HOW DOES CORPORATE RISK MANAGEMENT REDUCE THE CONSEQUENCES OF SHORT-TERMISM?

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ABSTRACT

Short termism is one of the most relevant problems of corporate governance. Managers of companies have to make a choice between long term and short term decisions. The main reasons provoking the emergence of short-termism are: the high volatility of the economy as a whole, the high level of uncertainty of business development due to systematic risks, the legislatively conditioned necessity of publishing interim financial statements and the desire of business owners to get a return on investment as quickly as possible. We assume that corporate risk management system would contribute to mitigate short-termism problem in particular by examining the impact of corporate risk management on the discount rate.

In this paper author provide a methodology of estimation of discount rate, depending on the degree of effectiveness of the risk management. The provided methodology mitigates uncertainty of strategic decisions and allows making long-term decisions. The core of proposal was built under the assumption that stakeholders have their own opinion about sustainability of a company and use a special list of signs, demonstrating the risk management efficiency of a company.

Keywords: corporate risk management, short termism, discount rate

INTRODUCTION

The growing volatility is the main feature of the modern economy. According to the research of E & Y (2016) [1], the most influential factors contributing to the growth of business uncertainties are: significant changes in the cost/availability of capital, the risk associated with changes in legislation or breach, political interference in the operation of the market, the instability of the prices of goods, the war for talent, economic shock followed by a short-term shock associated with the demand for energy.

Therefore, companies are interested in strategic development, and more and more pay attention to the ERM as a tool to maintain and increase the welfare of owners and stakeholders, while a few years ago, the ERM introduced in the majority of cases only because of the requirements of different authorities (exchanges, banks, foreign partners, etc.)

According to Allianz Risk Barometer 2016, the most relevant risks for 2017 are: Cyber-attacks (33% of probability); Interruption, including due to a failure of supply (11%); Terrorism (9%).

As we can see, cyber-risk is highlighted as the most influential risk, as it is unpredictable, variable with species and the size of the damage. While the effects of the second and third types of risk are more or less limited by manifestations and consequences (localized in time and space). The proposed model allows authors to set up ERM so that risk owners are aware not only about the business processes in the field of their competence, but also about the information flows that accompany these business processes. The proposed system of interaction between managers, directors and supervisors, will allow us to identify the non-standard information flows and the distribution of responsibilities between levels of government - to prevent large losses that in general can help your organization maintain shareholder value and even achieve new performance peaks.

Moreover, the current economic processes, such as new technologies, globalization, more developed financial intermediation services, highlights the issue of short-termism. The high volatility of the economy causes management to take short-term decisions, whose main results are: shortened CEO tenure, neglect of investment activity, neglect of human capital. According to the results of a survey conducted by the KPMG, concerning main indicator of the effectiveness of risk management, free cash flow and NOPAT still remain the most significant performances (fig.1) despite the fact that the main goal of corporate remains the maximization of the welfare of shareholders. In this regard, the conflict of interest between the owners and managers is exacerbated, and the costs generated by the delegation of authority within the corporation are growing.

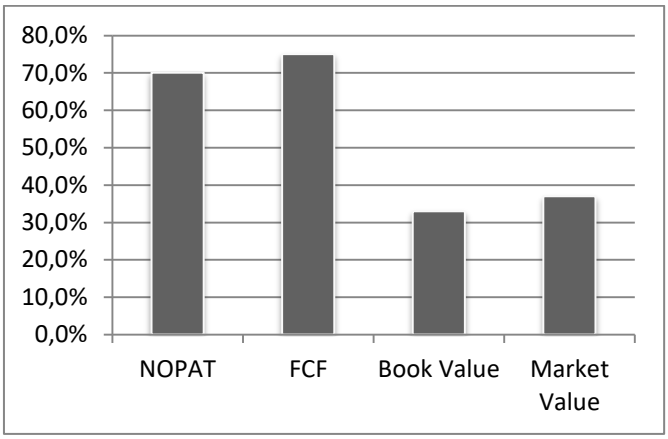

Figure 1. The main indicators of the effectiveness of risk management applied by company managers

In general, we can pick out the next following list of managerial strategies that are oriented on short term decisions:

- Reducing the financing of innovations, often in favor of paying dividends or temporarily increasing the company's retained earnings.
- Manipulation with accounting statements in order to recognize future earnings in the current reporting period.
- Sale of profitable business units in favor of increasing current solvency.
- Additional debt financing for short-term improvement of the company's liquidity

- Formalization of the policy of short-term financial planning in order to reduce the level of resistance from the staff.
- Decrease in the amount of reserves for future operational risks or unforeseen circumstances.
- Back buy-back of shares in order to increase the company's share price in the short term. The reverse side of the measure is depletion of the company's capital, which could be used for more useful purposes.

As a measure, warning the consequences of short-termism, as a rule, the following list of activities is proposed:

- Senior management incentive system should be focused on long-term goals of the company and the interests of shareholders and apply LTIP programs; LTIP programs should be transparent;
- The uncertainty of long-term investment programs should be reduced; Information on long-term investment plans should be disclosed; The information provided should be clear;
- The availability of detailed and meaningful reports on the strategy of companies, their long-term development path should be encouraged.

Not all the values appearing in the hypotheses of "short-termism" can be observed. This is confirmed by Stein's statements [2]. In his works he argues that if the firm was not the object of acquisitions, then it is almost impossible to observe the manifestations of short-termism in its pure form.

The purpose of our research *is to study the possibilities of reducing the volatility of the discount factor as one of the consequences of short-termism in the economy.* The discount factoris the rate at which economic reduce the value of delayed cash-flows relative to the immediate payoffs.

Therefore, if the discount factor is high, the value assigned by the economic agent to the future benefits is low, relative to the present benefits. High discount factors thus point to a short-termism problem, which is defined as excessive focus on short-term goals. This statement is confirmed by the conclusions made in papers of Poterba J. and Summers L. [3], and demonstrates an obvious exaggeration of the discount rate in relation to the planning time-frame. They state that discount rate applied to future cash flows was equal to 12.2%, “distinctly higher than equity holders’ average rates of return and much higher than the return on debt during the last half-century” among all Fortune 1000 firms in 1995. Haldane A. and Davies R. [4] found that, among UK and US listed firms, “cash-flows 5 years ahead are discounted at rates more appropriate 8 or more years hence; 10 year ahead cash-flows are valued as if 16 or more years ahead; and cash-flows more than 30 years ahead are scarcely valued at all.”

THE CONCEPT OF "EFFICIENCY" OF CORPORATE RISK MANAGEMENT.

Definition of ERM efficiency in the works of different authors quite diverse and is differ from each other. Prior research in the field of ERM [5;6;7;8;9] investigates how corporate control mechanisms affect allocation and utilization of economic resources.

Cost and economic approach [10] define efficiency as an "excess risk management results over costs in the process." "Successfulness" replaces "efficiency" in the organizational approach [11;12;13]. In value-based approach estimates efficiency as economic value added [14;15;]. The qualitative assessment of the effectiveness of ERM is more common in the economic literature and it implies a well-organized process of interaction between risk managers, senior management and risk owners.

Our approach to definition of efficiency is based on the above. It lies in the interpretation of efficiency as "*the result of activity, during which created a risk-oriented culture of business management based on regular preventive risk management procedures and is focused on achieving the main goal of doing business - maximizing the welfare of owners".*

From a theoretical point of view, this approach to the interpretation of efficiency allows to understand risk management as a strategic business management tool. From a practical - the process exactly is organized in accordance with the recommendations and is focused on optimizing the return on risk companies. Model of discount rate estimation based on degree of risk management efficiency, determined indirectly on the basis of stakeholder expectations.

The main assumptions of the model.

For the purposes of this study it is necessary to specify the key parameters of the model. That is, as a factor of the model we take the degree of risk management efficiency, defined by the stakeholders of the company, and as a result - the discount rate used by investors and stakeholders as the base rate in the calculation of feasibility of potential cooperation. The object of this study is the non-financial sector. The proposed model uses not the measure of risk itself, but an integrated relative measure of the effectiveness of risk management, that avoids the consequences associated with the use of cumbersome calculations and subjective assessments.

RATIONALE FOR THE KEY INDICATORS OF MODEL

Investment attractiveness of companies is caused by the presence of a number of factors, the main ones are the following: macro-economic and market conditions; operational and financial characteristics of a firm; value of the company; key indicators of business performance; quality and corporate governance principles, the presence of «free float», the issuer's country, the availability of risk management systems (ERM), profitable (or at least break even) time, transparency of reports – that is, those factors that provide investment interest in a wide range of investors - i.e. investors that are not prone to increased risk. Thus, ERM determines its share of business investment attractiveness. The main goal of our work is to determine share of impact.

According to financial concept “Risk and Return” a higher risk objects of investments should give a higher return. However, it is rather difficult to assess the degree of risk exposure of companies that are not public and do not have a systematic assessment of the market risk coefficient (β). ERM in turn, is an integrated risk management tool for companies, modeled in accordance with the risk appetite and management strategy of the company and the degree of its efficiency has a direct impact on the profitability of the business, offered to strategic investors and partners as a tool for enhancing the attractiveness of the project. Especially in cases, where a risk appetite does not correspond with the riskiness of the project. In other words, the effectiveness of

corporate risk management system must be taken into account in the calculation of the discount rate to assess the effectiveness of investment projects:

$PV = \sum \frac{CF}{(1+r)^n}$, where r - the discount rate adjusted for the level of efficiency of risk management.

METHODS FOR DETERMINATION OF DISCOUNT RATE

Usually, the discount rate depends on the fundamental characteristics of the investment project to be analyzed, such as: sources of financing; the planning time-frame; payback period, duration of the project and its life cycle, project risk level.

That is, the discount rate is a function of these characteristics and in general, the formula of the discount rate is as follows: RR=f(x1, x2,x3,x4,…), where RR – adjusted discount rate; x1, x2,x3,x4,… - factors affecting the discount rate.

As a rule, average cost of capital is chosen as the base discount rate. WACC is adjusted for the possible risk factors associated with the implementation of a specific project, or investing in a certain company, and the expected rate of inflation.

In general, there are three basic ways to determine the discount rate of investment projects: capital asset pricing model (CAPM), the model of weighted average cost of capital (WACC) and the method of cumulative construction. In this case x1 - the discount rate, which is determined by one of the selected methods using; x2, x3, x4 .... - a risk premium depending on the nature of the investment. Risk premium are ranked according to the nature of the investment (Table 1).

Table 1. Premiums for the risk of investment projects

Level Of Risk	Investment Type	Risk Premium
low	Replacement investments (replacement of facilities - equipment, machinery more sophisticated, requiring more highly skilled workers, new approaches to the production, the construction of new plants to replace old ones on the same or another location). New investments (new capacity for the production and promotion of old products)	3–5
medium	New investments (new capacity for the production and promotion of the production lines that are closely related to the existing). Investments in applied research and development, directed to specific goals.	8–10
high	New investments (new capacity for the production and promotion of the production lines not related to the initial activity of the company)	13–15
excellent	Investments in fundamental research and development, the objectives of which are not yet precisely defined, and the expected result is not exactly known	

CALCULATION OF THE DISCOUNT RATE BY CAPM

The basic formula for calculation is as follows:

$E(R_i) = R_f + \beta_i(E(R_m) - R_f)$, where:

$E(R_i)$ - the expected return on assets; R_f - risk-free interest rate (usually interest on government bonds); β_i (beta) the sensitivity of the security of return (portfolio) with respect to the profitability of another portfolio, as is often performs the average market portfolio.

$\beta_i = \frac{Cov(R_i,R_m)}{Var(R_m)}$, where $E(R_m)$ – expected market return; $E(R_m) - R_f$ – market risk premium; $E(R_i) - R_f$ – the risk premium of an asset: $E(R_i) - R_f = \beta_i(E(R_m) - R_f)$

Assumptions of the model:

The expected market return, as a rule, is estimated by the arithmetic mean based on historical data S&P500 portfolio. As the risk-free rate of return the arithmetic mean of the historical risk-free rates of return is used.

For non-public companies unleveraged beta is used:

$\beta_u = {\beta_i}/{1} + (1 - t)\,{W_d}/{W_e}$, where

β_i— levereged beta; (1- t) — tax shield; W_d — the share of debt in the capital; we the share of equity in the capital.

Unleveraged beta cannot be used for companies with debts.

The other two ways of calculating the discount rate are: method of WACC and the cumulative method. A wide variety of methods and sources of information for calculations gives a risk-free rate of return as determined in the range of 2% to 10%, which is totally unacceptable for accurate calculations of the discount rate. Furthermore, none of the methods do not take into account the role of the ERM in the company management,

Taking into account the existing methods for calculating the discount rate, as well as the results of the study the relationship of stakeholders to the effectiveness of corporate risk management systems we have proposed an algorithm for determining the discount rate projects, considering both the current practice of capital management, as well as the level of investment attractiveness to stakeholders, and evaluation of the corporate risk management efficiency as an integral indicator of business risk.

The provided methodology is a type of benchmarking survey, which is based on expectations of stakeholders in respect of future behaviour of a firm. The difference of methodology of benchmarking from whose, that provided by rating and consulting agencies is in fundamentals of indicator used. Indicators reflect the essence of doing business and summarise the result of activity, in comparison with methodology, provided by Ferma, PWC of E&Y (this agencies usually use such indicators like age of CRO, number of key risks, schedule of reports, etc., and compare results of certain company with best practice).

THE ALGORITHM FOR DETERMINING THE DISCOUNT RATE, DEPENDING ON THE EFFICIENCY OF THE COMPANY RISK MANAGEMENT.

The study of the views of potential investors, company management, the existing shareholders and other interested parties with regard to the factors of efficiency of the

corporate risk management, based on the Kendall criterion of consistency, revealed the following most important features of effective risk management (Table 2).

Table 2. Descriptive analysis

Symbol	Indicators
k1	Diversified structure of suppliers and customers
k2	Profitability and turnover of the company is better than the average for the industry or activity
k3	WACC is lower than the industry average, or decreased during the study period
k4	Availability of information in the media
k5	Interest coverage ratio, ICR is greater than 1
k6	Financial security ratio is less than 3
k7	The current ratio is greater than 1
k8	The risk management policy includes a special relationship to the key risks;
k9	Risk management is in a strict compliance with the selected standard

Table 3: Test Statistics

N	17
Kendall's Wa	0,716
Chi-Square	11,055
df	5
Asymp. Sig.	0,050

a. Kendall's Coefficient of Concordance

Source: Author

As a result, based on the distribution of respondents' answers the following equation was obtained:

R = 0,12 * k1 + 0,1 * k2 + 0,11 * k3 + 0,1 * k4 + 0,11 * k5 + 0,14 * k6 + 0,12 * k7 + 0,12 * k8 + 0,08 * k9, where: R – the efficiency rating of corporate risk management;

k1 …k9 - indirect indicators of efficiency of risk management, presented in table 2;

This equation describes the evaluation of efficiency rating of the corporate risk management. Performance calculation method is presented in Table 4.

Table 4. The methodology of calculating

№	Indicator	How to define	What demonstrates
k_1	HHI;	$HHI = \sum_{i=1}^{n} S_i^2$, where Si - share of the customer	Diversification of customers structure
k_2	I_{ROS}	$ROS_{company}$/ $ROS_{industry}$ (ROS=Return On Sales) ROS =net income/sales	Increasing the company's profitability over the average margin on economic activity

k_3	I_{wacc}	$WACC_{industry}/WACC_{company}$	The excess of the industry average WACC over the cost of capital of the company
k_4	I_{INF}	Analysis of media	Presence of announcements, press releases or other information
k_5	ICR	$ICR = EBIT / Annual\ interest\ expences$	the company's ability to pay interest on its loans
k_6	FSR	Financial security ratio=Debt/EBITDA	the company's ability to repay existing liabilities
k_7	CR	$CR = \frac{CA}{CL}$	current ratio
k_8	I_{KR}	Analysis of the media and corporate documentation	Policy of risk management involves special risks related to the core;
k_9	I_C	Analysis of the media and corporate documentation	Risk management is implemented strictly in accordance with the selected standard

In order to form a ranking calculation results were coded as follows: 1 - high level of efficiency of risk management, 2 - medium and 3 - low. A special feature of this equation is that the respondents had a fairly broad view of corporate risk management systems and the estimation of corporate risk management efficiency was carried out from the perspective of an external expert. Since the methodology of risk management is not subject to disclosure, the expert opinion seized two interrelated areas of analysis: evaluation of efficiency ERM systems and the investment attractiveness of the company to a specific corporate risk management system, i.e. indirect signs of efficiency of risk management.

Based on the definition of efficiency of corporate risk management, we can conclude that the perception of efficiency implemented risk management systems by stakeholders at 30% is due to direct processes and procedures, risk management, and at 70% - the methods of risk management, causing increase of the investment attractiveness of the business analysed. This observation is supported by studies in the field of ERM and the cost of capital, carried out by S&P and LTD "Zeb/ROLFES.SHIRENBEK. ASSOCIATES" in Russia, which suggests that the "proportion of risk management in the middle value of the interest rates on new issues of corporate bonds depends solely on the industry. When it comes to the insurance company, it is 100% when about The asset management, up to 80% if a trader, custodian or registrar, then 10-15% if of the industry, while about a third assessment".

In other words, 30% of the risk premium is determined by the imperfections of the existing risk management system, In other words, 70% due to the fact that the company is taking on additional risk and controls it in order to provide a better return on invested capital.

Therefore in accordance with the logic of the proposed formation of the risk premium, the discount rate will be determined as a function of the following variables: Historically rate of return with an acceptable level of risk for the owners, premium for the efficiency of risk management, premium for risk management in respect of investment attractiveness: $RR=f(R_f;RP_{ef}, RP_{att})$.

Thus, in our opinion as the discount rate is advisable to use weighted average cost of capital, adjusted for the rate of efficiency of the corporate risk management system, calculated in accordance with the expectations of stakeholders. WACC can be adjusted in terms of possible risks associated with the implementation of a specific project or investment in certain company, if necessary, as well as by the expected inflation rate.

THE PRACTICAL IMPLEMENTATION OF THE PROPOSED MODEL

The analysis of data of more than 100 companies revealed that 22 companies have sufficient information to test the hypothesis and the formation efficiency rating in the range of statistical significance before and after measures to introduce or upgrade a corporate risk management system. The result of the calculation of the discount rate on the basis of the proposed algorithm is presented in Table 5.

Table 5. The calculation of the efficiency rating of corporate risk management and discount rates

№	Rank (R) Value before and after the measures of implementation or upgrading of corporate risk management		Place in the ranking		Changing the corporate risk management system	WACC		Discount rate (WACC*R)	
	before	after	before	after		before	after	before	after
1	2,00	1,52	16	1	improved	0,44	0,48	0,88	0,73
2	1,75	1,54	8	2	improved	0,14	0,15	0,25	0,24
3	1,61	1,57	3	3	remains unchanged	0,13	0,16	0,21	0,26
4	1,77	1,58	9	4	improved	0,13	0,11	0,23	0,18
5	2,00	1,64	15	5	improved	0,14	0,28	0,28	0,46
6	1,98	1,68	12	6	improved	0,12	0,12	0,23	0,20
7	1,59	1,72	2	7	worsened	0,28	0,24	0,44	0,41
8	1,65	1,72	4	8	worsened	0,15	0,15	0,24	0,25
9	1,93	1,73	10	9	improved	0,04	0,06	0,08	0,08
10	1,96	1,76	11	10	improved	0,13	0,13	0,25	0,22
11	1,99	1,93	14	11	improved	0,14	0,07	0,28	0,13
12	1,50	1,94	1	12	worsened	0,13	0,16	0,19	0,32
13	1,99	2,01	13	13	remains unchanged	0,14	0,07	0,28	0,13
14	2,37	2,03	19	14	improved	0,14	0,14	0,33	0,29
15	1,72	2,10	6	15	worsened	0,15	0,15	0,25	0,30
16	1,72	2,10	7	16	worsened	0,15	0,15	0,25	0,30
17	1,68	2,14	5	17	worsened	0,16	0,14	0,27	0,30
18	2,10	2,21	18	18	remains	0,03	0,05	0,07	0,10

					unchanged				
19	2,08	2,34	17	19	worsened	0,07	0,09	0,14	0,22
20	2,42	2,34	20	20	remains unchanged	0,08	0,04	0,19	0,10
21	2,67	2,47	21	21	remains unchanged	0,16	0,14	0,44	0,35
22	2,00	1,52	16	1	improved	0,44	0,48	0,88	0,73

Based on these results we can say that 35% of companies carry out activities for the implementation or upgrade of risk management the efficiency of risk management has decreased. A small amount of the sample does not allow for detailed statistical analysis, but it is worth noting that the period of two years after the events is small enough to obtain a result of the corporate governance reforms. Therefore, the deterioration of some indicators may not be a negative consequence of ERM.

Further, a number of companies in the sample can be traced fairly high cost of capital. The vast majority of these companies belong to the state. For such companies, risk management has significant value - the rating of most companies rose up after the events. In 22% of companies did not observe a change in the overall ranking of risk management, but most of them declined the WACC, indicating a shift in emphasis towards the governance of credit risks. Improving risk management rating observed in 43% of companies, indicating the efficiency of risk management policies and the adequacy of the biennium, to obtain a result of carried out measures.

As a result of our research we have tested the influence of chosen signs of the discount factor on the base of data of 88 companies, which have implemented corporate risk recommendations in last 7 years. With a probability of 95% and within the level of significance, we obtained the following discount rate equation:

$y = 11{,}068 - 0{,}007CR + 1{,}702WACC - 0{,}17ROS + 0{,}007HHI - 0{,}007FSR - 4{,}497Iexc - 4{,}437Iw$, where

y – Discount Rate; CR – Current Ratio; WACC – Weighted Average Capital Cost, ROS –Return On Sales; HHI - Herfindahl-Hirschman index; FSR - Financial Security Ratio; Iexc – index of positive information, obtained from media; Iw - index of negative information, obtained from media.

CONCLUSION

Short-termism is one of the main problems of modern business. As a result of it, a firm usually loses strategic perspectives and investment potential. We state that efficient enterprise-wide corporate risk management system reduces shortcomings of short-termism through a decrease the level of business uncertainty. Since the methodology for assessing the effectiveness of management has not been developed so far, we propose a methodology for assessing the effectiveness, designed in response to the expectations of the stakeholders and using best practices of benchmarking.

We conducted a survey among a wide range of stakeholders on the main indicators of the effectiveness of risk management and, taking into account the consistency of the expert opinion, formed a rating evaluation of effectiveness.

This indicator is a university integrated assessment, which indicates the company's exposure to risks and also was used as a risk premium in determining the discount rate

used by potential investors in the preliminary examination of projects. As an example, we presented a calculation of the discount rate for 22 companies. As a conclusion, we estimated the significance of the identified performance indicators with respect to the discount rate and presented it in the form of a regression equation.

The theoretical significance of the research is the application of objective results of the firm's activity as the effectiveness of risk management. Practical significance is in forecasting the cost of future cash flows. As further directions of the study, it is possible to propose a definition of the duration of the horizon for planning future investments taking into account the effectiveness of risk management.

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