

PECULIARITIES OF DERIVATIVES MANAGEMENT IN NON-FINANCIAL ORGANIZATIONS

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***Abstract.** In the article have been considered peculiarities of derivatives usage by non-financial organizations in order to determine those aspects that require special attention from management in the process of making and implementing managerial decisions in this area. Among such peculiarities have been proposed the following issues: legislative regulation; the ratio of hedging and speculative operations as the main purposes of derivatives usage; contradictory practice of application in order to hedge risks; increased risk, related to derivatives; the ratio of price and value of derivatives; the role of physical movement of goods in strategies of derivatives usage; hedge accounting application; tax consequences of derivatives usage. For each of the proposed peculiarities have been proposed managerial aspects, which are relevant in the context of making and implementing management decisions. Such systematization of the peculiarities of derivatives usage will allow the management of non-financial organizations to better understand the details of the operations carried out, as well as to allocate managerial resources in the process of managing derivatives more efficiently.*

***Keywords:** derivatives, hedging, speculative operations, non-financial organizations, management.*

Introduction. Derivative instruments such as forwards, futures, options, swaps, as well as their combinations with each other may be relevant for non-financial organizations. Most often, the need for the use of derivatives in non-financial organizations will strengthen as the impact of currency exchange rate volatility or commodity prices increases. Derivatives may be used for hedging risks and less often for speculative operations. The main problem associated with derivatives usage is that derivatives can in some cases themselves become a

source of increased risk and potential losses for the organization. It requires active participation of management in the process of making and implementing management decisions. For example, as noted by Bae S.C., Kim H.S., Kwon T.H., analyzing the use of hedging by South Korean companies, “the positive effects of hedging for the sample of companies were not identified at least due to the lack of effective hedging management, which connected with the choice of non-optimal hedging strategies and excessive costs associated with hedging”. And further, “... our research shouldn’t be considered as a reason for not hedging risks using derivatives, but it notes the importance of actively managing hedging strategies based on the analysis of the ratios of potential benefits and related costs” [1].

Thus, derivatives, regardless of the purpose of application, should be managed competently. This requires understanding the main peculiarities of derivatives usage in order to properly allocate management resources in accordance with the most important aspects of derivatives application. Therefore, the purpose of this work is to analyze the peculiarities of derivatives usage by non-financial organizations and to identify those aspects that will be important in the process of making and implementing management decisions. The theoretical and methodological basis of the research is regulatory acts, analysis of the use of derivatives by foreign scientists, primarily on the example of US companies, practical recommendations of consulting companies, as well as materials presented by exchanges.

The main part. In the conducted study have been identified 10 peculiarities of derivatives usage by non-financial organizations and relevant aspects that will be important in the process of making and implementing management decisions. Further they are described in more detail.

1. Legislative regulation. Difficulties are caused mainly by over-the-counter derivatives since the terms of such contracts are not typical and they may include multiple reference norms (for example references to ISDA documentation instead of clear description of rights and obligations), there may be requirements for creating reserves and also there exist possibility of making negative decisions when considering cases on over-the-counter derivatives in courts. Research in the field of legal regulation of the derivatives market is based on legislation of a specific jurisdiction and is given in the works of such authors as Safonova T.Y. [2], Shaik K. [3], Rainer, G. [4]

Aspects relevant for making management decisions: recognition of settlement over-the-counter transactions as betting transactions, the procedure for collecting mutual collateral and offsetting counterclaims (netting), legal qualification of complex derivatives.

2. The ratio of hedging and speculative operations as the main purposes of derivatives usage. Hedging risks using derivatives assumes fixing future cash flows at a certain level, which increases the stability of activities, increases investment attractiveness, increases the reliability of planning, etc., but does not assume extracting profit directly from trading operations, while speculative operations assume taking on increased risk in order to obtain additional profit. The analysis of failures in the use of derivatives, in particular due to the incorrect definition of the purposes is given in the work of Jacques L. [5]. In general, the purposes of derivatives usage are characterized in any major work devoted to this topic, for example, the already mentioned works [2, 3].

Aspects relevant for making management decisions: the ratio of hedged cash flows and volumes of derivative transactions: 1:1 – full hedging, less than 1 – partial hedging (if optimization models are applied it is referred to as optimal hedging), more than 1 – the presence of a speculative position; the hedge ratio changes over time – dynamic hedging, does not change – static hedging.

3. Contradictory practice of application derivatives in order to hedge risks. Theoretically, risk hedging has a positive effect on the company’s position and its investment attractiveness, but empirical studies are quite contradictory. There are various purposes for the

use of derivatives and reasons for refusal. Different empirical results are caused by the specifics of the work of each industry considered and the corresponding time period. At the same time global (coverage not only of US companies) studies of the use of derivatives for both hedging and speculation are very limited, and most companies resort to derivatives usage on a case-by-case basis according to their vision of the market at a particular time. Studies of the impact of hedging on the value of the company, as well as the reasons for refusing to hedge, are given in the works of Stulz, R. [6], Phan, D. [7], Bartram, S.M. [8] and other authors.

Aspects relevant for making management decisions: in the process of making decision to hedge risks using derivatives, it is necessary to take into account the current conditions of a particular organization, without relying on the positive experience of other organizations, since the result of hedging for each company will vary significantly.

4. **Increased risk.** Derivatives, being a risk transfer and management instrument themselves carry increased risks. The reason for this dual nature of derivatives is caused by the fact that at the time of conclusion of a transaction with derivatives, the entire amount of the transaction is not paid or a small part of it is paid, for example, the amount of the option premium. That is, transactions with derivatives allow you to carry out leveraged transactions, which in case of unfavorable movement of market variables is associated with significant losses. The riskiness of the process of derivatives usage is considered in the works of Safonova T.Y. [2], Jacques L. [5] and others.

Aspects relevant for making management decisions: monitoring of price, credit, liquidity risks arising from the presence of derivatives in the company's portfolio, selection of control procedures in accordance with the purposes of derivatives usage (risk hedging or speculative operations).

5. **The ratio of price and value of derivatives.** The price of a derivative is the value at which it will be necessary to buy or sell the underlying asset in the future multiplied by the volume of the contract it forms the notional value. The market value of the derivative reflects the value at which the instrument can be sold at the current time. The market and notional value of derivatives in most cases differ significantly. The works of Gottesman A. [9], Wendy L.P. [10] are devoted to the issues of price formation and determination of the market value of derivatives, practical examples of evaluating exchange derivatives are provided on the resources of exchange platforms, for example at the St. Petersburg International Commodity Exchange [11].

Aspects relevant for making management decisions: in the financial reporting positions on derivatives are reflected at market value (that is, the size of opened positions is not reflected), an additional analysis of notional and mutually of compensating positions is required.

6. **Peculiarities in the Republic of Belarus.** Operations with derivatives have not become widespread among non-financial organizations in Belarus; there are a number of issues in the field of legislative regulation, low activity of exchange trading on the futures market and low liquidity of exchange instruments. The analysis of the development and peculiarities of the Belarusian derivatives market is given in the Analytical Review of the National Bank of the Republic of Belarus [12], the works of Nasonova I.V. [13], Sidorenko Y.Y. [14], Masko L.V. [15] and other authors.

Aspects relevant for making management decisions: clarification of legislative issues requires sending requests to relevant ministries and departments, when choosing derivatives for application it is advisable to consider variants in derivatives markets abroad, also it is necessary to coordinate the volume of risk hedging within several enterprises belonging to concerns or holdings.

7. **Application of hedge accounting.** Hedging accounting allows company to reduce fluctuations of profit indicator in the financial reporting, but requires additional

documentation and efficiency assessment for reporting purposes. For the purposes of preparing financial statements, transactions for the purchase and sale of goods with deferred execution may qualify as ordinary transactions and not as derivatives. In detail the features of hedging accounting and approaches to assessing the effectiveness of hedging for reporting purposes (according to the rules of IFRS) are presented in the work of Ramirez J. [16].

Aspects relevant for making management decisions: it is important for management to make a principled decision on the application /non-application of hedge accounting, which will affect profit – a key indicator of the organization’s activity (such a decision should be made before the hedging relationship begins).

8. Tax consequences of derivatives usage. Hedging risks using derivatives has a positive impact on tax consequences in conditions of a progressive scale of taxation. In addition to the theoretical reasons why it is possible to reduce taxes with the help of derivatives there are also practical situations that are associated with the ambiguity of the taxation of derivatives at the legislative level due to inconsistency uncertainty and asymmetry of tax regulations. The tax consequences of derivatives usage are considered in more detail in the works of Donohoe, M.P. [17], Raskolnikov, A. [18], Smith, C. [19].

Aspects relevant for making management decisions: it is required the control of tax norms in terms of attribution of losses to the general tax base, including questions on drawing up hedging confirmation, transferring income/expenses to future periods, etc.

9. The role of physical movement of goods in strategies for the use of derivatives. Jacques L. defines the lack of ability to coordinate interaction between departments when performing operations with derivatives as “... one of the reasons for a number of financial shocks caused by the presence of derivatives in the company’s portfolio” [5]. It is required when opening/closing positions in the derivatives market to control the availability of capacities for the production, transportation and storage of commodity assets, as shown in figure 1.

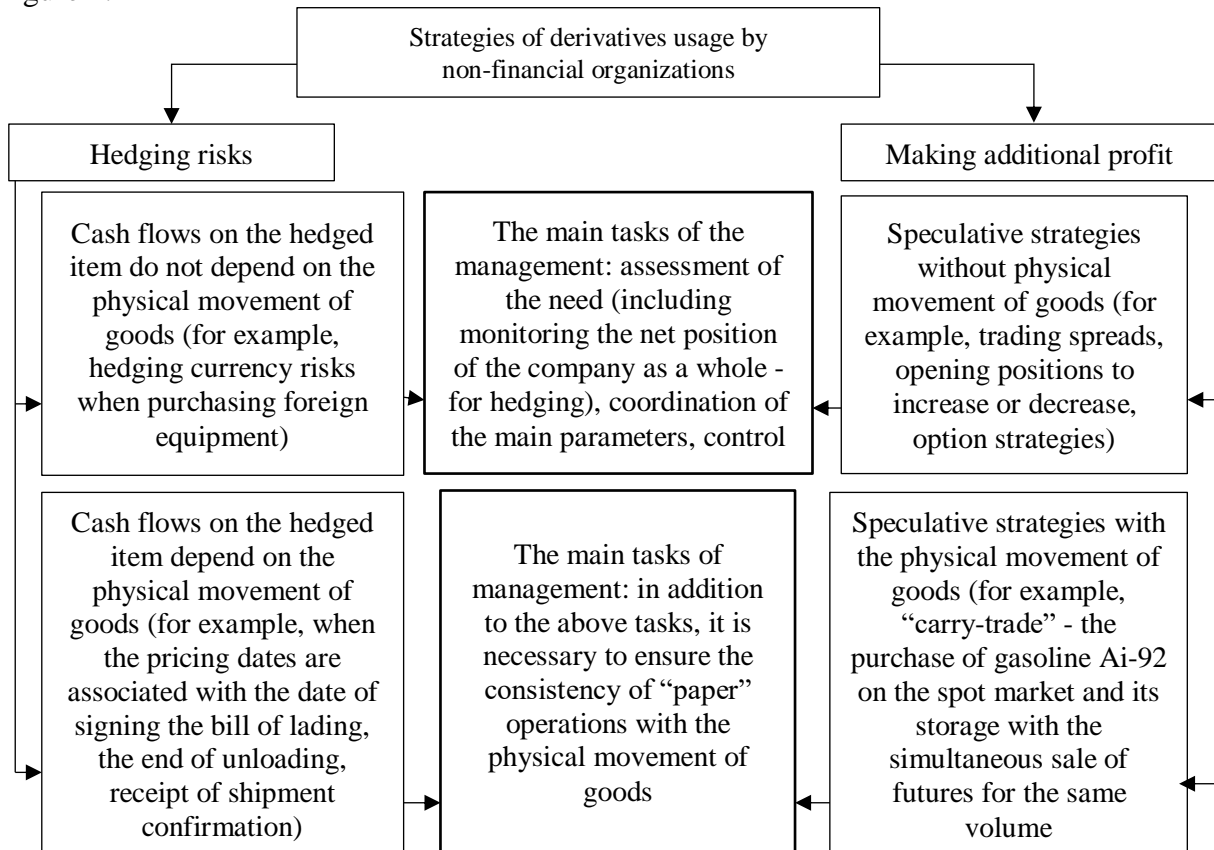


Figure 1 – The influence of the physical movement of goods in derivatives strategies on management decision-making

Source: own development

As can be seen in the diagram shown in figure 1, the physical movement of goods in the strategies of derivatives usage will complicate the process of making and implementing management decisions. This leads to the need for well-established interaction between the financial and production departments of the organization in terms of information exchange and coordinated joint actions under the supervision of the organization's management.

Aspects relevant for making management decisions: coordination the mechanisms of interaction between departments responsible for the implementation of "paper" transactions with departments responsible for the production, transportation and storage of commodity assets, on which the applied derivatives are based.

10. Peculiarities in the world. The derivatives market is dominated by interest rate contracts, while the regulation of the market was significantly affected by the crisis of 2007-2009; commodity and currency derivatives markets are important for non-financial organizations, where various financial institutions, including banks, hedge funds and investment companies, work in search of diversification. Regulation of the swap market in accordance with the Dodd-Frank Act can be presented as follows: supervisory authorities exercise their powers within the appropriate boundaries, reporting on the implementation of swap transactions is provided to trading authorities, depending on the type of swaps – standard or non-standard, there are requirements for central clearing or for securing a transaction and the amount of capital.

Aspects relevant for making management decisions: in the case of entering foreign over-the-counter markets, compliance with the Dodd-Frank Act [20] in the United States and similar laws in other jurisdictions would be required.

Conclusion. Thus, ten peculiarities of derivatives usage by non-financial organizations were identified, which, in our opinion, quite fully cover the entire range of problems that may arise in the process of derivatives application. For each of the highlighted feature the most important aspects for making and implementing management decisions were identified. These aspects require competent knowledge and increased attention from the side of decision makers, which will contribute to use of derivatives in non-financial organizations more reasonably, avoiding unnecessary mistakes.

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