Abstract: The paper is focused on the topic of currency risk management. Many companies are facing the problem of hedging foreign exchange risk under the exigent circumstances of current financial crisis. The Czech economy is relatively open and export-oriented, which gives wide range for currency risk and potential losses. The aim of the paper is to find out and analyze, if Small and Middle Enterprises (SMEs) in the Czech Republic were using financial derivatives for hedging foreign exchange risk and which ones. The questioner survey was processed by basic statistical methods. This research outlines the issue of hedging, which could be either financially unattainable or much too difficult for many SMEs in the Czech Republic. The trend of CZK/EUR in 2012, mainly affected by the financial crisis in Eurozone, gives more opportunities for using financial derivatives such as forwards, currency options and swaps to protect assets and liabilities against higher exchange rate volatility. SMEs in the Czech Republic seem to act conservatively thereby using well-proven contracts and only if necessary.

Key-Words: risk management, foreign exchange, forward, option, derivate, hedging, currency risk

1 Introduction
One of the most important activities within the company is a decision making process focused on risk management. Under the assumption that each economic entity is exposed to a certain level of risk, optimization of risk should lead to activities bringing economical benefits. Each company faces some kind of market risk which also includes currency risk, respectively foreign exchange risk. For economical subjects trading with foreign business partners can bear such risk - caused by exchange rate difference – significant impact on their profitability. Currency risk management leads to cash flow stabilization, and thereby to reduced scattering of possible income within the company. The paper is aimed through the survey at verifying the extent of using financial instruments for securing the foreign exchange risk.

2 Problem Formulation
Based on the critical literature review was formulated the problem of hedging not only in the CR, but worldwide. Our aim was only mapping the Czech business field. By composing the questionnaire, there were determined two basic hypotheses:
H1 = SME is not using any hedging tools against currency risk,
H2 = futures are the least used tools of all financial derivatives.
The hypotheses for the research were corresponding with findings of previous researches in this field. The important question was whether have SMEs changed their hedging behavior during and after the financial crisis or not and how. Several questions were asked about the main traded currency and who does the hedging operation for the company – if they had a professional within the company or shifted the responsibility to a bank.

The main objective of this research was to determine whether small and medium-sized enterprises use financial instruments, what kind and how often. Last but not least, why some enterprises do not use the hedging instruments for their risk management.
The questioner survey was processed by basic statistical methods.

3 The process of foreign exchange risk management

Belk and Edelshain (1997) use the term risk for uncertain expectations, which indicates a real risk of loss for one party. When analysing primary exchange risk, it is necessary to fragmentize it and moreover know its structure and development for successful management process. Vlachy (2006) refers to country risk as territorial risk expressing systematic risk exposure in a certain country. In assessing country risk are most often used external rating agencies Moody’s, Standard & Poors and Fitch, which cover almost all countries in the world. Albuquerque (2007) lines up currency (foreign exchange) risk essentially to market risk and characterizes it as a risk of loss of market price changes. According to Papaioannou (2001), foreign exchange risk management is a process of active and efficient formation of its own position relative to foreign assets, liabilities and future cash flow of the subject. According to Kalinska (2010), is the value of exchange rate is set by interference of supply and demand for currencies in the international foreign exchange market and expresses the foreign currency price in units of domestic currency. The structure of foreign exchange rate is shown in Fig. 1, where the curve S stands for supply of Czech crowns on the exchange market and the curve D represents the demand for Czech crowns. The exchange rate is determined by the place of collision of these two curves – point E. If the demand curve D moves down, it means weakening of demand for Czech crowns and therefore depreciation, in the opposite case appreciation of the currency.

Every participant of an international financial transaction must make allowance for the fact that the foreign exchange rate of the contract is constantly changing in the world’s foreign exchange market. It is different in the moment of calculation of the contract, signing the business contract, billing, and at the time of real payment of obligations. The currency carry trade, which exploits this phenomenon by holding high-rate currencies and shorting low-rate currencies, was extremely profitable in and beyond the period until 2008 (Burnside et al. (2006), Brunnermeier, Nagel, and Pedersen (2009)). The risk management process consists of analysis, selection of counteraction, impact analysis and counteraction implementation. The basic objective of foreign exchange risk management is to reduce the adverse consequences of the risk or their complete elimination. It is important to add the stabilisation of the future cash flow value in foreign currency to the level that is currently known.

3.1 Methods of risk management

Effective foreign exchange risk management is necessary for both large companies and small export & import companies. These foreign exchange bodies must decide, because of the existence of open foreign positions, for certain strategy regarding their risk management. The basic methods of risk management are risk retention, risk reduction, insurance and risk avoidance. In case of insignificant risk, a company most often uses retention or reduction. The risk retention means that a company speculating on the CZK exchange rate against foreign currency does not change significantly, or that it even weakens against (the company has receivable in foreign currency), or contrary revaluate (the company has liability in foreign currency).

Retention is suitable for companies having set sufficiently high margin, which does not change in variance of single percent rank. Risk reduction in the form of hedging is chosen by companies with relatively low margin and higher frequency of foreign trade.

Fig. 1: Exchange rate EUR/CZK, Source: [16]
To effective foreign exchange risk management companies could choose the strategic proceeding which according to Glen and Joiron (1993) is divided to conservative and aggressive. By conservative approach the company ensures the currency position so the changes of exchange rate do not lead to changes in cash flow value. A foreign entity is able to set independently on the exchange rate volatility, the present value of receivables. An aggressive management approach might be formed to active management of currency position. The company makes a conscious decision for partial or total closing of foreign exchange position and waits for convenient foreign rate change. (X-Trade Brokers, 2011)

3.2 Foreign exchange risk management tools
The most commonly used tool to ensure the exchange rate risk is a forward contract. It turns out that forward by Diana (2007) offers a better solution than leaving open positions at the spot rate. The most effective way of managing financial risks are considered derivatives. As stated by De Roon at al. (2003), one of the most striking phenomena in the financial sector in recent years is the explosive growth of markets, in order to deal with the so-called financial derivatives. A derivate is basically a futures contract. Closing time of the contract is not identical with the time of its execution, when the delivery of the underlying asset occurs. Maurer and Valiani (2007) found the underlying asset was the financial instrument, than we would speak about financial derivative. Basic types of derivatives are shown in the following Figure 2.

![Figure 2: Basic types of derivatives, Source: [10]](image-url)

The most often used instrument of foreign exchange hedging is a forward contract. Forward exchange operation is carried out in the forward exchange rate, representing different levels of basic interest rates at the same time for both currencies in the contract. The difference in interest rates should enticed foreign currency into the economy targeting into appreciation. The forward rate is based on technical factors and volatility of the spot rate and can be calculated according to Kral (2010) as follows:

\[
FR = SR + \text{premium} \\
FR = SR - \text{discount} \\
\frac{\text{premium}}{\text{discount days}} = \frac{SR \times \text{interest differential} \times 360 \times 100}{365}
\]

In the Czech environment, we also can find also some modification of currency forward, e.g., forward with variable maturity and average rate forward.

4. Foreign exchange risk management within Czech SMEs
The Czech economy can be counted among the most open economies in the world. The Czech crown is a convertible currency and domestic and foreign entities have the option to acquire foreign and domestic currency without obstacles. The foreign exchange market began to develop in 1991 in connection with the implementation of internal convertibility of the Czech crown. External convertibility was then implemented in 1995 and was accompanied by significant extension of oscillation bands for exchange rate volatility to 7.5%. In 1997 the country left the fixed exchange rate system and released the oscillation bands of the Czech crown. It transformed to the managed floating with the orientation of the Czech crown to the German mark.

The Czech National Bank carries out a survey of daily turnover four times a year, for its own needs and for international financial institutions.
such as the European Central Bank and the Bank for International Settlements. The biggest portion is made up of swap and forward transactions, to a lesser extent option trades are represented. In the recent years the volume of spot trades has been rising.

4.1 Exchange rate CZK/EUR trend
The most traded currency pair within Czech entities is CZK/EUR. The Czech crown depreciated last year against most currencies. The year 2011 began by a rapid appreciation of the exchange rate when the crown came from the January level of 25.1 CZK/EUR during one month to 24.0 CZK/EUR. This increase was soon stopped and after several months’ high volatility ranging from 24.2 to 24.6 of the Czech crown weakened in the last four months against the euro by 7%. The weakening was substantially influenced by the expected economic recession in Europe, but also by distrust of investors after news of cuts in the projects’ funding in Central and Eastern Europe. In such situation the Czech crown started on the value of 24.1 CZK/EUR in August, but after almost continuous fall reached the limit of 26.0 CZK/EUR in November. Subsequently, there came the slight appreciation, which could also be only a trend correction only, but at the end of the year held the course due to the uncertainty the level around 25.5 CZK/EUR. The whole trend is shown the Fig. 3 below.

According to the CNB forecast should be the average rate of 24.90 CZK/EUR for this year. The prediction with confidence interval is in Fig. 4. Long-term outlook remains unchanged due to expected improved structural health of the CR, lower debt and trouble-free banking sector. The Czech crown is expected to strengthen slowly in long-term horizon with the rate around 2% per year and by the end of 2013 would be closer to the exchange rate 23.0 CZK/EUR.

This can have two reasonable explanations. The first explanation shows the weaknesses of the Eurozone and its crisis, leading to bigger and more serious problems solved only by quantitative easing which has only a temporary effect. The second would be more optimistic for the CR by meaning of stronger growth of real national product.

4.2 Developing the analysis and interpreting the results
Our analysis is based on responses being obtained from a total of 231 companies. The questionnaire was distributed to 350 Czech companies and it was returned by 231. The majority of answers were from enterprises having sales within the scale 1 – 50 mil CZK (40%) and other 36% include companies with sales among 50 - 500 mil CZK, which leads to the fact that respondents could be counted to the SMEs. A questionnaire based survey was conducted in order to obtain the necessary information. The questionnaires were distributed in printed and electronic form. Respondents were asked to characterize their currency risk management tools. The second part contained questions for those enterprises.
which do not use any derivate-based hedging form.

The key findings correspond with our hypothesis, that more than half of the researched companies do not use FX hedging tools and let their foreign trades unsecured. The interpretation of the follow-up findings covers several aspects. SMEs do not have a special department for risk management and currency operations. There is also the lack of professionals, who could judge the market situation and make a decision of derivate hedging as shown in Fig. 5. Using the bank service advisor or private consultant could be expensive and Czech companies also find such advices in the context with financial crisis untrustworthy.

![Fig. 5 Why SMEs do not use hedging tools](image)

Some of the commercial banks operating in the Czech Republic request a minimum conversion amount, which is for many SMEs unacceptable. Their sales can’t meet those requirements so financial derivate appear unavailable. A convenient product could be offered by a competitive bank, but it usually asks also for shifting accounts to them, which could cause more costs than effects. Czech enterprises are also conservative and do not want to change the bank or switch their accounts anywhere.

On the other hand, those SMEs, who practice hedging on everyday base, choose only proved products such as forward and spot contracts, which is obvious from Fig. 6. Even if there existed the whole range of other financial derivate, managers probably would not trust them or would not feel comfortable using them.

![Fig. 6 Types of contracts used by Czech SMEs](image)

Surprisingly we have discovered that entrepreneurs who are hedging FX risk use hardly ever any analyses. Neither fundamental nor technical even macro economical. The explanation can be the fact that almost all these contracts are done by bankers, who have some analyses available, so the entrepreneurs do not have to do it for themselves.

### 5 Discussions

Managers of SMEs very often suppose that currency hedging is suitable only for trades with a very high face value. There are also products in the “hedging instruments’ market” that are affordable and available for SMEs, so they could hedge contracts in very low volumes, e.g., 1000 EUR or USD. Lower sums are covered by CFDs (Contract For Difference) which are derivatives similar to forward, but at the maturity day there is no delivery of currency or currency option. CFDs operate on basis of leverage and companies need to pay down a smaller amount of money. The price of it is a spread.

A SME can as a treatment of exchange rate risk use netting, which is based on including receivables in the same currency. It is assumed that for the branch in one country that has opened long positions in certain currency, you can find a branch in another country that has short position in the same currency and with the same maturity. It is advantageous in two ways – elimination of exchange rate risk and also reduction of transaction costs related with conversion of foreign currency.

Exchange rate hedging is not worth in every case. It is always necessary to judge the costs
and risks caused by a company. Hedging is convenient mainly for companies having single shot high volume trade or for those having regular long term foreign trades.

6 Conclusion
From the general point of view, risk management in the Czech Republic is in its early stage. SMEs do not have extra team of risk managers - they don’t even have a single one. Focused on financial risk management are enterprises reliant to bank services and advice which could consequently lead to losses or higher expenses. We found out several reasons why FX risk hedging isn’t so popular in the Czech Republic.

We documented the reputation of some contracts, such as forwards and swaps, which have proven themselves to investors by some years now. Both bankers and entrepreneurs themselves already have experience with such contracts in the Czech financial market. The characteristics making these contracts attractive are their particular clarity and low complexity of the contract. The expected uptrend of CZK/EUR accompanied by high volatility rate seems to facilitate the use of more financial derivates, especially options, but contrary is the case. Bankers are very cautious in offering such products to initiated public and very often do not even know how will the situation with financial crisis develop in future days.

References: