the financial impact of the policy.
- restrictions because of currency exchange controls.
- acceptable deviations from the policy.
- the responsibility for each organizational level within the finance function.
- a general policy for how to handle currency risks.

Back in 1996 the interviews demonstrated significant differences between British and Swedish companies in how to form a policy for and how to control the management of the foreign exchange exposure. In some cases the policy was made operational in terms of frames and limits for the daily exposures/positions. In other firms, the corporate finance department operated with a finance committee which made the decisions on a day to day basis. Comparison with the situation in 1985 there has now been a dramatic change as in those days only a very few companies had formulated a written policy. Today, all of our larger firms have a written policy, and only two of the small companies admitted that a written policy did not exist. Among those who have such a policy nowadays, that policy is signed by the managing director or by the treasurer, and approved by the special committee, or the head of corporate finance, and the board. In most cases the respondent said that their policy document often is expressed in general terms. Some companies have formed their policy in terms of maximum and minimum limits for the amount that has to be hedged or as expressions in general terms about the exposure balance. Some companies let their treasury department form the group policy and implement it within the rest of the group. Such a policy is more oriented
towards a control of financial tasks on other organizational levels than on the treasury level. Finance committees, responsible for daily operations, are used in a few companies especially what concerns interest rate risk management.

The policy is also used for educational purposes, introducing both new employees at the treasury department as well as responsible managers at subsidiaries about the operations and routines. One respondent said that their policy was distributed to many sublevel managers and sale persons in order to make them aware of the risk related to foreign exposures.

Just a few companies had not made any major changes in their policy documents over a long time period. The most common answer to us was that the policy has often been up for discussion (at least every year) and that since in 1996 the policy has changed due to different factors such as a new netting and administrative systems, new hedging techniques and new guidelines regarding risk mandates. The last factor was seen as very important as it relates to the overall objective of the treasury department.

The objectives for the Corporate Treasury were often given in the following terms:

- to maximize the return on financial management,
- to minimize the risks caused by variations in currency exchange rates and interest rates,
- to minimize the costs of payments, domestically and internationally,
- to coordinate all inflow and outflow of liquidity,
- to provide the departments and subsidiaries with financial services that are competitive,
- to treat issues of taxes and regulations in an efficient way.

We asked the respondents if these objectives were formalized and if they were related to the overall objective of the firm. Seven out of eighteen firms had not declared any formal objective. One respondent said that “we have no formal goal but we cover all risk except business risk. This is in line with the overall goal of the company”. Not all firms with a formal objective did agree that it was related to the overall goal of the firm. One respondent put it as “Our goal is very specific but we cannot say if this goal is related to the overall goal of the firm. We shall reduce risk”. The objectives differ in the level of specification. Some corporate treasury has even quantitative measures like “the impact on overall goal profit should be less than XXX dollars”, while others had more qualitative measures like “Stability and to measure and hedge all transaction risk” or “our goal is to take no exchange rate risk”

6. Respondents’ Views on Important Factors Influencing their Foreign Exchange Management

So far we have discussed the respondents’ answers on questions common for the interviews in 1985, 1996 and 2008. In this section we report the respondents’ answers on specific changes that were explicitly expressed in this last interview round. It is difficult to pin point each change that has taken place and that may have had an effect on currency hedging strategies and on the organization of currency management. Both macro factors, such as changing interest rates or inflation, oil price volatility and turmoil following geo political events, and
micro factors such as new administrative systems and new hedging derivatives adopted by organizations may all have different impact depending on each company’s unique business setting. We asked the following explicit questions:

*What major trends on the international markets have had most influence on decisions made during the last years concerning foreign exchange exposures and interest rate exposures:*

1. New techniques for hedging and administration?
2. The introduction of the Euro-zone?
3. The weakening of the Dollar?
4. The increased focus on shareholder value?
5. The new legislation

The development of new techniques refers both to new administrative systems and new more advanced hedging strategies. None of the respondents said that they had employed new hedging derivatives to a large extent, even if such new instruments were promoted by their banks. Most respondents find them very expensive, and one respondent described them as “nothing more than the emperor’s new clothes”. Instead, many respondents said that they are using simple hedging techniques, such as forward contracts or loans in the actual foreign currency. One treasurer accentuated that “we want simple products, which are easy to manage. Even no options – they are too complicated”. However, some of the companies have allowed their staff under certain mandates to explore new derivatives. The purpose was to keep the staff updated on the development, and assure knowledge within the company. On the other hand the adoption of new treasury management systems (TMS), often interlinked with standard administrative overall business systems, such as SAP, has been adopted and refined by almost all companies. For the 23 years observed we found the importance of the rapid development of information systems. When in the 70s and 80s it was a hard task for a MNC to manage netting and hedging once a month. Nowadays, modern information systems allow many MNCs to perform netting once a day.

In some companies new TMS have also influenced the organizational structure, and changes how to measure the exposure. For one company the new system was introduced after an acquisition of a company using a more advanced system. Other firms have bought special TMS, and almost every firm in our sample have the possibility to instantly measure the exposure and take immediate actions. The few companies that still lack top of the range systems are in the process of introducing them. The introduction of new systems was also accompanied by increased centralization of hedging decision making.

The introduction of the Euros to replace a set of different currencies has made the management of the foreign exchange less cumbersome. The introduction of the Euro-zone seems to have had a very limited impact on the companies in our sample. The answers range from no impact at all, to a small relief not having to measure the same amount of currencies. Two companies in our sample actually find it slightly negative when the reduced amount of currencies decreased their comparative advantage in exposure management.

Some respondents have stressed that the choice of dollar as the trading currency has declined in favour for the Euro. This picture was not shared by others, one saying that their customers after the introduction of the euro zone, switched to dollars, and another respondent said that
the dollar will remain as the major trading currency, and even increase with the increased globalization.

A fourth factor that we expected to have influenced the management of foreign exposure is the increased focus on the shareholders. Seven of the companies (three English and four Swedish multinationals, listed on stock market) said that the increased focus on shareholder value has put increased attention on the effects foreign exchange exposure. Policy changes has been preceded by a discussion on what type of currency risk that should be hedged. One company has decided not to financially hedge any currency exposure. The company representative argued that the risk is diversifiable by their owners, and that they operated in a market where long term negative currency changes could be passed through to their customers. Another respondent said that an increased focus on shareholders has lead to increased centralization.

Ronner and Blok (2001) have investigated the consequences of FAS 133 introduction on foreign currency exposure hedging. The introduction of FAS 133 might lead to strategic choices not benefiting shareholder wealth. Firms implementing FAS 133 at lower entity level will increase their systems, labour and bid-offer spread costs. It seems also that the new accounting standard for derivative instruments have a prudent effect on firms risk management (Zhang, 2009). The implementation of IFRS in our investigated companies has lead to increased centralisation. The new reporting standards, depicting how to report the value of different hedging positions, more or less required a centralised unit collecting information and accounting knowledge. The respondent said that using a decentralised decision making was not possible, as knowledge on how to report these issues, is too expensive to have at different sub units. For firms already centralised IFRS has not changed the organisation. The new accounting standard was considered a new administrative burden. To summarize the results on how different factors have influenced the foreign exchange management it is possible to argue that the introduction of the Euro zone, new administrative systems and the new IFRS system together with an increased focus on shareholders have had an centralising effect on the organisation of foreign exchange management within the investigated companies.

7. Conclusions

Over the period from 1985 to 2008 the financial markets have expanded tremendously. At the same time most firms have become more cautious in the control of international payments and foreign exchange exposures. It seems that advanced cash management and foreign exchange management systems have allowed for a more centralised organisation. This centralisation has also been a result of an increased focus on shareholder maximisation and new legislation in the form of new accounting standards. The introduction of the Euro zone seems to have had a minor effect on our investigated firms. Many globalised Swedish firms try to take the advantage of trading with a “small” currency, and offer their suppliers and customers to trade in their chosen currency.

Some firms say that earlier mistakes in taking positions have made them more risk averse. The respondents mostly agree on being risk averse, and a majority, do think that the foreign exchange market is efficient enough to avoid taking positions. However, some firms still take
positions and allow their traders to have a mandated amount for speculation. This selective strategy is profitable according to these firms.

Firms with concentrated ownerships and firms with family owners seem to be more risk averse, and centralized in their FEEM. Most respondents have an idea of shareholder maximisation, that it is their task to minimise the risk for their owners, and that they do it better. They do not discuss risk in terms of systematic, and non systematic, and they strive for smoothing revenues, avoiding liquidity crises. To our notion it is the management perspective rather than a shareholder perspective that prevails within many firms. Agency costs, financial distress costs, and bonuses seem to affect risk taking, and are factors that explain the FEEM procedures of firms.

The reasons for a mismatch of currency flow are the same today as in 1985. Tender offers are still a major source for exposure and it has become an important task dealing with this risk. Other determinants for currency denomination are that some currencies are tradition within different sectors and competitive considerations. Affiliated organisations are not included in the netting procedures which some firms used to do earlier.

The use of financial hedging technique has not changed dramatically. The use of forwards, and options are still the most common, and new derivatives are not so popular. It seems like the time horizons for hedging has decreased. In 1985 and in 1996 many firms did hedge a substantial part of their non contracted economic exposures, up two 12 months. Today the most common is between 3-6 month and concerns contracted transaction exposures. Netting is easily performed and is made daily if necessary within firms with advanced systems. In 1985 a very few firms performed multilateral hedging, today almost all firms do. In 1985 many firms estimated their expected flows in terms of economic exposures. Today, most firms concentrate on short-term transaction exposures. Those companies have observed that if they hedge economic exposures they will actually take the risk of contracting future exchange operations for transactions that actually are uncertain.

Reducing operational exposure by taking advantage of a natural hedge is not a primary goal in the companies’ strategic decision making. Location of R&D, new production facilities and new markets is guided by other factors. The use of lead and lag is a interlinked procedure within the cash management system.

To operate FX exposure within profit centres has declined compared to 1996. One reason for this change was the excessive speculation during some earlier periods which led to substantial losses. New policies are better suited in a cost centre. It also seems like many multinationals operate today with a more stable customer base compared to 20 years ago.

Finally, the controversy between pro hedging and con hedging has not yet been solved. Many treasurers state that they have taken the position not to speculate. On the other hand they may well hedge expected exposures in spite of that such actions may well expand the currency risks. So even if they support the arguments pro hedging a new controversy has emerged in terms whether to hedge or not to hedge economic exposures. That issue has not yet led to a satisfying solution.
References


Appendix 1
Interview (compressed)
Personal Interviews – Guide

1. **Choice of currency of Denomination**
   Which currencies are used for tenders?
   Which currencies are used for international transactions?
   Which currencies are used for internal loans?

2. **Foreign exchange cash management**
   Which formal procedures do you have for your cash management?
   How are the cash management systems operated?
   Do you use several banks? Why? Are the bank services efficient? Do the prices correspond to the costs?
   Which are the gross and the net amounts of transaction?
   How often do you perform netting and payments for transactions?
   Do you include both affiliated and non-affiliated companies?
   Where and how do you accumulate liquidity?
   Do you have separate systems and procedures for internal and external payments?
   Which is the use of lead and lag?
   Can you give a short overview of the currency stream?

3. **Currency risk exposure**
   Which are the measures of currency exposure?
   Which are the elements of these exposure measurements?
   Are tenders included in these exposures?
   How can you use these exposures to reduce risk?
   How frequently do you measure these exposures?
   From where do you get data for these exposures?
   From where do get data for these measures and which data do you use?
   Do you use alternative strategies to reduce currency exposures? Why?
   What do you use the currency exposure for?
   Follow up?
   Short-term operation activities?
   To determine the extent of forward cover?
   Do you cover 50%, 75%, or 100% of the exposure?

4. **Interest rate risk exposure**
   Which measures do you use? Do you manage short term or long term?
Which policy do you have?
How does this policy interact with the foreign exchange risk management?
Which are the proposals for future changes of the management of FEE and IRE?

5. Organisation
Is the organisation of FEE and IRE centralised or decentralised?
Which influence does the organisation structure have on the currency risk management?
In which way does your financial department participate in the management of different exposures?
Which emphasis does the management put on the management of FEE and IRE?
When and why have there been changes in policies?

6. Goal congruence
Have your organisation declared a formal goal for your FEE and IRE?
To which extent is this goal related to the overall goal of the organisation?
Not at all To a high extent
Which of the below statements will describe in the best way your definition of risk.
   a) The probability that the outcome will be different from expected outcome
   b) The probability that the outcome will be worse than expected
   c) The length of the exposure
   d) The amount of exposure in relation to firm size (sales)
   e) Other
To which extent are you willing to take on risk in order to obtain a better return?
Not at all To a high extent
Would you consider your export activities as very diversified or do you focus on special geographic areas?
Diversified Specialised
Would you consider your R&D activities diversified or focused on specific geographical areas?
Diversified Focused
The following statements concerns your/your company’s view on FEE decision making
1. Your FEE-strategy decisions are made solely on the value they create for the shareholders
2. A successful company has high profitability, while it is exposed to, relatively speaking, less FE-risk.
3. By eliminating risk managers increase the possibility of earning high returns
In your opinion a successful manager of FEE is good at:
   a) Choosing the optimal level of exchange exposure.
   b) Taking advantage of short term mispriced currencies
In your opinion your decisions concerning hedging of currencies can be considered as:
Highly risk averse risk neutral risk loving
A FEE manager’s risk aversion varies over time
Agree Disagree
The risk aversion will change as the decision-maker becomes more professional/skilled.
Agree Disagree
There is a level of attractiveness/thrill in the exposure to risk
Agree Disagree
From a shareholder perspective it is better to diversify by spreading equity among currency regions rather than allowing manager to hedge exposure
Agree Disagree
The consequences of taking much risk are primarily seen in an economic recession?
Agree Disagree
Which of the following statements describes best your willingness to accept or avoid risk in FEE or IRE decisions?
   a) we never accept risk
   b) we accept risk in order to receive profit
   c) we are trying to match our risk with that of competitors
d) We are more aggressive in taking on risk compared to competitors

e) We are less aggressive in taking on risk compared to competitor

Which of the following statements do you think best describe the markets that you operate in?

f) Fierce competition with many competitors

g) Fierce competition but with few large competitors

h) Fierce competition with many foreign competitors

i) Fierce competition with few foreign competitors

j) Ease competition

k) Monopoly situation

Which of the following statements describe in the best way the macro factor relations presented below?

a) The purchasing power parity holds in the long run/short run (the law of one price) (the difference in inflation are perfectly matched by differences in forward and spot rates)

b) The fisher parity holds in the long run/short run (the capital market equilibrium) (the differences interest rates are perfectly matched by differences in inflation rates)

c) The expectation hypothesis holds in the long run/short run (forward rate = future spot rate)

d) Interest rate parity holds in the long run/short run (todays interest differences are perfectly matched by differences in forward and spot rates.

Do you think your company are doing a good job in hedging FEE and IRE compared to competitors?

Better average worse

Do you think your company takes on more/less risk then competitors?

More risk average less risk

What major trends on the international markets have had most influence on decisions made during the last years concerning FEE and IRE?

a) The development of new techniques for hedging purposes.

b) The change in fluctuation in interest and currency rates.

c) The introduction of the Euro zone.

d) The increased focus on shareholder value

e) Other

How has the introduction of a single currency, and the fact the Sweden/GB did not join, affected your company’s profitability?

How has the above affected your work with FEE and IRE?