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Disclosure of the Risks of the Organization Influencing Decision Making by Users of Financial Reporting

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Abstract: Uncertainty and risk always accompany decision making process in all spheres of life activity of the person. Subjects of business activities at adoption of economic decisions including taking into account information which is contained in the financial reporting of the enterprises are in an uncertainty concerning effects of these decisions. The majority of solutions of subjects of business activities are connected with their aspiration to reach the greatest possible income. The concept of risk is significant in economy as persons who make decisions compare risks with the expected income. The purpose of our research is to define a format and content of disclosure of the risks in the financial reporting.

Key words: Disclosure, risks, financial reporting, professional accounting judgment, Monte Carlo method

INTRODUCTION

Modern researchers of problem disclosure of the risks in the financial reporting are Linsley and Lawrence (2007), Miihkinen (2012), Song (2015), Htay and Salman (2015), Suh and Ugrin (2015) and Zimmermann *et al.* (2015). But, these researchers do not investigate risk as independent object of financial accounting. In our study, we used the Monte Carlo method as the instrument of forecasting of future income taking into account risks assessment which is often used in economic researches and literature (DiClemente, 2015).

I.F. Cher was one of the original researchers discussing a problem of financial accounting of risk. In particular, the researcher raised a question of whether it is necessary to estimate the value of the assets of the enterprise taking into account risk or to allocate risk as independent object of accounting. "From a formality the question is subject to research whether it is necessary to take this award into account only at calculation as cost element or at the same time it has to be considered by accounts department and balance". In the reasonings on this subject I.F. Cher drew a conclusion that the size of an award for acceptance of risk is considered generally at cost accounting of assets at cost determination of sales of the enterprise. "In most cases the award for risk makes, thus, not a problem of accounts department but only a cost accounting element" (Ishak *et al.*, 2014).

The problem of financial accounting of risk has been raised much time in the works also by professor Ya.V. Sokolov. So, it gives emergence at the entrepreneur of the risk connected with the fact that the part of purchased goods will not be sold as an example and suggests to adjust the original cost of goods at a size of expected risk. In the book "Bases of the Theory of Financial Accounting" Ya. V. Sokolov notes that accounting data will be able to be a source to information for adoption of efficient decisions on enterprise management only if along with a representativeness and the importance allow to estimate "the risks connected with effects of the made decisions" (Kulikova *et al.*, 2015). Situations in which users of the financial reporting should make economic decisions are schematically represented in Fig. 1.

In process of decrease in informational content which amplifies during removal of the moment of emergence of the expected facts of economic life of date of drawing up accounting reports, uncertainty increases concerning the size of the income expected from use of assets of the enterprise. The long-term forecast is characterized by smaller reliability owing to impossibility to consider influence of risk factors, again arising and unknown at the time of forecasting.

Theory: Now, the concept of risk of the international practice of financial accounting is not news. The considerable part of IFRS contains mentioning of risk and (or) uncertainty. The concept of risk of those standards which are devoted to estimates of objects of financial accounting is extremely important: IFRS 13 "Fair value" (IFRS Manual of Accounting, IFRS 13, 2012) and IAS 36 "Impairment of assets" (IFRS Manual of Accounting, IAS

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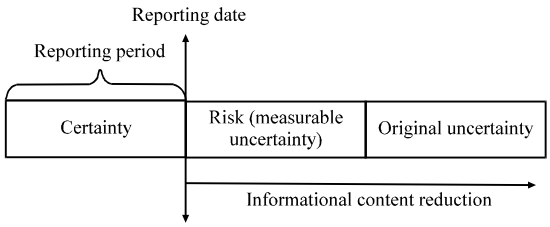

Fig. 1: Situations in which the users of financial reporting have to make economic decisions

36, 2012). In the conditions of need of accounting of risk by preparation of accounting (financial) reporting special relevance is received by use of fair, discounted cost, a net realizable value which according to IFRS 13 "Fair value", IAS 36 "Impairment of assets", IAS 2 "Inventories" represent the expected cash receipts from use of different assets of the enterprise and therefore are characterized by some degree of certainty, reducing entropy of information. Thus, in IFRS at an assessment of assets in the balance sheet it is necessary to consider risk.

When calculating fair value indirect methods of accounting of risk. For example, use of a rate of settlement percent taking into account an award on risk and a method of the guaranteed equivalents are applied. Taking into account an award on risk "the assumption that the rate of settlement percent used when discounting the income occurring at different times and expenses on this investment has to consider an award for risk is the cornerstone of a method of use of a rate of settlement percent". The essence of a method of the guaranteed equivalents "consists that if some project is provided by a risk cash flow, everyone a component of which is described by some distribution of net income, then everyone such the component can replace it with the guaranteed equivalent for the this person making the decision". Thus, the fair value from the point of view of risk contains the following assumptions:

- The risk is understood as probability of approach of an undesirable event but not a deviation of future values of the income from forecasts both in smaller and in big the parties
- Only external factors of risk causing emergence of market risk are considered
- Following I.F. Sherr's ideas, the risk is not independent object of financial accounting and is considered in asset cost
- Calculation of risk is made on the basis of the average market indicators used by participants of the market

In IFRS, it is used one more cost type based on an assessment of the cash flows expected to receipt use value. This type of an assessment is applied in a case when there are impairment of assets signs given in the item 12 of IAS 36 "impairment of assets". Within international standards the value of use represents an assessment of the cash flows expected from use of this asset or group of the assets discounted at the rate including an assessment of temporary cost of the money and risks characteristic of this asset.

At first sight, the value of use is very similar to the fair value, estimated by means of an income approach. In the item 53A of IAS 36 "impairment of assets" is specified the main difference of fair value from use value (IFRS Manual of Accounting, IAS 36, 2012). Fair value reflects assumptions which participants of the market could make at establishment of asset cost and use value, on the contrary, considers influence of factors which are characteristic of this enterprise and are not the general for the enterprises in general.

However, further, we considered the item A18 "using present value techniques to measure value in use" of IAS 36 "impairment of assets". It is indicated the need of correction of a discount rate taking into account how the market would estimate the specific risks connected with an assessment of cash flow from use of an asset. The IAS 36 "impairment of assets" orders to consider at determination of value of use country, currency and price risks, i.e., risk factors, external in relation to the specific enterprise. Thus, risks assessment at calculation of value of use as well as when calculating fair value, considers expectations of participants of the market on which this asset type or similar asset types is traded. In spite of the fact that the value of use differs from fair value in the fact that reflects influence of internal but not market factors. These two different value types regarding risk assessment are similar among themselves. Both when calculating fair value and at calculation of value of use of an asset, the current market risks assessments are considered.

Thus, the risk is not independent object of financial accounting and is considered at value determination of assets in a discount rate or at an assessment of distribution of the cash flows expected from use of assets (a method of the guaranteed equivalents).

However, at value determination of assets the risk is not always considered. The value of the non-current assets estimated with use of model on actual costs and also inventory cost is estimated without risks assessment. At the same time, the risk in a varying degree accompanies any economic decisions in the field of entrepreneurship. At decision making about investment of means into this or that asset whether it be the

equipment or raw materials, the entrepreneur or the manager is in an uncertainty concerning results to which will lead these decisions. Respectively, the expected income from the made investments is characterized by some distribution which needs to be considered at value determination of an investment object, irrespective of the asset types which are objects of investment of capital.

At value determination of assets only external factors of risk, such as fluctuations of the average level of goods prices (work, service), the market situation, changes of bank rates and so forth are considered. In the form of the cash flow expected from use of assets exert the impact not only external but also internal factors inherent in the specific enterprise on convertibility of an indicator of an economic benefit.

Financial risks are provided by market risk, credit risk and liquidity risk. Market risks are connected with possible effects, adverse for the organization, in case of change of market parameters, in particular the prices and price indexes (on goods, works, services, securities, precious metals, other), interest rates, foreign exchange rates. The organization has to analyze the sensitivity to each type of market risks to which it is subject on a reporting date and to reflect effect which would be rendered on profit (losses) and the capital of change of the corresponding variable, influencing risk level. Credit risks are connected with possible effects, adverse for the organization, at non-execution (improper execution) by the debtor of obligations. On credit risks information on a financial condition of the debtor, on timeliness of debt repayment, interests on loan, etc., has to be opened. At disclosure of information on credit risk we recommend to decipher:

- The maximum extent of credit risk on each group of the financial investments
- Analysis results of credit quality of the financial investments which are not neither delayed, nor depreciated
- Analysis results on terms of the financial investments which are delayed but are not depreciated
- Information on the received providing and other instruments, reducing credit risk (for example, about guarantees)

The liquidity risk is connected with opportunities of the organization timely and in full to repay the financial liabilities which are available on a reporting date. There are accounts payable to suppliers and contractors, debt to creditors on the obtained credits and loans (including in the form of bonds, bills of exchange), etc.

In turn, it should be noted, that the liquidity risk is inversely proportional profitability. The quickest assets either do not bring in any income or bring in extremely low income. The long-term investments and projects usually promise the greatest income what it is necessary to pay with derivation of money for long term for. Restriction of liquidity risk means, first, minimum admissible value of highly liquid assets, secondly, the most admissible value of low-quick assets. Act as the factors influencing liquidity of the enterprise are:

- A possibility of receiving a loan or credit lines which can be used for liquidity maintenance
- Potential financing sources
- Concentration of liquidity risk on assets or financing sources
- Availability of procedure of internal control and action plans in emergency situations with risk management objective of liquidity
- Availability of instruments which provide a possibility of early repayment (for example, in case of lowering of the credit rating of the enterprise)
- Availability of instruments which could demand providing mortgage providing (for example, the requirement to bring a security deposit for derivatives)
- Availability of instruments which allow the enterprise to choose a method of repayment of financial liabilities by means of money (or other financial assets) or own stocks
- Availability of instruments which are adjusted by the general agreement about offset

By preparation of the analysis of financial liabilities on repayment periods the enterprise uses professional accounting judgment for determination of the corresponding quantity of time frames. For example, on the classification offered by IFRS, the enterprise can establish that the following intervals are the most suitable: no >1 month; >1 month but <3 month; >3 month but <1 year; >1 year but <5 year.

The enterprise is obliged to open information on the issued providing any the available restrictions on use in the planned purposes of unpaid assets. For example, if at the enterprise are registered on balance of an stocks, addressing on stock exchange and they are providing on the credit for a period of 1 year, then it is impossible to consider as a highly liquid asset of an stock in this case as they will be encumbered before complete loan repayment. If the enterprise issued guarantees, accepted bills of exchange that represents transaction on providing issue, these circumstances have to be estimated as can demand cash outflow.

Country and regional risks are defined by a political and economic situation, geographical features in the country and the region in which the organization performs usual activity and (or) is registered as the taxpayer. These are the risks connected with the possible military conflicts, introduction of emergency state, strikes, the increased danger of natural disasters, possible interruptions in transport connection or its termination, etc.

Industry risks are connected with industry specifics of the enterprise, seasonality of works and a production cycle of financial and economic activity. Legal risks are connected with change of currency and customs regulation, tax laws.

The reputation risk can lead to reduction of number of clients of the organization owing to negative idea of quality of products sold by it, works, services about an adherence to deadlines of deliveries of products, performance of works, rendering services about participation in price collusion, etc.

In the conditions of strengthening of interdependence of organization activity in the conditions of market economy reasonable allocation in separate group of the risks caused by activity of the related parties of the organization is necessary. This type of risk, in most cases is connected with pricing of transactions between the interdependent parties. Thus, the requirement about that the disclosed information about risks was available to users. In activity of the largest enterprises now questions of risk management as the mechanism of maintenance of stability of functioning and development of an accounting entity are very actual is essential.

However, as professors Gurov and Cheglakova everyone note the interested external user of information on activity of an accounting entity has to own certain skills of recognition of availability or lack of a specific type of risk (Averianov *et al*., 2013). Therefore, it is very important to know indicators of the general risk component of the balance sheet of the organizations. According to their position can act as them:

- High concentration of assets in separate positions
- Sharp increase or reduction of account balances of stocks, money and accounts receivable
- Delay of turnover of the current assets
- Availability of a loss and accounts receivable, unreal for collecting, etc.

Research showed that determination of sensitivity of the organization to change of economic conditions, promotes forming of the most optimum strategy of development and adoption of the most rational economic decisions. The offered information representation format about risks allows not only to show exposure of the enterprise to these or those risks but also to estimate their influence on organization activity indicators. That, in turn, promotes formations of a complete idea of financial perspectives of organization development.

The organizations which are subject to other types of risk can open in detail the additional information about influence of these risks on future economic income in financial reports (Kharisova and Kozlova, 2014). So, the enterprises occupied with exploration and evaluation of mineral resources us are recommended to open information on risks of non receipt of the income from exploration and evaluation assets.

MATERIALS AND METHODS

As the instrument of forecasting of future income taking into account risks assessment Monte Carlo method (Monte Carlo Simulation) who consists in carrying out imitating experiment can be used (Spicar, 2014). A basis of creation of model by this method is the principle of accident. As a result of application of this method probabilities of implementation of options of these values are defined. Simulation modeling on a Monte Carlo method (Monte Carlo Simulation) allows to construct a mathematical model for the project with uncertain parameter values and knowing probabilistic distributions of parameters and also communication between changes of parameters (correlation) to receive distribution of future income. It is necessary to apply special mathematical apparatus to use of a Monte Carlo method. The flowchart provided in Fig. 2 reflects algorithm of the considered method.

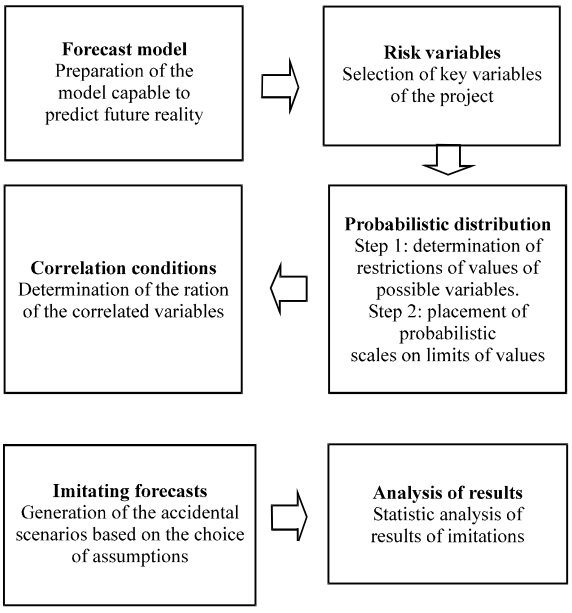

Fig. 2: The algorithm of the Monte Carlo method

Table 1: The results of simulation analysis the Monte Carlo method for Motorinsky field

Parameters	Variable costs (V) (thousand rubles)	Quantity (Q) (thousand ton)	Price (P) (rubles/t)	Net Cash Flow (NCFt) (thousand rubles)	Net Present Value (NPVt) (thousand rubles)
Average value	2241.15	1.70	11 328.1	9073.88	-15 297.59
Standard deviation	454.10	1.40	1 417.9	6470.27	721.20
Variation coefficient	0.20	0.82	0.1	0.71	-0.05
Minimum	911.30	0.30	9 910.2	969.68	-16 200.92
Maximum	3571.00	3.10	12 746.0	17985.68	-14 304.24
Number of cases of NPV<0	-	-	-	-	17.00
Amount of losses	-	-	-	-	-258441.80
Amount of the income	-	-	-	-	0.00

Table 2: The results of simulation analysis the Monte Carlo method for Neznaykinsky field

Factors	Variable costs (V) (thousand rubles)	Quantity (Q) (thousand ton)	Price (P) (rubles/t)	Net Cash Flow (NCFt) (thousand rubles)	Net Present Value (NPVt) (thousand rubles)
Average value	6686.50	5.25	11 328.1	5379.08	-14 873.05
Standard deviation	813.05	3.85	1 417.9	8337.12	905.07
Variation coefficient	0.12	0.73	0.1	1.55	-0.06
Minimum	1635.20	1.40	9 910.2	-8678.72	-16 399.16
Maximum	11737.80	9.10	12 746.0	15666.88	-13 756.21
Number of cases of NPV<0	-	-	-	-	18.00
Amount of losses	-	-	-	-	-236720.20
Amount of the income	-	-	-	-	0.00

RESULTS AND DISCUSSION

Use of this method was approved by us on LLC "Tatneft-Severny", Russia. Information base for carrying out the analysis are the data obtained within system of the strategic managerial accounting providing updating and maintenance of relevance of an information structure of PJSC "Tatneft", planned change of costs of LLC "Tatneft-Severny", a refunding rate (discount rate) of the Central Bank of the Russian Federation, the legislation of the Russian Federation.

The imitating analysis of an indicator NPV (Net Present Value) of the Motorinsky field and Neznaykinsky field is carried out on the basis of Monte Carlo method, using the MS Excel functions. The main resulting indicator is the net present value which is on a Eq. 1:

$$NPV = -I + \sum (CF_i/(1+r)^n)$$

Where:

NPV = The net present value of the project
I = Net initial investments in the project
CF_i = Cash flows from project implementation
r = Discount rate
n = Project duration

At the same time, the generated receipt flow has an annuity appearance. The size of a cash flow can be determined by a Eq. 2:

$$CF_i = [Q \times (P-V)-F-A] \times (1-T)+A \quad (2)$$

Where:

CF_i = Cash flows from project implementation
Q = Production volume
V = Variable costs
F = Fixed costs
A = Depreciation
T = Income tax

The key varied parameters are variable costs, volume of production and the price. Analysis results are provided in Table 1 (for the Motorinsky field) and in Table 2 (for the Neznaykinsky field).

The analysis showed that during license term the investment project is inefficient, the loss amount in 17 years makes 258, 441,8 thousand rubles, the annual loss will average 15,297,59 thousand rubles. The analysis showed that also as well as on the Motorinsky field during license validity period the investment project is inefficient. Total amount of a loss makes 23,67,20,2 thousand rubles. The annual loss averages 14,8,73,05 thousand rubles.

One of the most important analysis stages of results of simulation modeling is research of dependence between the net present value and cash flow. In Fig. 3 and 4 schedules of distribution of the cash flow and the net present value during validity period of licenses for Motorinsky and Neznaykinsky fields, respectively are provided. Our research showed that the direction of fluctuations between the net present value and the cash flow, there is a strong correlation close to functional. Ensuring profitability for the Motorinsky field, requires increase in price level of oil sale by 78% or increase in an initial output of wells from project 5-35 t/day. Ensuring profitability for the Neznaykinsky field, requires increase in price level of oil sale by 18% or increase in an initial output of wells from project 5-8.5 t/day.

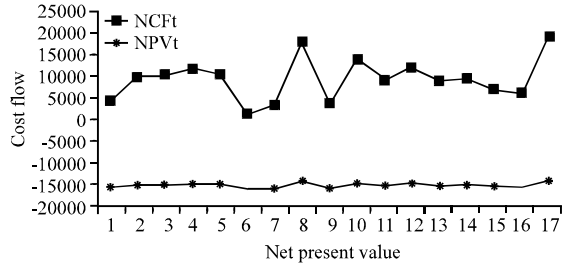

Fig. 3: Dependence between the cash flow and the net present value for the Motorinsky field

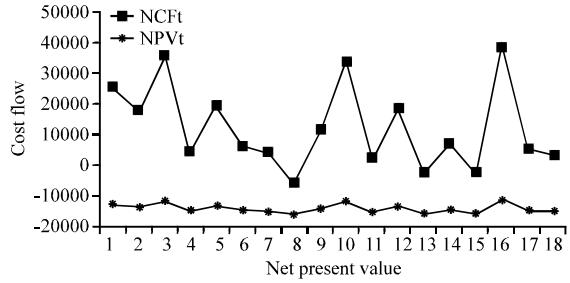

Fig. 4: Dependence between the cash flow and the net present value for the Neznaykinsky field

CONCLUSION

Despite all convention of this method in general, it represents the indicator of expediency of carrying out the further analysis for the purpose of reduction of losses. The Monte Carlo method allows to improve project deliverables and also to raise a Net Present Value (NPV). For this purpose each of possible combinations (quantity of wells, rates of development in a year, cumulative production) carries out the analysis on a Monte Carlo method and then the combination which maximizes a certain criterion is chosen. The method allows defining the best combination of these parameters.

Thus, it should be noted that application of modern forecasting methods and disclosure of the received results in financial reporting with representation of the planned actions for elimination of negative factors will allow to increase considerably the quality of the reporting directed to satisfaction of information needs of its users. At the same time, it should be noted that high degree of transparency of accounting information cannot be reached, describing in the reporting only availability of risks therefore for increase of forecast qualities of accounting information it is reasonable to range risks on extent of their influence on economic safety of business. For those risks which pose threat of a going concern of the enterprise, it is necessary to open effects of their influence for the purpose of reliable financial analysis of the enterprise and adoption of the relevant economic decisions.

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