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Zarządzanie finansami firm – teoria i praktyka

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Wstęp

Działalność gospodarcza, w skali zarówno makroekonomicznej, jak i mikroekonomicznej, składa się z gospodarki realnej wytwarzającej dobra i świadczącej usługi, w której kluczową rolę odgrywa szeroko rozumiana sfera finansów, obejmująca trzy zasadnicze grupy zagadnień: racjonalnego wyboru celów jednostek (organizacji) gospodarczych w aspekcie finansowym, optymalnych źródeł ich finansowania, a także efektywnego wykorzystania zgromadzonych zasobów finansowych.

Procesy globalizacyjne, a także kryzysy polityczne i wojskowe, sytuacja gospodarcza w Unii Europejskiej spowodowana falą imigracji, załamanie w gospodarce chińskiej muszą być uwzględniane przy podejmowaniu bieżących i strategicznych decyzji finansowych. Ponadto okoliczności te przyczyniają się do powstawania niekorzystnych warunków gospodarowania przedsiębiorstw w sferze pozyskiwania kapitałów, a w skali makro mogą prowadzić do powiększania deficytu i długu publicznego. Warunki zewnętrzne i wewnętrzne wymuszają jeszcze większą koncentrację teorii i praktyki zarządzania finansami na problemach zarówno finansów publicznych, jak i finansów przedsiębiorstw. Chodzi mianowicie o takie zarządzanie finansami, które powoduje pomnażanie bogactwa właścicieli kapitału i jednocześnie prowadzi do wzrostu dobrobytu całych społeczności. Zagadnieniom tym poświęcone są artykuły opublikowane w niniejszym zeszycie Prac Naukowych. Problematyka poruszana w przedstawionych opracowaniach dotyczy między innymi następujących obszarów zarządzania finansami: pozyskiwania kapitałów przez inicjatywy partnerstwa publiczno-prywatnego, udziału *venture capital*, zarządzania finansami w jednostkach sektora publicznego, np. w służbie zdrowia, zarządzania ryzykiem w podmiotach gospodarczych, sterowania strukturą kapitału i płynnością finansową przedsiębiorstwa, finansowania działalności innowacyjnej przedsiębiorstw, oceny efektywności inwestycji w odnawialne źródła energii, finansowych aspektów zamówień publicznych, finansów sektora bankowego oraz efektywności rynku kapitałowego.

Artykuły wchodzące w skład niniejszej publikacji są związane z coroczną konferencją „Zarządzanie finansami – teoria i praktyka”, organizowaną przez Katedrę Finansów Przedsiębiorstwa i Zarządzania Wartością oraz Katedrę Finansów Publicznych i Międzynarodowych Wydziału Zarządzania, Informatyki i Finansów Uniwersytetu Ekonomicznego we Wrocławiu z udziałem pracowników naukowych z najważniejszych ośrodków akademickich w Polsce, przedstawicieli praktyki gospodarczej i gości zagranicznych. Konferencja ewoluowała od wąskiego niegdyś ujęcia zarządzania finansami firm do ujęcia szerszego, którego istotą jest objęcie różnych sfer działalności gospodarczej, w których zarządzanie finansami ma duże

znaczenie. Dotyczy to finansów międzynarodowych, w tym finansów Unii Europejskiej, finansów centralnych (rządowych), finansów lokalnych (w tym jednostek samorządowych), finansów służb publicznych, jak również finansów wielu innych podmiotów gospodarczych.

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Mamy nadzieję, że niniejsza lektura będzie inspiracją nie tylko do dalszych badań naukowych, ale również do wdrażania innowacyjnych rozwiązań w zakresie finansów zarówno w sektorze przedsiębiorstw, jak i w sektorze publicznym.

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METHODS FOR PROVIDING ECONOMIC SAFETY IN BUSINESS TRANSACTIONS IN THE CONTEXT OF CURRENCY RISK

METODY ZAPEWNIENIA BEZPIECZEŃSTWA EKONOMICZNEGO W TRANSAKCJACH BIZNESOWYCH W KONTEKŚCIE RYZYKA WALUTOWEGO

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Summary: The crisis in the financial markets has contributed to the significant downturn of the global economy in recent decades and perturbations, including the foreign exchange market. In the modern world the exchange rate has a fundamental impact on the profitability of international economic relations. The article shows the importance of currency risk for the company's activities and management strategies that are inherent in the operation of international companies. The paper presents a conservative approach, the aim of which is to eliminate the transactional currency risk. As part of this strategy the available methods and instruments are described and analyzed by which it becomes possible to eliminate the exchange rate risk. The article describes the classification of financial instruments used to manage foreign exchange risk by companies in Poland. It analyzes the status and structure of the Polish market exchange rate risk management instruments used in economic practice.

Keywords: international finance, foreign exchange market, financial instruments, economic security, enterprise.

Streszczenie: Kryzys na rynkach finansowych przyczynił się do znacznego spowolnienia i zaburzeń w gospodarce światowej w ostatnich dziesięcioleciach, w tym na rynku walutowym. We współczesnym świecie kurs walutowy ma zasadniczy wpływ na rentowność międzynarodowych stosunków gospodarczych. W artykule przedstawiono znaczenie ryzyka walutowego dla działalności spółki i strategii zarządzania, które są nierozdzielnie związane z funkcjonowaniem firm międzynarodowych. Zaprezentowano konserwatywne podejście, którego celem jest wyeliminowanie transakcyjnego ryzyka kursowego. W ramach tej strategii zostały opisane i przeanalizowane dostępne metody i instrumenty, za pomocą których możliwe staje się wyeliminowanie ryzyka kursowego. W artykule przedstawiono klasyfikację

instrumentów finansowych wykorzystywanych do zarządzania ryzykiem walutowym przez przedsiębiorstwa w Polsce. Dokonano analizy stanu i struktury polskiego rynku instrumentów zarządzania ryzykiem walutowym stosowanych w praktyce gospodarczej.

Słowa kluczowe: finanse międzynarodowe, rynek walutowy, instrumenty finansowe, bezpieczeństwo ekonomiczne, przedsiębiorstwo.

1. Introduction

The process of globalization and the subsequent changes in management and competition conditions led to the necessity to approach enterprise management in a different way. This is why enterprises, as basic entities in the market economy, are expected to be able to manage their business efficiently. In order to survive in the market, companies have to manage any risks which arise while operating business activity, which directly translates into financial outcomes and future possibilities for the growth of each enterprise. In the current economic circumstances, the necessity to manage currency risk is a common problem affecting enterprises. Risk is defined as the possibility of failure, in particular, the possibility of the occurrence of events which are beyond the control of an entity, which cannot be precisely forecast and which cannot be fully prevented and which – through diminishing usable outputs or increasing inputs – render operations less effective or less profitable, ineffective or unprofitable [Best 2004].

In the market economy, exchange rate is one of the most important economic categories [Bennett 2000, p. 34]. Influencing costs and revenues of enterprises participating in international exchange is decisive in terms of the volume of imports and exports of a particular country. For domestic entities, import is more expensive than export when the domestic currency is weak, whereas export revenues are smaller when the domestic currency is strong. Therefore, currency exchange rate plays an important price-determining function, which means that it influences relative prices of domestic and foreign goods. For a foreign purchaser, the price for a particular good in Poland is a derivative of two variables, namely – the price for this good in zloty and the zloty exchange rate compared to the purchaser's currency. The exchange rate may also play an important stabilisation function in the economy. Through changes in the value of the domestic currency, the exchange rate may constitute a buffer isolating the country from disturbances, as well as a mechanism safeguarding against so-called asymmetrical shocks, which is of particular importance during crises on global markets. As a result of the development of modern technologies and globalisation which generates connections between economies, such mechanisms acquire great meaning, which the current global crisis is indicative of. Companies may face a lot of problems when confronted with currency risk and the need to manage it. The aim of this paper is to present the importance of the exchange rate for company finance within the context of international trade and to show methods which allow for the elimination of currency risk from business transactions.

2. Overview and characteristic problems about currency risk management

Currency risk is the risk run by companies with their payables and receivables nominated in other foreign currencies. Currency risk is a specific type of risk whereby the amount of receivables or payables in foreign transactions – when converted into a national currency – may decrease or increase respectively as a result of unfavourable changes in foreign exchange rates [Bilski 2006, p. 9]. Therefore, exchange rate changes alter the conditions of business activity for business entities which directly or indirectly conduct the exchange of goods and services with foreign entities or participate in capital operations on the global market. Currency risk affects many business entities, in particular in the era of spreading globalization. Because of that, currency risk is an inherent part of operating business activity in international conditions. The risk stems from the very nature of the currency market, where there is a constant fluctuation of exchange rates. Exchange rates depend on numerous factors which have long- and short-term influence, including:

- 1) economic factors (interest rates, inflation, foreign balance, monetary policy, GDP, etc.),
- 2) political factors (exchange regimes, sustainability of law, fiscal policy, etc.),
- 3) speculation on the currency market and central banks' operations.

Currency risk may be defined as: “the possibility to change the value of assets, cash flows or payables resulting from exchange rate changes” [Zajac 2003, p. 14]. Taking the above definition into consideration, risk management amounts to reducing potential deviations in the value of assets or payables from the planned or expected values.

Forex is the biggest and most liquid market around the world which turnover exceeds USD 4 billion a day and increases every year [<http://szkolenia.rp.pl> 2015]. Due to new technological solutions, this market – previously available only to the biggest players – became accessible also to companies and individual investors. In the case of importers or exporters, a high degree of volatility of exchange rates directly affects the outcomes of their activities. Subject to a multitude of external factors, the currency market is volatile and unpredictable. This is why, although there is a tempting chance of making a profit on favourable exchange rate changes, the article presents an approach consisting in full safeguarding of all payments in order to eliminate transactional currency risk in the business conducted. The risk of sudden market changes – if dangerous – may be very costly for the business conducted. This is why the presented approach does not take into consideration the specific currency-related speculative game and it focuses only on the economic viability of transactions. This approach has numerous advantages and allows for making decisions based on known future financial flows, which translates into economic security of business transactions in the context of exchange rates volatility.

Nowadays, currency risk management seems indispensable and although there exists a possibility to forecast changes in currency exchange rates in a company, such activities will bear a significant risk. The basic element of currency risk management is to stabilize future cash flow levels nominated in foreign currencies on the level which we are aware of and which we accept. In the approach to the risk management we can distinguish two concepts:

1. Conservative approach – it involves full hedging of currency positions in order that exchange rate changes do not entail changes in cash flow values. This is how, even today, irrespective of exchange rate fluctuations, we are able to determine the value of future payments in the domestic currency.

2. Active approach – in this case we make an informed decision to maintain currency exposure in part or in whole, expecting favourable exchange rate changes. Hedging a position (also paid) may take place whenever we decide that the level of exchange rate is favourable.

The ultimate objective of risk management is to improve company's financial results. The conservative approach to risk described above involves a maximum reduction of risk and taking best possible precautions against its consequences. In practice, the conservative approach amounts to measuring its level and using methods or instruments which will enable closing open currency items. Currency risk management may be defined as a logically arranged set of rules and principles which are uniformly and continuously used with respect to activities pursued by the whole enterprise [Lech 2003, p. 43]. The increased level of economic uncertainty within the context of the current crisis changed the way in which financial markets operate. With the increase of the instability of exchange rates, interest rates and raw materials prices on commodity markets, companies discovered that their value is affected not only by the risk characteristic of a particular type of business activity, but also the risk of price changes on financial markets. Dealing with an increased probability of significant changes of their value, enterprises started to look for new ways of dealing with financial risk. If it was possible to predict exchange rate changes with a high degree of probability companies could avoid unexpected and sudden value changes. However, in practice, it is very difficult or even impossible, among others due to the behavioural nature of the currency market, including the possibility of the occurrence of speculative actions. This is why, in order to eliminate the transactional currency risk, one cannot rely on forecasts; an alternative solution to this problem is to manage currency risk in order to eliminate it, without intending to take advantage of currency exchange rate changes which are favourable for a particular enterprise. The basic objective of such currency risk management is to stabilize future cash flow values at a level which is known, determined and acceptable. The conservative approach (safe, risk elimination) to currency risk management involves full hedging of a currency position so that exchange rate changes do not cause changes in cash flow values. Undoubtedly, benefits arising from the application of this strategy include:

- eliminating transactional currency fluctuations, which allows to determine future cash flow values,
- possibility of planning changes in enterprise due to known cash flows,
- improvement of the decision-making process,
- higher psychological comfort on the part of clients, suppliers and employees, because they know that an enterprise has scenarios for eliminating currency risk.

Additionally, when following the conservative strategy, the general currency risk management process, known from the subject literature, is substantially shortened by means of eliminating certain phases, such as analysing and measuring the acceptability of risk. There are two main phases in the currency risk management process in the conservative strategy:

- risk analysis (partial) – risk identification and measurement in order to evaluate possible hedging measures (choice criterion – lowest cost),
- choice of a method and/or instrument which will allow to eliminate currency risk from trade transactions.

3. Overview methods and instruments for eliminating currency risk and data analysis in Poland

Due to globalisation and the widespread nature of international trade, the avoidance of activities involving currency risk is tantamount to lack of international trade, which is nowadays simply impossible for the majority of enterprises. The dynamic development of the Polish financial market provides an increasing range of hedging instruments [Tchorek 2005, pp. 235-238].

Opting for the conservative approach leads to a strategy whereby each open foreign exchange position is closed. Although this entails high costs due to a higher number of hedging transactions and a higher sum of the hedged positions, there are methods to reduce such costs. The number of transactions and their value may be reduced by, for instance, netting exposure within a company and/or grouping minor transactions into a bigger one in order to negotiate better hedging conditions. Higher hedging costs may be compensated by means of lower fixed costs, as there is no necessity to employ qualified staff and conduct or commission currency market analyses and forecasts. It is impossible to overestimate the benefits of following this strategy during crises and economic turbulence which the world has been facing for the last two years. Economic justification and arguments in favour of the conservative strategy were presented in the previous chapter in this paper. In recent years, there has been a significant improvement in Polish entrepreneurs' approach to the issues of currency risk management. Many companies introduced policies involving the reduction of negative consequences of the currency market volatility. There are two main groups of hedging instruments:

- internal instruments (so-called natural hedging),
- external instruments.

Both groups include many instruments which facilitate effective currency risk management. The table below classifies such instruments.

Table 1. Classification of instruments for eliminating currency risk

Internal methods	External methods
<ul style="list-style-type: none"> • invoicing in the domestic currency, • currency clauses, • accelerating and delaying payments, • internal compensation, • netting, • adjusting currency positions. 	<p>Classic:</p> <ul style="list-style-type: none"> • discounting bills of exchange, • foreign exchange risk insurance, • international factoring (80%), forfaiting, • financial market instruments, <p>Derivatives:</p> <ul style="list-style-type: none"> • currency market instruments – forward transactions, futures, swap, currency options and complex option strategies.

Source: own elaboration.

The choice of the right method (instrument) for eliminating currency risk depends mainly on the cost, because in the assumed conservative strategy, all measures taken lead to the same outcome, namely to closing open currency positions. Before applying complicated external methods, the possibility of using internal methods should be considered, because strategy assumes that the best risk protection methods are the simplest, and as a consequence – usually cheapest, which is reflected in figure 1.

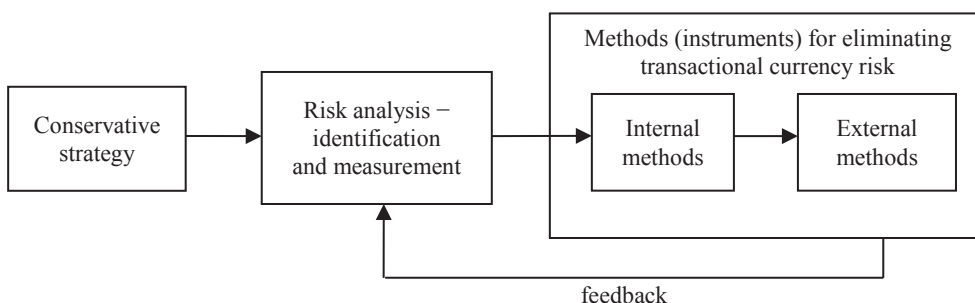


Figure 1. The process of currency risk management in the conservative strategy

Source: own elaboration.

Financial risk control involves individual risk management by a particular entity, i.e., so-called risk retention (internal methods) or transfer of risk to another entity (external methods). Retention of risk in the company is more popular in big corporations, which results from the position of such companies while entering into transactional agreements. Internal currency risk hedging methods include all available means and ways within the scope of the hedging entity's activities. Their

aim is to prevent the occurrence of open currency positions and to minimise the amount of currency that an enterprise needs to buy or sell in currency transactions. Some methods are available only for the party to the transactions that has a higher bargaining position with respect to its contractors. For instance, it will be difficult for a small company to impose their currency as the settlement currency while negotiating a contract with a big international company, which, however, does not mean that such negotiations should not be attempted. Another limitation is the unidirectionality of the currency flow. If a company is only an importer or exporter, it may not take advantage of the possibility to net revenues and expenditures in the same currency in order to limit the exposure to currency risk. If this is the case, the available solution is to combine several smaller transactions into a bigger one in order to negotiate better hedging conditions. An attempt to delay payments for enterprises from outside a capital group may have a detrimental effect on the company's image. Irrespective of such limitations, the first step in currency risk management should be making a maximum use of the possibilities provided by internal hedging. Only then should companies resort to external hedging, in particular from the forward market.

Generally, the idea behind external currency risk hedging methods amounts to transferring currency risk by means of an adequate instrument to a financial institution or another entity which is willing to take such a risk in exchange for an appropriate fee. The transfer of risk consists in shifting the responsibility from the owner of an open currency position to someone else. There are two forms of such a transfer [Adamska 2004]:

- transfer of an activity which generates potential losses – for example by way of subcontracting, i.e., hiring another company to perform specific work or including relevant clauses in an agreement,
 - transfer of responsibility for covering potential losses – may be in the form of an insurance, bank guarantee, surety or hedging operations.
- Transferring risk to another entity may take place in the following way:
- transferring risk within the business activity pursued to other entities by way of entering into cooperation agreements,
 - transferring responsibility for potential losses to contractors by way or including exclusion clauses in agreements,
 - transferring responsibility for potential financial losses to insurance companies by way of entering into insurance agreements or guarantees,
 - transferring responsibility to financial institutions, e.g. banks, under derivatives and other financial instruments.

The use of risk transfer is a positive example of risk manipulation which results include shifting the burden onto another entity.

Recent years saw the beginning of international factoring and forfaiting. International factoring consists in the acquisition by a bank or another financial institution of short-term trade liabilities payable to an exporter (factoring agent) by an importer [Rzasa 2015]. Reducing foreign exchange risk is possible thanks to

establishing a conversion rate of receivables as on the day of sales, i.e., at the current rate. Subsequent changes of the exchange rate affect only liabilities received when a debtor makes the full payment, i.e., the remaining 20% of the invoiced amount. Forfaiting, on the other hand, is a form of settlement operation which consists in purchasing forward receivables in the form of bills of exchange without the right of recourse against the previous holder of the bill of exchange. Most frequently, forfaiting is used in foreign operations and it is a form of non-cash payment in foreign settlements [<http://mojafirma.infor.pl/biznes-finanse> 2015]. Advantages of forfaiting are the following:

- it is guaranteed that the exporter immediately obtains funds,
- for the importer, payment with a bill of exchange protracts the outflow of cash from the company,
- currency risk on the part of the exporter is eliminated.

Another possibility is to use an instrument generally known as discounting bills of exchange which is a form of granting a short-term loan and may be applied under a discount facility agreement or in the form of casual transactions of acquiring bill of exchange liabilities. It is a convenient instrument for eliminating foreign exchange risk, because foreign bills of exchange are also accepted for discounting.

The conservative strategy described in the article, as it was initially assumed under the hedging idea, concentrated exclusively on eliminating the uncertainty of the possible result to be achieved in the future – it excluded both potential loss and profit. This approach includes the following instruments: forward and futures contracts and currency swap. A currency contract is the most popular instrument for selling or purchasing currency on a particular date. Forward contracts are non-standard instruments, usually sold by banks, whereas futures contracts are standardised and quoted on the stock exchange market. In order to protect themselves against risk involved in currency exchange rate decrease, exporters sell currency on a particular date, i.e., open short positions in contracts. Importers, on the other hand, in order to protect themselves against risk involved in currency exchange rate, buy the currency on a particular date, i.e., open long positions in contracts. A forward contract is an obligation incurred by two parties (long and short) to conduct a sale/purchase transaction of a certain amount of currency on a given day at an established price [Jajuga, Jajuga 2006, p. 55]. Many enterprises protect themselves by forward contracts, because they are common and relatively easily accessible. Moreover, their construction is transparent and factors which affect valuation are easy to control. A forward contract is an instrument which provides the easiest way to protect an enterprise against the negative influence of exchange rate fluctuations.

Futures contracts are standardised agreements (public trading) whereby one party undertakes to provide and the second party undertakes to receive a determined amount of currency, at a time and at a price determined beforehand. The transaction is virtual – only the difference between the transaction exchange rate and the actual exchange rate is subject to settlement. The obligation to buy or sell assets is not

obligatory and expires as the position is closed. This means that there is no obligation to maintain the contract until it expires, i.e., until the end of the quotation period. In practice, this means that by buying or selling a forward contract, we can “close” it at any time during a trading session. An investor may buy or sell a forward contract at any time. Currency swap is a contract in which a client and a bank exchange a defined amount in two different currencies for a particular period. In this transaction, the bank gives the possibility to acquire funding nominated in a currency necessary to settle payments and the company does not need to worry about the exchange rate risk or conversion costs. This type of transactions is applied if cash flows in two currencies are incompatible in terms of time. This happens when enterprises have one currency (e.g. arising from receivables or financing), but their liabilities are nominated in a different currency.

Nowadays, the term hedging also includes instruments which protect against negative results, but at the same time allow for preserving positive results [Machala 2009]. Currency options and complex option strategies are part of this approach. Currency options represent the right to perform sale or purchase transactions of a particular currency for another currency on a designated day in the future at the option execution rate established when entering into the transaction [Mielus 2002]. Whether the buyer exercises the rights they are vested with depends on mutual relation between the forward rate and the execution rate. Option strategies aim at closing an open currency position resulting from a trade transaction by entering into a transaction on a currency market and taking a position which is opposite to the hedged position [Kudła 2009]. Certainly transactions executed on the currency market must be synchronised with the settlement period of trade transactions and their volume. The effectiveness of hedging is conditioned on adequate preparation

Table 2. Average daily net turnover on the Polish currency market in April 2013 (in millions USD)

Currency exchange transactions	Foreign currencies / PLN	Foreign currencies / Foreign currencies	Resident	Non-resident	TOTAL April 2013
currency exchange spot transactions	1,730	594	1,086	1,238	2,324
factoring contracts (export factoring and forfaiting contracts – true forfaiting)	2	1	2	1	3
currency exchange forward contracts	452	12	451	13	464
dual currency interest payment exchange transactions (cross-currency interest rate swap CIRS)	110	15	0	125	125
currency swaps (fx swap)	3,088	1,493	666	3,915	4,581
currency options (fx option)	66	4	26	44	70
Currency market (total)	5,448	2,119	2,231	5,336	7,567

Source: [Narodowy Bank Polski 2013].

and then on the execution of the transaction on the currency market. Participants of hedging operations assume that potential losses which they will incur on the position resulting from a trade transaction will be compensated by profit generated from maintaining the opposite position on the currency market. If losses equal profits, such a situation is referred to as perfect hedging.

Daily net turnover on the domestic currency market stabilised at the level of 7.5 million USD (research in 2010 showed a similar result). Activity on the spot market increased due to the development of electronic transaction platforms dedicated to enterprises and individual clients. As a result of the financial crisis, currency-related factoring and forfaiting agreements are increasingly common. According to the analysis, the greatest activity of foreign companies takes place in the currency swap segment, which points to a natural need on the part of non-residents operating in Poland to have the Polish currency for the purpose of settlements. Forward currency exchange agreements constitute an important segment in which domestic enterprises have the biggest share in turnover. These agreements are adjusted to operations protecting against currency risk. Currency options, in particular option strategies which may be adjusted to individual strategies adopted by an enterprise, are increasingly popular on the currency market. It is claimed that most finance innovations arise in this segment.

4. Conclusions

Transaction risk related to currency fluctuations becomes an inherent element of business for many companies. Risk is usually associated with the possibility of incurring losses, which is the biggest danger involved in business activity from the point of view of companies. Currency risk management methods presented in this article are applied in order to prevent or minimise the consequences of adverse events which are beyond entrepreneurs' control. Adequate organisation of currency risk management undoubtedly provides perfect assistance in increasing the level of company's financial safety. The conservative strategy described in the article is a perfect solution in this context. Thanks to the usability of the described methods of eliminating transactional currency risk, they became an indispensable element of companies' operations. In recent years, together with the spread of this matter, the scope of available services has been extended, which led to the development of classic methods of protecting against currency risk. Separate departments in a company which are responsible for financial risk management are a vast source of information which provides descriptions and warnings against the changing economic reality. This creates a possibility to develop and improve strategies to avoid currency risk and allows to adjust investment conditions to the economic reality in order to guarantee their safe execution. The reality and management conditions are changing and new available instruments are created, so it seems that it is impossible to define rules of procedure which would apply to currency risk

management in all situations. This is why it is so important to make sure that an analyst with expertise, intuition and experience supervises the currency risk management process. Matters pertaining to currency risk prevention as well as optimum choice of securities on the stock exchange will be still valid due to the need to apply new solutions. The need to protect against currency risk applies to an increasing number of entities and the structure of their finance suggests that the group of stakeholders expands to include companies with a small turnover. This means that the use of hedging strategies may prove successful also in the case of small enterprises. Therefore, methods for eliminating risk may be effective in all types of economic activity.

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