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Managing transaction exposure in MNCs

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1 Introduction

Risk management has developed into one of the most important issues that MNCs tackle nowadays. With accelerating internationalization, foreign trade and global integration, risks related to foreign exchange take progressively more attention from managers, treasurers and risk management departments alike. After the 2008 financial crisis, most companies around the world have changed their views regarding importance of appropriate risk management policies. Coupled with intensifying global competition, unstable global economic growth and high uncertainty, enterprises face new challenges in developing and sustaining their competitive advantage. Despite lower barriers, transaction and logistic costs, firms nowadays have to cope with more unstable exchange rates, which can affect their whole business operations.

The cornerstone of this paper is managing transaction exposure to foreign exchange risk in MNCs. While there is diverse research regarding this matter, this paper has the objective of summarizing, adapting and drawing conclusions from a global perspective.

Chapter 2 outlines the general definition of a MNC, briefly explaining the various types of companies and the specific business activities that classify them as such. The notion of "born global" companies is clarified in the context of including them in the MNC category.

Chapter 3 continues by defining foreign exchange exposure. Various types of exposure are defined and discussed. The final focus is transaction exposure, the sources of transaction exposure and its lifespan.

Chapter 4 gives a comprehensive view on the reasons for MNCs to hedge their foreign exchange risks. A combination of theoretical approach and analysed recent events underline the importance of currency risk management. The influence of recent economic developments on currency exchange rate volatility provides a good fundamental view on the rising necessity for hedging.

Chapter 5 comprises the most common risk management strategies employed by enterprises. Both methods and instruments are comprehensively defined and supplied with appropriate background information.

Chapter 6 presents a set of examples on common hedging strategies, analysing them particularly as well as comparatively. Special attention is given to the usage of financial markets for hedging purposes.

Chapter 7 tackles the practices of foreign exchange risk management in MNCs around the world. Employing the most recent data available, the chapter represents a compilation of surveys by Wells Fargo, Barclays/ACT, Bodnar et al. and Kantox FX. This compilation presents not only a global perspective in regards to risk management in corporations, but also points out the contrast between large MNCs' hedging practices versus SMEs'.

The paper concludes by synthesizing the information provided. It highlights the importance of prudently developing transaction exposure risk management practices. Furthermore, it displays the significance of extending the development of more risk management practices to smaller companies, placed under the term of "democratization".

2 The Multinational Corporation

The meaning of the term "corporation" is strongly related to the Latin word "corpus", meaning a "body", or in this case a "body of people". The general definition of a corporation is that it embodies several individuals into one entity, authorized and recognized by law. A Multinational Corporation (MNC) or Multinational Enterprise (MNE) is generally referred to as an organization with operations in more than one country. Butler (2012: 3) refers to MNCs as companies with investment or financial interests in more than one country. Eiteman, Stonehill and Moffett (2013: 2) specify that MNEs can be for profit as well as non-profit organizations, conducting business through foreign subsidiaries, branches, or joint ventures in various host countries. Whereas Rugman, Collinson and Hodgets (2006: 38) refer to MNEs as companies headquartered in one country but with operations in one or more other countries.

Multinationals are some of the most popular companies in the world, being present in different markets exposes more costumers to their products and brand. Rugman et al (2006: 143) also mention that the very well internationally integrated MNCs are called "transnationals", meaning that they develop a special cultural awareness, adopting and appreciating the differences. Moreover, transnationals encourage continuous change and adaptation, the most important concepts in sustaining competitive advantage.

Cavusgil and Knight (2009: 1) went further by discussing the born global firms. These businesses seek competitive advantage from the resources and sales in multiple countries. McKinsey & Co. defines "global companies" as those who have a "significant proportion of their sales, assets or employees outside their home market" (McKinsey&Co., 2012: 2). Furthermore, they coined the term "born global" in 1993 to signify the companies that internationalized much earlier than usual. These companies are characterized by internationalization within the first three years of business, are usually represented by SMEs¹ with less than 500 employees, and can be observed in both developed and emerging economies. The reason behind this new phenomenon lies in the rapid globalization processes, which lead to a dramatic increase in international trade. Consequently, the managers of born global firms regard the whole world as their marketplace from the very beginning, distorting the general rule of building a strong

¹ Small and medium sized enterprises

base in their home country first. As a result, this highlights the potential of small companies to become more dominant in the international markets, diluting the impact of big corporations.

As a conclusion, it can be said that even though MNCs are most commonly associated with large enterprises, Born Globals can be fully integrated under the general definition of a MNC without infringing the limits it imposes. It can be considered as an evolved element due to rising globalization tendencies, and therefore a need to update the general definition comes in place.

From the various advantages and challenges that MNCs face nowadays, this work will be discussing the financial aspects, namely the influence of foreign exchange (FX) rates on the business operations of the MNCs, with a specific focus on managing A/R² and A/P³ exposed to floating currency exchange rates, as well as instruments of hedging the aforementioned accounts' positions.

² Accounts Receivable

³ Accounts Payable

3 FX Exposure

As previously noted, MNCs can have a significant part of their operations in various countries. As almost no operation can be opened and closed immediately, there arises a time delay during which they are "exposed" to the risks of value alteration by the floating exchange rates of those currencies with which they are operating. Academics can have quite divergent views regarding the division and grouping of the multitude of a MNC's foreign exchange exposure types and situations, nevertheless, Döhning (2008: 5) mentions that three main dimensions are most relevant:

1. Certain versus uncertain transactions
2. Long run versus short run
3. Cash flow value versus asset valuation risks.

Moreover, Eiteman et al (2013: 276) seem to take the abovementioned framework further, mentioning two main categories and three main types of exposures:

1. Based in accounting
 - a. Transaction exposure
 - b. Translation exposure
2. Arising from economic competitiveness
 - a. Operating exposure

While agreeing with Eiteman et al and Döhning about the general framework of exposure types, Butler (2012: 212) introduces a slight new point of view, mentioning two main categories:

1. Economic exposure
 - a. Monetary (contractual) exposure (Transaction exposure)
 - b. Nonmonetary (non-contractual) exposure (Operating exposure)
2. Translation exposure (Accounting exposure)

In this work, the author will focus mainly on the Transaction exposure aspect of MNCs, as it is one of the front lines in FX risk management. However, some introduction and details of all the types of FX exposure is important for the further development of the subject.

3.1 Translation exposure

Translation exposure refers to the risk of value alteration in terms of the balance sheet of the company caused by changes in FX rates. Also called Accounting exposure, it arises from "translating" financial statements of foreign subsidiaries that are denominated in a currency different from the home country (Eiteman et al, 2013: 275), it may or may not be related to the end value of the company (Butler, 2012: 214), and is usually measured in net terms (Döhning, 2008: 2).

As this risk directly relates to external reporting of an enterprise, it is quite clear that the information indicated in the consolidated reports of a MNE can be quite misleading. Considering the various stages of nominal value conversion, it can be time consuming, or even impossible, for investors to objectively analyse the real changes in the asset value of the MNE. Consequently, this can result in unpredictable influence to the MNE's public image.

3.2 Operating exposure

Operating exposure refers to the risk of changes in the present value of future uncertain cash flows affected by the changes in FX rates (Döhning, 2008: 2). Different variations of the name can be present in relevant academic literature, such as economic exposure, competitive exposure or strategic exposure and it can be greatly affected by unexpected changes in currency rates (Eiteman et al, 2013: 276). In addition, a nonmonetary exposure, it is of great importance for appropriate long-term operation of a company. (Butler, 2012: 219)

In comparison with other types of exposures, the economic ones are most difficult to manage as it involves a prudent and objective inquiry of the firm's operation locations, processes, and currencies involved, as well as aggregating these results into meaningful reports that can be translated into effective measures. Many MNCs fail to grasp the whole gravity of operating exposure. Acknowledging and identifying this risk is only the simplest step a company can take, mitigating it requires appropriate technology, talent and efficacy.

3.3 Transaction exposure

Transaction exposure, the focus of the current work, represents the risk of alternating value of certain, committed future cash flows by volatility in FX rates (Döhring, 2008: 2). It represents obligations incurred prior to the change in FX rates but with a settlement date after the change (Eiteman et al, 2013: 275). It is a monetary, or contractual, exposure that can affect both assets and liabilities of a MNE (Butler, 2012: 212), and usually the most affected types of balance sheet items in this category are Account Payables and Receivables.

The condition of being contractual, having a certain nominal value, is what makes transaction exposure easier to manage. Nevertheless, it involves a great deal of estimations of benefits versus costs of managing this exposure, and many companies nowadays still consider leaving it open when the value at risk is not over their specific quota, or when the expected volatility is sufficiently low.

According to Eiteman et al (2013: 278), transaction exposure can arise from any of the following:

1. Purchasing or selling on open account in a foreign currency
2. Borrowing or lending funds in a foreign currency

This work will focus on the purchase and sale on credit, invoking the importance of hedging of receivables and payables exposed to currency exchange risk.

The most common transaction exposure can be broken down to additional three types of exposures, represented below in

Figure 1.

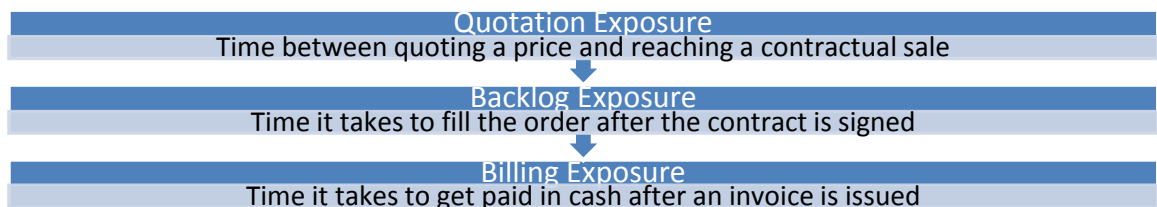


Figure 1. The Life Span of Transaction Exposure

It can be seen how specifically managing transaction exposure becomes more complex the more stages and time are involved in the process of doing business. Therefore, an

appropriate use of hedging is crucial for the success in the increasingly competitive markets nowadays.

According to Eiteman et al (2013: 289), "anticipated exposures", namely quotation and backlog exposures, have a tendency to be unhedged due to the imprecise and allegedly low impact nature of these transactions. However, depending on the risk profile of the company, some enterprises are taking a conservative stance and hedge against all possible exposures.

To conclude, as the main types of exposures and the sources of their existence are provided, specific "persuasive" reasons have to be analysed as to why MNCs should hedge their exposures.

4 Reasons for hedging

Hedging is characterized as taking a position that will offset the changes in value of an existing position. It can protect the company from a loss of operations' value, but also limits the gain in value (Eiteman et al, 2013: 277). Therefore, reasons will be discussed as to how important hedging can be for a company and to what degree it can be applied.

While the exposure to foreign exchange rates of MNCs' operations has been established, it is worthwhile to display some further analysis and examples. The first part in this section will provide a mostly theoretical basis for hedging and the degree deemed reasonable, whereas the second part will outline some important recent events that have dramatically affected exchange rates.

4.1 Theoretical approach

The first and foremost example is the recent research done by Merck & Co. on the distribution of cash flows depending on the hedge condition presented below in Figure 2 (Kong, 2012).

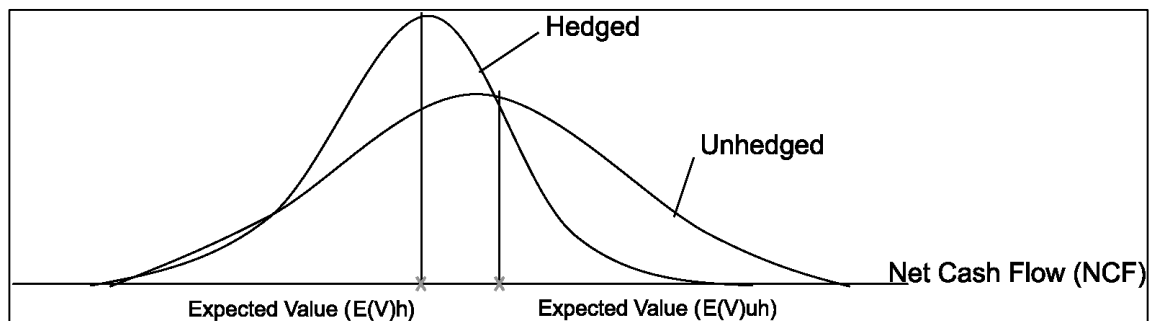


Figure 2. Comparison of hedged and unhedged positions' cash flows

It can be seen that the average expected return of a hedged position is higher than an unhedged one. A hedged position is also concentrating other values more around the average, therefore minimizing the variance of expected value population from the mean. According to basic financial theory, a company's value is represented by its expected future cash flows; the term "expected" signifying the fact that they are uncertain. Establishing these expected cash flows within more certain boundaries can prove

important for the company's strategic purposes, as it gives more clarity about where it stands and what it can achieve.

Similar to any theory and model, there are both supporters and opponents. The main supporter's arguments are pointing at the reduction of risk, increased planning and investment capability, and that markets are mostly not in equilibrium because of many imperfections and unexpected external influence. On the other hand, opponents cite the sometimes-high cost of hedging, these costs affecting the company's profitability, by not increasing the expected cash flows and consuming existing ones.

Kong (2012) mentions that it is important for MNCs to recognize to which degree hedging has to be employed. He argues that corporations need to identify the more "severely affected" positions for full hedging, rather than using a "hedge all" strategy, leaving the less impacted ones to partial or natural hedge. By this, the company can reduce costs, and attain its strategic objectives better.

To conclude, it can be said that while hedging does not increase the expected value of operations, it can certainly reduce the negative impact. As a consideration to why reducing negative impact is important, it can be said that because companies are mostly managed by humans. Consequently, they tend to have inherently human features in their behaviour. Therefore, companies can express a "tendency toward loss aversion" (Shiller, 2012: 160). Meaning that they can be "pathologically avoidant of even small losses", especially when it comes to "out-of-pocket losses" rather than opportunity costs (Kahneman, 2003: 1457). This behavioural economics theory can formally explain why minimizing risk is sometimes viewed with much higher priority than increasing returns.

4.2 Recent Examples

To provide a meaningful reason for MNCs to hedge, one does not have to search too far back for evidence. Recent developments in the FOREX markets have left businesses, investors, central banks and most of all, ordinary individuals, numb. The examples discussed further comprise a general analysis on the "SNB shock", "ECB QE" and the "Russian shocks".

4.2.1 The "SNB shock"

The "SNB shock" happened on 15th of January 2015, when the Swiss National Bank communicated a Press Release announcing the decision to discontinue the support of a minimum exchange rate of EURCHF established at 1.2 back in September 2011 (Swiss National Bank, 2015). This action caused a sense of panic among investors, resulting in a steep CHF⁴ appreciation against the EUR of 29% in just 15 minutes. This action caused historic volatility, which rendered some liquidity providers insolvent. Immediately after establishing a low of 0.85, the CHF depreciated again for 20% in less than an hour, pushing the rate to 1.02. The scale of the move "is almost unprecedented". Additionally, similar moves happened against the USD as well, affecting everyone around the globe like a "tsunami". (The Economist, 2015a; 2015b)

The decision has been criticized by analysts and characterized as a major threat to the Swiss Economy. About 60% of Swiss export transactions are with the EU and the US. Shortly after the announcement, many FOREX market participants reported significant losses affecting negatively most financial companies' quarterly reports, while others were forced to report bankruptcy. (The Economist, 2015c)

Accompanying the removal of the 1.2 exchange rate peg, the SNB announced a negative interest rate of -0.75% in an attempt to discourage holdings in CHF and mitigate the effects of the peg removal, but this cannot change the fact that CHF's status as a "safe haven" currency became questionable. (Albanese, 2015a)

Finally, it is relevant to mention that the SNB decision was a consequence of another important phenomenon, which is the example discussed in the next section.

4.2.2 The "ECB QE"

Rumoured about since mid-2014, and under Mario Draghi's motto "do whatever it takes to preserve the euro" (ECB, 2012), the European Central Bank's (ECB) Quantitative Easing (QE) program was finally announced on 22nd of January 2015 (ECB, 2015). The focus of this announcement was the asset purchase program that will comprise euro-denominated investment grade asset-backed securities issued by European

⁴ Confoederatio Helvetica Franc

governments, agencies and institutions in the secondary market. Started in March 2015, it amounts to €60 billion combined monthly purchases.

The reasons behind starting a QE in the EU are the fears of very low growth, real Q3 2014 rate being at just 0.2%; and also the possibility of accelerating deflation if actions are not taken, December 2014 report inflation being -0.3%. The program is scheduled to continue until September 2016, and focuses on raising the inflation rate to the target of 2% by increasing liquidity in the markets, consequently stimulating spending and investment.

Another consequence of this new policy is a EUR depreciation. Since the first rumours of QE, around May 2014, the EUR depreciated by almost 20% against the USD, EURUSD rate falling from above 1.35 to approximately 1.13 (The Economist, 2015d). It reached an exchange level unseen since 2003, by "breaching" the 1.18 psychological level, which has held for 10 years since November 2005. The magnitude of the movement was supported by recent US Fed⁵ actions of steady slowdown of their own QE program with rumours of raising interest rates sometime in the second half of 2016. Therefore, the effect of upward fundamental pressure on the USD and downward on the EUR has led to the aforementioned sizeable move.

Even though the movements in the markets have exceeded expectations and caused some criticism, the low EURUSD rate promises to increase exports from the EU and have an additional beneficial effect on the Eurozone's economy. Nevertheless, the continuously depreciating EUR did cause the SNB to deem the EURCHF currency peg infeasible, leading to the shock decision mentioned before and relating to how interdependent the economies can be nowadays. (The Economist, 2015e)

4.2.3 The "Russian Shocks"

The final element of recent events has caused many international discussions, as it involves annexing parts of countries, sanctions and attempts of deliberate manipulation of markets. Starting in 2014 with a protest in the capital of Ukraine, Kiev, the situation

⁵ Federal Reserve System

escalated into a revolution, also called Euromaidan, and finally into a war between Ukrainian troops and pro-Russian rebels in East Ukraine.

During the period of Ukrainian turmoil, an unexpected political move was made from the Russian side, effectively annexing the Crimean peninsula with its main port at Sevastopol. These events led to increased tensions between the EU and Russia, resulting in a decision of reciprocal sanctions, causing sizeable damage to the Russian economy. Additionally, the sharp 50% fall of oil prices since June 2014, caused by declining global demand as well as the discovery of new supplies, further aggravated Russia's economic development prospects. (The Economist, 2014a)

Subsequently, the RUB⁶ depreciated by about a half against the USD in only 6 months, considered the worst fall since the crisis of 1998. The RUB selloff led the Central Bank of Russia (CBR) to intervene by gradually raising interest rates. Later on, after only minor success in maintaining the exchange rate, the CBR intervened with a \$2 billion worth of RUB purchase operations and unexpectedly hiked the interest rates by 6.5% in December 2014. Nevertheless, this only resulted in a further depreciation of the RUB, proving the action ineffective (The Economist, 2014b; 2014c; Albanese, 2015b).

As a summary of the whole events, the Russian government has spent a significant amount of its foreign currency reserves to cover the deficit caused by low oil prices. The depreciated RUB has caused an inflation of 9.5%, being around 4% over the target (The Economist, 2014d). Russia's 2015 economic projections changed from growth to stagnation (WSJ, 2015), and on 26th of January 2015 S&P⁷ downgraded the Russian sovereign debt to below investment grade. While having an already effective interest rate on foreign borrowing of over 6000%, it is characterized as "enough to kill any economy" (Matthews, 2014; Albanese, 2015c).

MNCs in Russia have been forced to reduce operations. GMC⁸, for instance, reduced production and spending in regards to its Russian business, while actively using an

⁶ Russian Ruble

⁷ Standard and Poor's rating agency

⁸ General Motors Company

operational hedge (Knox, 2015). The aggregated political and economic changes are still causing increased turmoil inside as well as outside the Russian borders.

In conclusion, it can be said that the recent aggressive policies of central banks around the world have caused growing concerns about a “global currency war” (Kennedy, 2015). As a result, it is more crucial than ever for MNCs to fully identify and mitigate these potential risks. Methods regarding managing these risks are discussed in the next section.

5 Hedging instruments and techniques

A logical consequence of establishing the reasons for hedging, is discussing the various instruments and techniques to accomplish it. Throughout markets and trade development, many ways of minimizing transaction risks have been created. Generally, all the elements can be categorized in two main branches: internal and external hedging, with various subcategories that will be defined and discussed further.

5.1 Internal hedging

Internal hedging can be defined as exploiting the opportunities of cancelling out exposures of different open accounts to various currencies without involving financial intermediaries or markets. In other words, it can be carried out within the MNC. According to Butler (2012: 242), internal hedging operations are usually centralized in the headquarter treasury department, however, individual subsidiaries can negotiate particular hedging operations that are approved by the treasury headquarters. Although numerous methods of internal hedging exist, the most popular are the following techniques: Invoicing, Pricing Policy, Matching, Netting (natural hedge), and Leading and Lagging.

5.1.1 Invoicing

Invoicing is one of the most simplistic approaches to FX hedging. It represents denominating receivables or payables in the domestic currency, therefore shifting the currency exchange risk to the counterparty (Döhring, 2008: 1). However, if the domestic currency is characterized by being "soft", namely not a widely accepted currency, it can result in a shrinking customer base as the bargaining power of the company decreases. Another alternative, also widely used by companies, is invoicing in a so-called "vehicle currency" which is neither the domestic nor the counterparty's currency, but does represent a "hard" currency, which is a widely accepted one. In both cases, the choice of appropriate currency is based on stability, transaction costs and liquidity. (IMF Center, 2015)

5.1.2 Pricing Policy

In regards to minimizing foreign exchange risk, some companies can adjust the price denominated in foreign currency so that it includes expected future fluctuations. Nevertheless, depending on the case, it can reduce the MNCs competitiveness in the international markets and cause a drop in sales.

5.1.3 Matching

A company may decide to involve in "matching" operations, which consist of fitting as close as possible the amounts and timing of receivables and payables in foreign currencies, therefore minimizing the net exposure. While it can bring significant benefits to the company, it requires a rather aggressive treasury department as well as appropriate IT systems.

5.1.4 Netting

Netting can be similar to matching in certain ways, with the main difference in that it matches cash flows within the MNC's subsidiaries, and transnationals are the type of corporations that can benefit the most from this activity. Netting requires that all transactions be gathered in one specific treasury centre, where they can be matched and "netted", therefore minimizing the net exposure to foreign exchange risk. This technique can take advantage from cross-rate hedging, as well as seeking currency diversification. (Townson University, 2015: 4)

In addition, the company may agree with its counterparties to net matching receivables and payables, further decreasing transaction costs. The downside of netting is that it requires appropriate co-operation and communication not only within the company, but also with the company's business partners, which may be difficult to achieve.

5.1.5 Leading and Lagging

An extension to netting, Leading and lagging represents the purposeful timing alteration of cash flows within as well outside the MNC, meant to reduce transaction exposure by taking advantage of a favourable exchange rate (Townson University, 2015: 5). Leading is characterized by accelerating payments or receivables, depending on the currency

volatility and expectations, while lagging is the exact opposite. To manage these operations successfully, the MNC will require appropriate internal cash management systems and efficient intranet for internal purposes as well as an already established bargaining power and credibility for external negotiations. (Butler, 2012: 245)

5.2 External hedging

External hedging can be defined as the process of minimizing transaction exposure by accessing financial markets with or without contracting a financial intermediary. According to Butler (2012: 247), a company's treasury decides on the use of financial market instruments when the transaction exposure cannot be offset internally on a satisfying level. Moreover, modern financial instruments provide many possibilities of matching amounts and timing at a rather low cost. Therefore, financial markets are more favoured by MNCs for hedging transaction exposure.

There are multiple ways of categorizing external hedging alternatives. Nevertheless, one proposal can be to outline two main categories: non-derivatives and derivatives hedging. Non-derivatives hedging includes only money market hedges, whereas Bryan and Rafferty (2006: 46-47) propose a characteristic classification of derivatives into forward- and option-type. The former are represented by forward contracts, futures and swaps; and the latter by options.

According to Taleb (1997: 9), derivatives are securities that derive their value from an "underlying" asset. In addition, it should be understood that they are merely contracts that depend on a real asset's value, but not limited to it.

Derivatives market is one of the largest financial markets in the world. As stated by BIS (2014a; 2014b), the total market amounts to approximately \$769 trillion, of which only 10% are standardized Exchange-traded, the rest being traded as OTC⁹ securities. Foreign exchange derivatives amount to \$75 trillion or about 10%. The most important market is represented by forward contracts, amounting to \$35 trillion; followed by currency swaps, \$26 trillion; and options, \$13 trillion.

⁹ Over-the-Counter

Nowadays, derivatives are significantly more available for non-financial MNCs, and therefore their popularity as hedging instruments is rather high. Further, the forward-type derivatives will be formally defined and analysed first, followed by the option-type derivatives.

5.2.1 Forwards

Forward contracts commit the participating parties to exchanging an agreed amount of a certain asset at an agreed time and place. They are usually “tailored” and negotiated, therefore offered OTC by banks. The most common durations of these contracts are 1, 3, 6 and 12 months. Because of the specific commitment and customization of these contracts, they are very rarely sold on the secondary market. (Bryan and Rafferty, 2006: 46)

Fabozzi, Modigliani and Jones (2010: 659) underline the importance of forward rates when pricing forward contracts. In addition, Copeland (2008: 329) expresses the relationship between spot and forward rates. He argues that the main determinant in the differences between the aforementioned rates is the difference in interest rates of countries. Hence, any inefficiencies would be exploited by speculators to arrange an arbitrage situation, or riskless profit, resulting in closing the gap and establishing equilibrium. This situation fully supports the Law of one price of Cassel’s (1918: 95-96) Purchasing Power Parity theory. The relationship is presented in the Equation 1:

$$\text{Forward rate} = \text{Spot rate} \times (1 + \text{forward premium}(\text{discount}))$$

Equation 1. Spot and Forward rate relationship

The forward premium (discount) is best defined by Eiteman et al (2013: 177) as being a percentage deviation from the spot rate and stems from interest rate differentials.

Forwards are the most popular derivatives used by MNCs to hedge against FX risk. This is the result of various possibilities in setting notional amounts and timing, giving the opportunity of a fully hedged transaction exposure. However, as Butler (2012: 248) mentions, the spreads can be high in cases of small transactions, long maturities and less popular currencies; resulting in a high cost in some situations. In addition, the

counterparty risk should be taken into account, as one of the parties might not be always able to honour the deal.

5.2.2 Currency Futures

Futures contracts are very similar to forwards, the three main differences being:

1. Futures are exchange-traded; therefore, counterparty risk is virtually eliminated. The most important futures trading centre is CME¹⁰
2. The notional amounts, timing and prices are fixed; in an attempt to fully organize trading
3. The value of contract is updated daily, also called marking-to-market.

Futures can be a convenient way of hedging transaction exposure in a secure way, with very low costs if the standardized factors match the hedging requirements. However, it does incur more costs than it generates benefits. First, the fixed factors may not be particularly convenient for the company, giving fewer opportunities to hedge transaction exposure in full. Furthermore, marking-to-market can reveal a temporary drop in the value of contract. In this case, the exchange issues a margin-call and asks for complementing the margin account, and if not acted upon, the position is closed unilaterally.

As a conclusion, futures can cause a mismatch in cash flows and require active participation of the treasury department in monitoring daily value alterations. Therefore, they are mostly unpopular with MNCs when it comes to hedging transaction exposure and more commonly sold on the secondary markets than forwards.

5.2.3 Currency Swaps

Currency swaps represent in which parties exchange currencies for an agreed period. Eiteman et al (2013: 234) mention that the usual motivation for a currency swap is to replace cash flows from an undesired currency to a desired one. This derivative is meant to reduce costs and uncertainty in regards to amounts receivable and payable. As stated by Butler (2012: 252), currency swaps are mostly used for periodic payables. Even

¹⁰ Chicago Mercantile Exchange

though theoretically the counterparty can be any company, it is usually represented by a market maker (commercial or investment bank) also called a swap bank.

5.2.4 Currency Options

An option is a contract stipulating the right, but not the obligation, of the buyer (holder) of an option to buy or sell an underlying asset at an agreed exercise price (strike) within a determined period, and guarantees the seller (writer) a fixed premium paid in advance. When specifically tackling currency options and MNCs, companies are usually on the buying (long) side of an option. Depending on the situation, they can purchase a Long Call that gives to right to purchase a specified amount of a currency, or a Long Put that gives the right to sell a specified amount of currency. In regards to timing, two main types of options are distinguished: European and American. While the former permits exercising the option only at the agreed date, the latter gives the possibility to exercise it at any time until the arranged expiry date. (Perdomo and Marroni, 2014: 52-53)

The main difference between options and the aforementioned instruments lies in the asymmetry of risk. While forward-type derivatives are symmetrical when it comes to risks supported by the contracting parties, option-type derivatives are asymmetrical, giving the right and not the obligation to honour the contract (Butler, 2012: 253). As a result, it establishes a maximum loss and an unlimited win potential for the buyer, while imposing a maximum win and an unlimited potential loss for the seller. The risk of the seller is compensated by the premium. (Fabozzi et al, 2010: 579)

An interesting instrument, which consists of a merger between an option and a swap, is called a "swaption". A swaption represents the right, but not the obligation, to enter into a swap agreement. Even though it is uncommon for MNCs to buy such a contract, it can also be a possibility of more advanced hedging.

As a conclusion, it can be said that while the benefits of an option contract are easy to determine, the disadvantages can also be ruinous. First, the advance payment of the premium should be taken into account, which can be substantial sometimes. Moreover, most options are offered OTC, implying a counterparty risk.

6 Transaction exposure hedging examples

In this section, the most common transaction exposure situations of a European company will be analysed. The company's home currency is the Euro (EUR), while performing international deals with a company from the US in US Dollars (USD). First, the exporter perspective and later the importer perspective are regarded and various alternatives of dealing with FX exposure are compared.

6.1 Accounts receivable

In this section, a European company's export transaction will be analysed. It expects to receive a payment of 1 million USD within 90 days. Currently, the EURUSD rate is rather low, standing at 1.13 USD/EUR. Nevertheless, the USD is expected to depreciate in the following three months. Below are the most common approaches to this situation.

6.1.1 Unhedged position

If management decides to leave the position unhedged then the results can be seen in Table 1.

Table 1. Projected amounts receivable with an unhedged position

EURUSD	Amount receivable	Deviation
1.11	€ 900 900.90	€ 15 945.15
1.13	€ 884 955.75	0
1.15	€ 869 565.22	€ (15 390.53)

Leaving the position open can result in an increase or decrease in the amount receivable in EUR. Therefore, in this example, the company can gain an extra €15945.15 if the rate falls to 1.11 and lose an extra €15390.53 if the rate increases to 1.15. Whether it is a reasonable amount to risk highly depends on the company's size and risk profile. A bigger company, which operates in millions of Euro would be much less affected by this transaction than a company which operates in thousands.

6.1.2 Forward Market hedge

If the decision falls on using a Forward to hedge, then the situation would look as in Table 2.

Table 2. Amount receivable with a forward hedged position

EURUSD	3M EURUSD forward	Amount receivable	Deviation
1.13	1.14	€ 877 192.98	€ (7 762.77)

In this case, the company would make an agreement with a bank to sell 1 million USD at the agreed exchange rate, in this case 1.14, and at the agreed time, in three months. After three months, when it will receive the 1 million USD as payment, it will honour the forward contract. The deviation stands at €7762.77, which represents the cost of the forward contract compared to the spot rate. However, if the rate increases to 1.15, then the company would save €7627.76 [€15390.53 - €7762.77] compared to the unhedged position.

6.1.3 Money Market hedge

A money market hedge would mean in this case borrowing a certain amount in USD for three months, and then repay the amount and interest with the received payment in USD after three months. For calculations, an interest rate for a USD denominated loan is necessary, therefore, a 3M LIBOR + 1%¹¹ [0.25% + 1% = 1.25%] can be taken as an example (Global-rates.com, 2015). Consequently, the amount to be borrowed today will be \$987654.32 [\$1000000 / 1.0125], which will result in an interest payment of \$12345.68. The amount borrowed is then exchanged into EUR at the current spot rate, resulting in €874030.37 [\$987654.32 / 1.13], which can be used for various operations, yielding various benefits:

1. Invest the amount in money market instruments, which will generate a certain income
2. Use the amount to repay the company's loans, which will generate savings on interest payments
3. Invest the amount in the company, which can generate income from operations. Generally, the WACC¹² rate is used for determining the benefits from such decision (Eiteman et al, 2013: 284).

¹¹ 3M LIBOR – London Interbank Offered Rate for 3 Months, 1% – risk premium

¹² WACC – Weighted Average Cost of Capital

While a money market hedge in itself can seem quite similar to a forward market hedge, a comparative analysis can be made, and a certain rate of return can be calculated over which the money market hedge is more convenient than the forward market hedge. For this purpose,

Equation 2 can be used:

$$\boxed{(\text{Loan proceeds}) \times (1 + \text{rate}) = (\text{Forward proceeds})}$$

Equation 2. Calculation of the "break-even" rate of return

For this specific case, the results look as follows:

$$\boxed{\begin{aligned} \text{€}874030.37 \times (1 + \text{rate}) &= \text{€}877192.98 \\ \text{rate} &= 0.36\% \text{ (3 months)} \end{aligned}}$$

As a conclusion, it can be said that if the management would find an investment opportunity to generate an income of more than 0.36% in three months then the money market hedge will be more profitable than a forward market hedge.

6.1.4 Options Market hedge

If the decision falls on an option hedge, then the most common, and safe, way to act is to buy a 3-Month USD Put Option (Long Put), which will give the company the right, but not the obligation, to sell 1 million USD at the agreed strike price. The strike price in this example is set at 1.13 and a common 1.5% premium is taken into account. To calculate the monetary amount of the premium that has to be paid for the option,

Equation 3 can be used:

$$\boxed{\text{Cost of option} = (\text{Size of option}) \times (\text{Premium}) \times (\text{Spot Rate})}$$

Equation 3. Calculation of the cost of an option

In this case, the option price will be €16950 [$\$1000000 \times 1.5\% \times 1.13$]. For the purpose of accuracy, the option price has to be represented in future value terms; therefore, the forward benefit rate of 0.36% for three months can be used as an opportunity cost. Consequently, the future value of the option will be €17011.92 [$\text{€}16950 \times (1 + 0.0036)$] after three months. With the premium cost in mind, the final amount to be received if the option is exercised is €867943.83 [$\$1000000 / 1.13 - \text{€}17011.92$]. Thereby guaranteeing an effective exchange rate of 1.1521 [$\$1000000 / \text{€}867943.83$].

Considering the specifics of an option contract, three main situations should be analysed:

1. Out of the money (OTM) [EURUSD > 1.1521] – in this case, from the perspective of hedging, the company will have to exercise the option in order to get the expected amount
2. At the money (ATM) [EURUSD = 1.1521] – the option can be exercised or not, the results being similar
3. In the money (ITM) [EURUSD < 1.1521] – the option will not be exercised as selling the received payment in the money market is more convenient.

As a conclusion, it can be said that the option is the most expensive of all the alternatives. However, not only does it fix the exchange rate, but also gives the opportunity to benefit from a better exchange rate if the market moves in favour of the company.

6.1.5 Comparison of hedging strategies

The graph in

Figure 3 outlines the general summary of different hedging techniques, providing a visual perspective on how various strategies affect the value of the receivable.

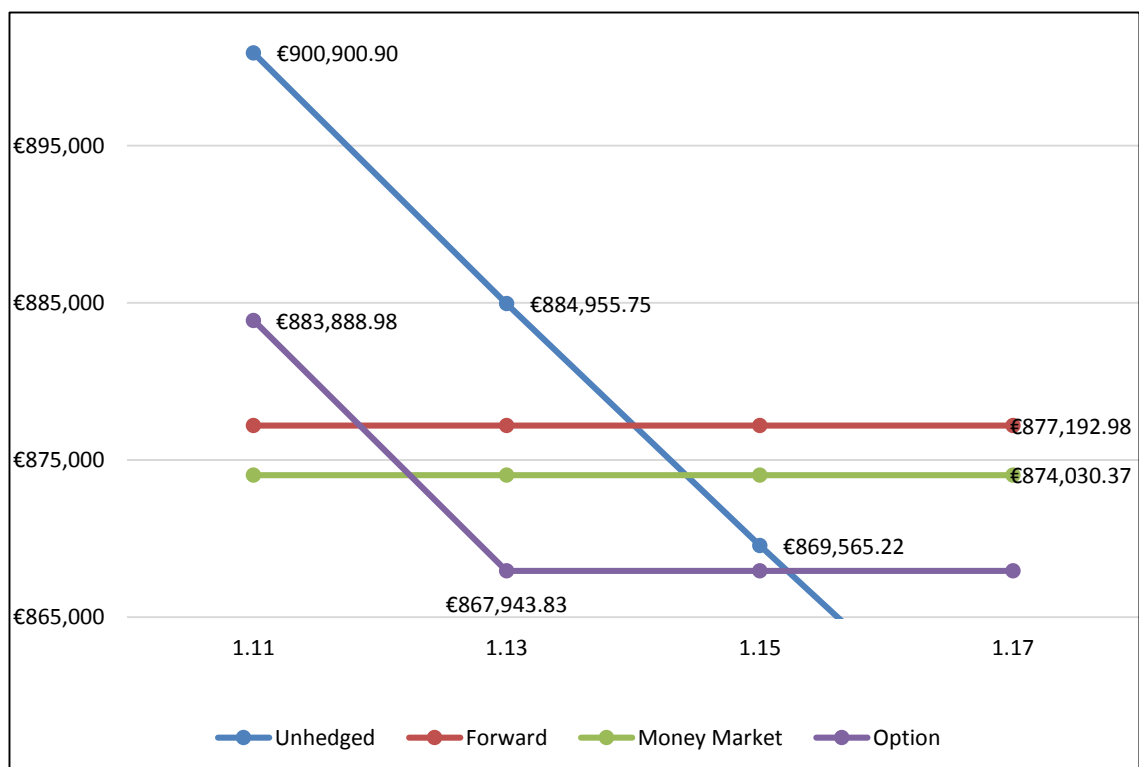


Figure 3. Comparison of different hedging strategies

From the graph above, it can be seen that the Put Option strategy limits the downside effect of the rate movement, while giving a premium-adjusted unlimited upside benefit. The unhedged position is floating according to the movements of the market, with a significant amount of uncertainty. The Money Market hedge seems in this case to be the most convenient one, nevertheless, it may be difficult for some companies to perform the whole process mentioned earlier, which may result in higher costs. Finally, for simplifying the booking process of transactions, many companies do use mostly the forward rate hedge, which is also easier to organize and provides an average benefit in comparison with other alternatives.

6.2 Accounts payable

Similar to the previous section, in this case a European company's import transaction will be analysed. It expects to pay an amount of 1 million USD within 90 days. Currently, the EURUSD rate is standing at 1.13 USD/EUR. Nevertheless, the USD is expected to appreciate in the following three months. Below are the basic approaches to this situation.

6.2.1 Unhedged position

If management decides to leave the position unhedged then the results can be seen in Table 3.

Table 3. Projected amounts receivable with an unhedged position

EURUSD	Amount payable	Deviation
1.11	€ 900 900.90	€ 15 945.15
1.13	€ 884 955.75	0
1.15	€ 869 565.22	€ (15 390.53)

Leaving the position open can result in an increase or decrease in the amount payable in EUR. Therefore, in this example, the company can pay an extra €15945.15 if the rate falls to 1.11 and save an extra €15390.53 if the rate increases to 1.15. Whether it is a reasonable amount to risk again depends on the company's size and risk profile.

6.2.2 Forward Market hedge

If the decision falls on using a Forward to hedge, then the situation would look as in Table 4.

Table 4. Amount receivable with a forward hedged position

EURUSD	3M EURUSD forward	Amount payable	Deviation
1.13	1.12	€ 892 857.14	€ 7 901.39

In this case, the company would make an agreement with a bank to buy 1 million USD at the agreed exchange rate, in this case 1.12, and at the agreed time, in three months. After three months, when it will have to pay 1 million USD, it will honour the forward contract. The deviation stands at €7901.39, which represents the cost of the forward contract compared to the spot rate. However, if the rate decreases to 1.11, then the company would save €8043.76 [€15945.15 - €7901.39] compared to the unhedged position.

6.2.3 Money Market hedge

As opposed to the exporter situation, the importer case is very different in organizing. In this case the company will have to buy USD at the spot rate and deposit them in a USD-denominated account that earns interest for three months and then use that amount to pay the invoice. To determine which amount needs to be exchanged now, the 1 million USD needs to be discounted by the interest earned on a deposit, which is currently at an average of 0.375% per three months (IDRE, 2015a), and convert it from EUR at the spot rate of 1.13. Therefore, the amount of USD needed will be \$996264.01 [$\$1000000 / 1.00375$], resulting in €881649.57 [$\$996264.01 / 1.13$] to be paid. For a fair comparison, the result must be transferred in future terms using as an opportunity cost the rate on a EUR deposit, standing at an average of 0.2% per three months (IDRE, 2015b). Thus, the final amount would be €883412.87 [$\text{€}881649.57 * 1.002$]. Analogously, a „break-even” interest rate can be determined, using the spot versus forward exchange rate for this particular case. The results can be seen in Equation 4 below:

$$\frac{(\text{Spot rate})}{(1 + \text{discount rate})} \times (1 + \text{interest rate}) = (\text{Forward rate})$$

Equation 4. Calculation of the “break-even” interest rate

For this case, the results look as follows:

$$\frac{1.13}{1.002} \times (1 + \text{interest rate}) = 1.12$$

$$\text{interest rate} = -0.69\% \text{ (3 months)}$$

Conclusively, it can be said that a rather significant advantage of the Money Market strategy can be seen in contrast with the Forward Market, having the possibility of depositing the money on an account with a negative interest rate of -0.69% and still remain fully covered by the favourable exchange rate differential. Needless to say, the company can also invest in USD-denominated Money Market instruments, providing an opportunity of even higher earnings. However, it can be expected that a foreign company would have less knowledge of the international markets, and as a result abstain from investing in anything more advanced than just a deposit account. Even though the Money Market hedging strategy seems more advantageous in this case, the results can vary, therefore highlighting the importance of the Forward contract alternative.

6.2.4 Options Market hedge

If the decision falls on an option hedge, then the safest way to act is to buy a 3-Month USD Call Option (Long Call), which will give the company the right, but not the obligation, to buy 1 million USD at the agreed strike price. The strike price in this example is set at 1.13 and a common 1.5% premium is charged. To calculate the monetary amount of the premium that has to be paid for the option,

Equation 5 can be used:

$$\text{Cost of option} = (\text{Size of option}) \times (\text{Premium}) \times (\text{Spot Rate})$$

Equation 5. Calculation of the cost of an option

In this case, the option price will be €16950 [$\$1000000 \times 1.5\% \times 1.13$]. For the purpose of accuracy, the option price has to be represented in future value terms; therefore, again the EUR deposit rate of 0.2% for three months can be used as an opportunity cost. Consequently, the future value of the option will be €16983.9 [$\text{€}16950 \times (1 + 0.002)$] after three months. With the premium cost in mind, the final amount to be paid if the option is exercised stands at €901939.65 [$\$1000000 / 1.13 + \text{€}16983.9$]. Thereby guaranteeing an effective exchange rate of 1.1087 [$\$1000000 / \text{€}901939.65$].

Considering the specifics of an option contract, three main situations should be analysed:

4. Out of the money (OTM) [EURUSD < 1.1087] – in this case, from the perspective of hedging, the company will have to exercise the option in order to get the expected amount
5. At the money (ATM) [EURUSD = 1.1087] – the option can be exercised or not, the results being similar
6. In the money (ITM) [EURUSD > 1.1087] – the option will not be exercised as buying the needed amount in the money market is more convenient.

As a conclusion, it can be said, again, that the option is the most expensive of all the alternatives. However, not only does it fix the exchange rate in case of unfavourable movements of the exchange rate, but also gives the opportunity to benefit from a better exchange rate if the market moves in favour of the company.

6.2.5 Currency Swap

Currency swaps are normally used for regular payments, the hedging element being that payments will be made in the desired currency. For example, a European company has a one-year contract stipulating that quarterly payments of \$250000 should be made to the US company. To mitigate the uncertainty of the exchange rate, the European company can enter into a swap agreement with a swap bank, agreeing to payments in EUR rather than USD at a negotiated and fixed exchange rate of 1.12, resulting in quarterly payments of €223214.29 [$\$250000 / 1.12$]. The situation will look as in Table 5:

Table 5. Currency swap vs Unhedged payments

Date	EURUSD	Swap payments	Unhedged payments	Deviation
Q1	1.14	€ 223 214.29	€ 219 298.25	€ (3 916.04)
Q2	1.12	€ 223 214.29	€ 223 214.29	€ -
Q3	1.11	€ 223 214.29	€ 225 225.23	€ 2 010.94
Q4	1.09	€ 223 214.29	€ 229 357.80	€ 6 143.51
Total	-	€ 892 857.14	€ 897 095.55	€ 4 238.41

After analysing the table, it can be said that in this case the currency swap contract saved the company €4238.41 when compared to the unhedged position. While the exchange rates can differ in other cases, making the currency swap disadvantageous, the main benefit is similar to a forward contract – providing a certainty of expected future cash flows.

6.2.6 Comparison of hedging strategies

Similarly, a graph highlighting the results of different hedging strategies was created, showcased in Figure 4. Even though hedging with a currency swap was analysed, it is not included in the graph for the reason of situational differences to other examples.

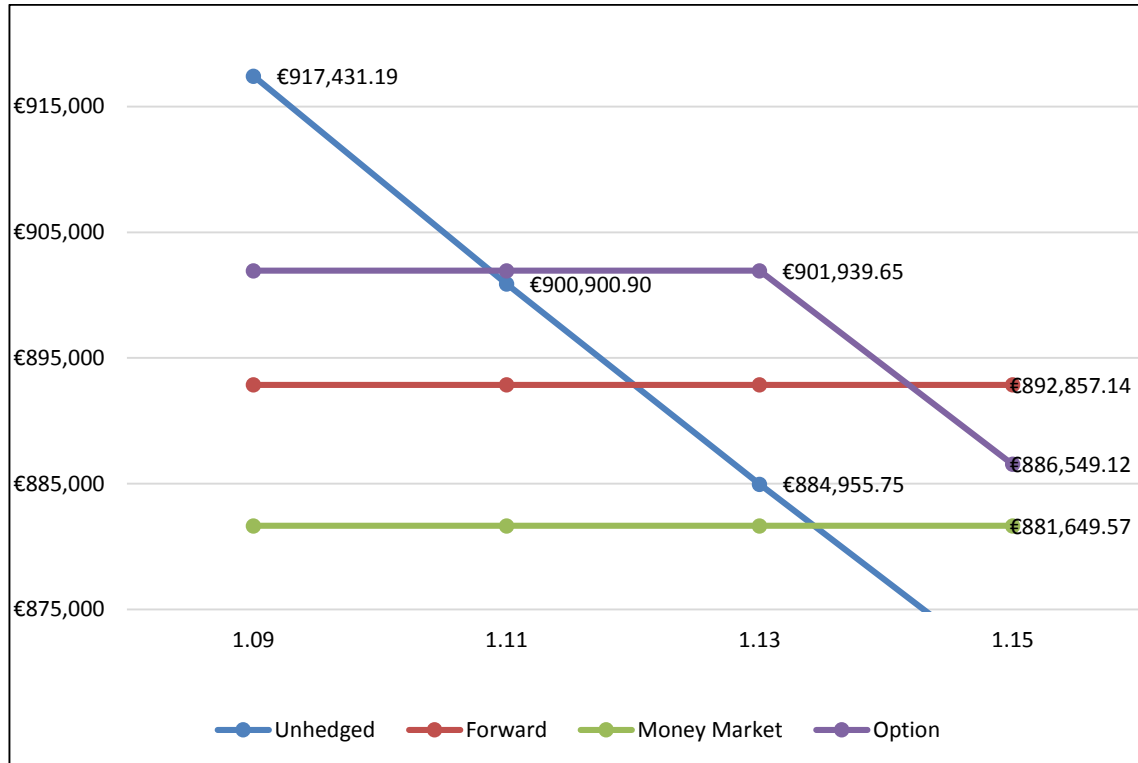


Figure 4. Comparison of different hedging strategies

The conclusion of this graph stipulates that similarly to the former situation, the option limits the upside potential of the payment, and therefore the costs, while providing a premium-adjusted unlimited downside potential. The unhedged position is again represented as a free-floating amount while unrealized. The discrepancy here is only the difference between Money Market and Forward hedging, providing a higher advantage of using the former, being one of the most beneficial strategies as well as easy to organize.

7 Currency Risk management in MNCs

To attest the situation on currency risk management in MNCs, various scientists and consultancy firms have engaged in diverse statistical surveys. To draw a more generalized conclusion about risk management in MNCs around the globe, several survey results will be analysed in this chapter.

7.1 Wells Fargo

The "2014 Risk Management Practices Survey" undergone by Wells Fargo (Wells Fargo, 2014), focuses on 276 MNCs with operations in the United States, identifying respondents by parent company location. Therefore, 86% and 14% were respectively reported as US and Non-US firms. The highest weight, 65%, represent companies with annual revenues ranging from \$250 million to greater than \$2 billion. In contrast, companies with annual revenues of less than \$25 million represent only 2% of the total survey sample. The main industry analysed, weighing 42% of the sample, is Manufacturing.

The results of the survey found that 53% of respondents deem eliminating FX gains or losses as the most important FX risk management objective. In regards to formal FX risk management policy, 74% indicated that they have a formal policy, up from 58% in 2011, and 80% update their policies annually. In addition, as of 2014, 59% hedge forecasted foreign currency revenues and expenses (transaction exposure), of which 44% hedge between 50% and 70% of their exposure, up from 30% in 2011. Most companies, 82%, use a hedge time horizon of over 12 months.

In relation to hedging instruments used, 93% reported the usage of forward contracts, while 31% use other derivatives in addition to forwards to hedge transaction exposure. 64% of companies employ a "layering hedge program", in other words, hedging more often and actively over longer time horizons (Bird, 2015). 89% of companies focus on hedging cash flows rather than fair value. 87% of respondents reported a preference towards centralized risk management. In regards to challenges in FX risk management, 47% reported the biggest challenge lying in market volatility, whereas 34% are concerned with timeliness and accuracy of data.

7.2 Barclays/ACT¹³

Another important survey is the Corporate Risk Management Survey (Barclays/ACT, 2012). This study encompasses a variety of risk management practices of 100 MNCs from different countries and industries, 79% of which are from the EMEA¹⁴ region.

The results of this survey show that 92% of the companies include “reducing earnings volatility” in the top three objectives of risk management, of which 41% categorize it as a top priority. When asked to identify the main concerns in risk management, 66% reported “foreign currency transactional risk” in the top three, while 34% placed it as the top concern. Liquidity considerations are among the high and medium importance for 94% of the companies. Biggest risk management challenges were escalation in euro-area crisis, risk of global double-dip recession¹⁵ and volatile markets; showing that 60% of companies focus on these strategic challenges. Further on FX transactions, 58% of companies reported that their transacted annual FX volumes are over \$100 million, of which 25% have volumes of over \$1 billion. Forecasted transactions represent the most hedged FX risk, reported by 86% of respondents with transacted annual FX volume of over \$1 billion and 71% of respondents with volume under \$1 billion.

Regarding hedging instruments, the most common ones are FX spot, forwards and swaps. 40% of the surveyed companies additionally use options. 66% of companies reported a preference towards centralized hedging. In addition, 63% reported the use of electronic execution of FX deals. Finally, 95% of companies ranked FX volatility in the top three reasons for changes in their risk management policies.

7.3 Bodnar et al.

Managing Risk Management (Bodnar et al., 2011) represents a global survey on risk management. Covering 1167 respondents from around the world, 92% represent companies are identified to be from North America, Asia and Europe. The variety of annual incomes, industries and credit ratings is very diverse, therefore it is meant to

¹³ Association of Corporate Treasurers

¹⁴ Europe, the Middle-East and Africa

¹⁵ Alternation between recession and short-lived recovery

represent the most objective results in regards to global tendencies in risk management practices.

The survey found that 18% of respondents mentioned "avoid large losses from unexpected price movements" as the most important goal of their risk management program, representing the most popular option. In terms of amounts of risk, 62% of respondents reported an increase in FX risk level since 2006, the same amount of respondents reporting an increase in FX risk management. From various risks, FX risk has been classified as "most important" by 20% of the companies surveyed. Regarding hedging methods, 4% pointed to usage of only operational activities, 7% pointed to the usage of only financial derivatives, while 90% are using a combination of financial derivatives and operational activities. Most important instruments used in to hedge against foreign currency risk are forward contracts (75%), foreign currency debt financing (42%), and money market deposits/loans (37%). When discussing the importance of FX hedging decisions, 45% consider them as very important.

7.4 Kantox FX

The global survey "Hedging FX Risk: Taking stock of the challenge for mid-caps and SMEs" (Kantox FX, 2013) focuses only on SME FX risk management practices. The study included 119 SMEs from various countries around the world. The average annual revenue of these companies was a bit over \$200 million and about 19% of their revenues were in foreign currencies. From all the respondents, 83% mentioned gains or losses from exchange rates, while 33% reported an exposure of over \$1 million. In addition, 14% of the surveyed companies did not hedge their exposures at all, 39% hedged less than half of their exposures and 13% did not even know how much they managed to hedge. Most commonly, SMEs in cause tended to hedge around 59% of their exposures. Nevertheless, 77% of respondents indicated the existence of a formal FX risk management policy, 51% monitored their exposure at least weekly, while 30% monitored it monthly.

A matter of concern is that 30% did not analyse their exposure and do not understand their potential FX losses in the event of adverse market movements. Regarding the costs of managing their risk, 35% reported that they do not know the actual amount they are being charged for hedging. In terms of instruments used for hedging, 25% used forward contracts, while 22% relied on natural hedging; more advanced instruments were much

less popular. Among the challenges faced by SMEs regarding hedging their transaction exposure the most common are difficulty to quantify FX exposure (28%), lack of automatized processes (22%) and lack of FX knowledge and skills (14%).

7.5 Deductions

As a conclusion to the above survey results, it can be said that companies become increasingly aware of their transactions' exposure to FX risk. Many MNCs have increased the priority of FX risk management within their general risk management objectives. As it was expected, most companies have experienced an increase in FX exposure, leading many to start approaching hedging strategies much more closely. Similarly to what was mentioned before, the most common instrument of hedging is a forward contract. Finally, all surveys indicated an increase in challenges to hedge over the past years.

When comparing the results of large MNCs and SMEs, a significant discrepancy can be noted. While large corporations tend to manage their risk exposures more formally and effectively, SMEs face big challenges in doing so. One of the main reasons is the lack of resources to make such management possible. While Greenhalgh (2012) notes that in recent years SMEs have become gradually more aware about FX risk management after the post-financial crisis increased volatility, Bolshaw (2013) mentions that bank deleveraging¹⁶ policies after the financial crisis has put much pressure on the hedging possibilities of SMEs, which nowadays have to provide increased relative amounts of collateral.

Overall, it can be said that SMEs do require additional support from governments and international bodies. SMEs have become a very important part of the global economy, currently accounting for over 95% of the global firms (Edinburgh Group, 2012), and creating 60% of global employment (Ayyagari, Demirguc-Kunt and Maksimovic, 2011: 19).

¹⁶ Reduction of the leverage ratio

Conclusion

In the highly globalized economies today, where not only opportunities are global but also threats, MNCs are starting to actively mitigate the risks of the new era in which they undertake their business activity. Sheer awareness of the factors that pose risk to business operations is not enough, as markets have become increasingly complex and disequilibrium unfortunately persists. Consequently, as long as countries have their own currencies with free-floating exchange rates, companies doing international business will have to recognize and manage the risk of FX exposure.

Recent economic events have shown that there is rather global economic instability than worldwide prosperity. With some arguing that the spare capacity of global economic activity is shrinking, there is growing concern that countries nowadays focus mostly on the concept of a "zero-sum-game". In other words, as Saccomanni (2015) points out, countries involve in "currency wars" by promoting aggressive policies with the purpose of reducing their currency's exchange rates and therefore stimulating exports and growth. Such allegations first evolved against Asian countries, China in particular is the most recent, later on against the US and a rather new case – against the EU. If all major central banks employ the same methods of monetary stimulus, there is a high probability that on global and long-term perspective countries would lose any relative competitive advantages they hope to attain. Moreover, "loose" monetary policies in today's fast-reacting financial and capital markets promote accelerated growth of "bubbles"; therefore, appropriate strict regulation is needed to be able to "hope" for a successful completion of a monetary expansion in the first place.

A crucial factor to consider is "irrational exuberance", first mentioned by Fed's president during the "Dot-com bubble" (Greenspan, 1996). Greenspan's, speech intended to communicate that there is a need to monitor the value of assets, as "irrational exuberance" can cause "escalated asset values" followed by "prolonged contractions". As a way to indicate and quantify a possible overvaluation of assets, Shiller has created the Cyclically Adjusted Price-Earnings Ratio (Shiller CAPE ratio or PE10), which represents the average inflation-adjusted earnings based on a 10 year cycle (Shiller, 2000: 8). The main purpose of this indicator is to establish a certain "anchor" for the value of markets. At the time of writing, the ratio stands at 27.77 (Multpl.com, 2015), a

high level experienced just before the last financial crisis. As Shiller (2012: 133) mentions: "it is a very human tendency to be a bit too attracted – perhaps distracted – by the symmetrical and beautiful". Coupled with experienced bounded rationality by investors and managers in their analyses, it is important not only to provide "anchors" for support, but also to fully recognize the possibility of market inefficiencies and unreliability of economic models as a whole. Therefore, prudent risk management is much more important than attempting to predict and "beat" the market.

Regarding mechanisms of reducing currency risks, it can be said that while firms employ an increasing variety of instruments, derivatives are some of the most popular. Bryan and Rafferty (2006: 154) highlight by quoting Kay (1999: 273) that derivatives have become a new type of commodity – a "meta-commodity". The reason behind derivatives is not for them to be productive, but rather "absorb value discontinuities across time and space". Nevertheless, it can be seen that SMEs, which include Born Globals by definition, have a rather wide discrepancy compared to large corporations when it comes to currency risk management. By reasons of increased costs and reduced capital availability, these firms face big challenges in competing with big companies, many times forcing them out of business. Solutions to minimize inequality between small and big firms can primarily be promoting support through financial institutions. Raising awareness of volatility and trends in the markets is another solution; unfortunately, this may require individual entrepreneurs to pay more attention to their education level in this certain matter. Finally, governments should pay more attention to the development of SMEs in their jurisdictions and provide at least limited, regulatory support. With valid proof of the global importance of small enterprises on hand, it can be argued that their future development can be a feasible solution to global economic problems.

To summarize, it can be said that the paper has revealed the increased importance of risk management in the current global economic situation. In addition, the study of the methods and instruments employed by risk management individuals and departments has shown that there are plenty to ensure successful reduction of uncertainty. However, there is an indication that the opportunity gap between the more affluent companies and capital deficient ones has to be minimized. A "democratization" of risk management possibilities has to be developed, for ensuring a better future economic growth.

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