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**Currency options and forward contracts and the risk of bankruptcy
of enterprises**

Abstract of doctoral dissertation

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1. Justification of the choice of the subject

Currency risk is considered one of the greatest challenges in the theory and practice of 21st century finances. It is a global problem, also important in the Polish economy undergoing intense structural changes. The need for continuous improvement of exchange rate risk mitigation methods as well as their knowledge are still a barrier to efficient and effective currency risk management, hence the success of an economic entity on the international arena depends on the correct selection of currency risk mitigation methods.

The essence of the concept of currency risk is inextricably linked to the first global financial crisis in the 21st century, in which numerous problems of enterprises related to concluded derivative contracts, in particular currency options, had a significant impact on the Polish economy. These instruments were supposed to hedge traders against exchange rate risk, but in practice, often speculative transactions forced the owners to introduce numerous corrective actions, often not only in the scope of concluded transactions, but also the need to restructure the entire operation.

Admittedly, one may risk a statement that after 2009, when concluding not only FX option contracts but also other derivatives, creditworthiness and actual needs are more rigorously tested with hedging of currency risk, and additionally banks carry out, among existing and potential clients, so-called adequacy tests indicating the knowledge and experience in the use of the above mentioned instruments, despite the passage of years seems to be still valid, because as history shows, insufficient knowledge of the basic principles related to concluded contracts may pose a significant risk of worsening the economic and financial situation financial institution and ultimately contribute to an increased risk of bankruptcy

This doctoral dissertation was an attempt to answer the following questions: 1 / of which resulted in the problems of derivative transactions concluded, 2 / what corrective actions were introduced, 3 / whether the introduced measures allowed to improve the financial standing of business entities.

2. Research area and the object of research

The main objective of the research was to answer the question whether the corrective actions implemented in enterprises using currency options and forward contracts influenced the improvement of their efficiency.

In order to achieve the main objective, the following sub-objectives have been defined:

- 1) Defining the basic strategies of currency options,
- 2) Determining the nature of the use of the law and the need to meet the obligation resulting from the contract for the purchase / sale of currency options,

- 3) Identifying factors affecting the risk of company's bankruptcy,
- 4) Defining the basic objectives of restructuring restructuring,
- 5) An assessment of the need to introduce a restructurization process, a methodology related to conducting restructuring processes of currency options and verification of the current financial situation of the surveyed group of listed companies.

The subject of the doctoral dissertation is the analysis of the impact of derivatives, in particular currency options on financial reporting of listed companies. The subject of the doctoral dissertation are companies listed on the main market, ie the Warsaw Stock Exchange.

3. Methology, data sources and the scope of the study

The main goal and sub-objectives determined the selection of the research model, which was based on the inductive-deductive approach using the following methods and research techniques: literature studies, comparative analysis and synthesis method. During the work on the dissertation, the available literature of the subject was completed, including for reports from the Ministry of Economy regarding the condition of the Polish economy, analytical reports of the Polish Financial Supervision Authority and reports on the bankruptcy of enterprises in Poland prepared by Coface.

The time frame of the doctoral dissertation covers the years 2007-2016. The selection of the examined years results from the fact that the largest losses related both to the valuation and implementation of currency options and forward contracts were incurred by the companies in 2008 and 2009, therefore an additional analysis was conducted in 2007 to answer the question whether these instruments were previously used by the respondents. companies, i.e. whether managers had knowledge of the risks arising from these instruments. In addition, taking into account the main objective of the work to fully assess the effectiveness of remedial actions, the study covered the subsequent years of operations in the years 2010-2016.

4. The layout and the content of the dissertation

The layout of the work results from the subject of research and the assumed research goal. The dissertation, apart from typical elements such as introduction, ending and relevant tables and attachments, consists of three chapters. In individual chapters, the main and sub-objectives have been achieved.

The first chapter of the doctoral dissertation was divided into two parts, where the first part defines the process of restructuring, ie the process requiring significant, often

fundamental changes in the company, which aims to improve both current (operational) and long-term (strategic) results. The second part of this chapter is devoted to the definition of the first economic crisis in the 21st century, with particular emphasis on the importance of the currency market and the impact of derivative transactions (currency options) on the Polish economy in this period. This was supplemented by the assessment of the situation of the Polish economy both in the financial and post-crisis years. The considerations of this chapter were strictly subordinated to separate sub-objectives to determine the factors affecting the risk of company's bankruptcy and to define the basic objectives of restructured restructuring.

The second chapter indicates the significance of issues related to the presentation of currency options in the financial statements. The second chapter, like the previous chapter, was divided into two parts. The first part defines the concept and types of currency options, including the aspects regarding the recognition and recording of these instruments in accordance with the accounting principles. The second part was aimed at defining the strategies based on currency options that could be applied by economic entities as tools for currency risk management. The considerations of this chapter were subordination to the first two sub-objectives.

The third chapter, strictly empirical, was subordinated to the last of the partial objectives, divided into three parts. The first two parts were subordinated mainly to the main objective and the third part is an additional element taking into account the problem arising with the currency options. The selection criteria were adopted for the selection of the research group, i.e. the share (over 5%) of short-term liabilities due to the valuation of currency options in total short-term liabilities based on data at the end of 2008, the share of total liabilities (long- and short-term) due to the valuation of currency options in the balance sheet total based on data as at the end of 2008, and the request for restructuring proceedings submitted in 2008/2009 due to liabilities arising from FX transactions. In this work, a group of companies was indicated, from which, taking into account the main objective of the work, the so-called "Target group" (based on the last criterion), which group of seven companies was subjected to a detailed analysis under the third chapter.

5. Cognitive and application results of the dissertation

The research model used in the work indicated the answer both to the reasons for taking restructuring measures as well as to verify and compare the effects of corrective actions. As the research showed for all (seven) analyzed units, the corrective actions implemented, in particular the restructuring of currency options translated into an improvement in financial results after 2009, however, when comparing individual data, one can notice significant diversification of the achieved effects. The above is additionally confirmed by the results achieved using Polish multidimensional discriminant models indicating the potential risk of bankruptcy described in detail in the second part of the third

chapter. The analysis of the results shows that the only company (excluding Zelmer who is currently not listed on the WSE) in which there is still an increased risk of bankruptcy is Sfinks. The positive effect of remedial actions can be seen on the example of Ciech, Odlewnia, Police and Ropczyce for which all the models adopted for the analysis point to a low risk of bankruptcy (at the end of 2008 and 2009 most of the models indicated an increased or high risk of activity). In addition, the adjustment of the models to the effect of currency options and forward contracts confirms their significance in that period, because their exclusion at the end of 2008 would translate into low or at most the average risk of bankruptcy of each company. As a complement to the research, international multidimensional models were used, where, as research showed, foreign models should not form the basis for assessing the financial situation of entities operating in the realities of the Polish economy.

In addition, the third chapter proposes criteria for assessing effectiveness based on the results obtained by the surveyed companies in 2010-2016. The results indicate that the highest efficiency of the restructuring process was achieved on the example of Ropczyce and Odlewnia. In the case of Ropczyce, among others, an increase in sales and net profit was recorded with an average sales margin of 5-8% and a net profit of 4.3-5.6% (higher profitability compared to 2006 and 2007), acceptable at the end of each year, the level of the current liquidity ratio (from 1.5 to 2.5) with positive working capital (at the end of 2016 over PLN 50 million). Foundries also reported high efficiency, where corrective actions allowed both an increase in sales revenues from PLN 78.7 million at the end of 2010 to PLN 138.2 million at the end of 2016, as well as an improvement in net profit and sales from year to year. and maintaining a safe level of the current liquidity ratio. What is important, the above allowed the company to rebuild equity, which at the end of 2016 constituted about 60% of the balance sheet total (at the end of 2008, the KW / PAS ratio minus 75%). The lowest effectiveness was assessed in Sfinks, among others high total indebtedness of the company over 85% at the end of 2016, the financial liquidity rate below unity.

In addition, the Forte company was also presented, which, unlike the other companies listed in this work, consistently yearly included new transactions based on currency options. Other companies after the settlement of currency options in 2007 and 2008 practically completely resigned from this instrument. The example of the Forte company confirms the statement that the use of an option as a hedging instrument is not a problem for the proper functioning of the company and, in addition, allows the improvement of financial results despite the fluctuation of exchange rates. While analyzing financial reporting, at the end of 2008 the company incurred a loss of (-) PLN 25 million including negative currency options (-) PLN 11.5 million as at the end of 2008, and actual cost related to settlement in 2009 due to the negative valuation of derivative instruments. these instruments amounted to PLN (-) 28.6 million, the subsequent years and the consistent use of simple option structures allowed for increasing the level of sales revenues from year to year, maintaining profitability

in each of the areas of the income statement, where in 2016 the Company closed the level of revenues over PLN 1 billion (for the first time in history) and the net profit of PLN 97.2 million (the highest in the analyzed period). In addition to the stable financial situation, the fact that from 2008 the Company maintained the level of the current liquidity ratio at a level no lower than 1.7 in each period. Additionally, based on the financial results at the end of 2008-2016 and based on Polish models of bankruptcy risk analysis, in all of these periods most models indicated low risk of bankruptcy.

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