

The analysis of approaches to the definition of "efficiency" of the corporate risk management

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Abstract

Identification and assessment of the effectiveness of corporate risk management has a special mission to promote the development of science. Different authors demonstrate the variety of approaches to the identification and interpretation of efficiency (indirect vs. direct, qualitative vs. quantitative, economic vs. managerial, etc.), but the role of risk management efficiency as the part of the corporate system of management and governance seems to be a commonplace. We have identified a relatively small number of scientific papers devoted to the problem risk management effectiveness. There is no consensus on the definition of the effectiveness of risk management. In the studied approaches to the definition there is no unity, as a corporate risk management rather multifaceted. At the same time, it is impossible to consider, for example, the effectiveness of the risk management process in isolation from economic efficiency. This paper is an attempt to fill this gap. The article presents the discussion of approaches to determine the effectiveness of risk management, the results of the systematization of the key factors in the effectiveness of risk management. As a conclusion the complex definition of risk management efficiency is given, which is based on key parameters of the presented approaches, as well as the basic directions of development of the study area are presented.

1. Introduction

Risk management as a science was founded over 90 years ago in a book of F.H. Knight "Risk, Uncertainty and Profit", where the risk is defined as the measured uncertainty, and ever since it has been developed into an independent scientific direction. Since there are several key steps in risk theory can be distinguished: in the works of American mathematicians O. Morgenstern and John. Neumann relationship concepts of "uncertainty" and "risk" has been revealed. In the early 20th century A. Fayolle [1] included function of ensuring the safety of Organization in the management functions. Other key moments in the development of the risk theory were: the Markowitz portfolio theory [2], Modigliani papers on investment theory [3,4], N. Black– M. Scholes Option Pricing Model [5], and

other works, which have changed the opportunities of financial market.

Finally the science of risk was formed only in the last quarter of the 20th century, mainly due to the practical needs and the importance of stable social reproduction in the economy. The question of the importance of risk management implementation into the company's activity was staged in 2001 by Stephen Ward [6]. In his works, he proved that risk management is an essential function of corporate governance and raised the necessity of formalizing risk management in order to increase its effectiveness.

It should be noted that by that time a set of risk management standards, programs and methods of corporate risk management (SNW, SWOT, PEST) exist, the application of which was dictated purely by practical necessity of stock exchanges, financial and insurance companies and the development of which has not had sufficient theoretical justification. As a result the most of managers perceived risk management as an additional burden to the basic functions, provoking unnecessary bureaucratization of management procedures of a company.

2. Prior research and the literature review

We have revealed rather small amount of research papers devoted to the problem of the risk management effectiveness assessment. There is no consensus on their effectiveness.

The existed Enterprise Risk Management (ERM) programs (ISO 31000:2009; BS 3100:2008; COSO:2004; FERMA:2002; OCEG Red Book 2.0:2009; COSO:2004; SOLVENCY II) were designed to integrate management of risks from a wide variety of sources [7].

ERM improves risk management by promoting awareness of all sources of risk, and by aligning strategic and operational decision-making across the entity with the company's risk appetite [8,9].

As such, ERM is a corporate governance mechanism that constraints and coordinates managers' behavior. While potential benefits to firm performance and value (e.g., through improving efficiency and reducing volatility) have been exposed [10; 11] there is little available archival evidence on these benefits [7]. Prior research

addresses determinants and market implications of corporate governance choices such as internal control effectiveness [e.g., 12, 13] and expertise of personnel in governance [e.g., 14]. These issues have not been examined with respect to ERM efficiency [7].

Evaluation of the efficiency of the corporate risk management is the most unexplored area of risk management at the moment. Scientific literature in abundance present various methods of risk management, are much different from each other, but none of them answers the question: "how do I measure the value ERM is delivering to my company" [15].

Prior research in the field of ERM investigates how corporate control mechanisms affect allocation and utilization of economic resources [16]. For instance, the quality of ERM may affect allocation of resources through market participants' perceptions of the reliability and persistence of accounting earnings. However, Zimmerman [17] notes that a key constraint on empirical research on management control systems (MCS) is the lack of information on what corporations do internally. Concerns over the quality of publicly available proxies for corporate governance quality are also expressed by Larcker, Richardson, and Tuna [18]. Further, Davila and Foster [19,20,21] and Ittner and Larcker [22] both note the difficulties of using manager perceptions as indicators of MCS quality.

Analysis of the existing economic literature on the theory of risk, risk management, corporate governance and management of the organization revealed that several approaches exist to the methods of evaluating the effectiveness of risk management and the efficiency of the concept of risk management of the company in general.

For example, Hilson D. and R. Murray-Webster [23] define efficiency as the ability to achieve goals with minimal cost, but in respect of risk management, they emphasize that the effectiveness of it is the process of implementation of goals and achievements of the result. They state that "that awareness and application of risk management has penetrated widely into the world of business, and it is now seen as a key contributor to business and project success. Risk management tools, techniques and processes are being implemented with increasing efficiency as organizations seek to reap the promised rewards of proactively addressing the effects of uncertainty on achievement of objectives." [23]

A number of authors [24; 25; 26; 27] do not give any definition of the efficiency of risk management, but note that in the framework of corporate governance should be an effective risk management strategy, as a result of which the company is ready for any possible developments in a timely manner and immediately respond to them and is able to use them to improve the efficiency of the company in

general. They state that RM is inseparable from corporate government and offer to share efficient risk management from general efficiency through KPI's.

Slightly different approach is contained in the works of authors on value basic and strategic management [28; 29; 30]. In their understanding, risk management is an "...integral strategic process, and the formal approach to managing risk consider to be a major driver of a organizational performance... the effectiveness of risk management is the added value of the company created due to application elements of risk management in corporate governance...". In this case, the authors provide an integrated assessment of the effectiveness of risk management through performance deviation of values, but their technique does not allow for the factor analysis, as well as highlight a share efficiency of risk management in the overall effectiveness of the company's managers.

Andersen [31] poses a risk management as a firm's ability to cope with environmental risks and uncertainties that could affect variability in net sales and thereby influence the stability of the corporate earning development. This comprises activities that enable the organization to reduce variation in corporate earnings including financial hedging, process control, enterprise wide risk management, strategic responsiveness, etc. The author proposes to use the standard deviation of annual net sales divided by the standard deviation of return on asset over the period as a measure of risk management effectiveness. In his later article he states that effective risk management capabilities enable the firm to counter adverse effect caused by various environmental risks by furnishing a stream of business opportunities that increase strategic responsiveness and hence reduce variability in corporate earnings. The associated performance predictably should reduce expected bankruptcy costs and provide comfort to key stakeholders group that the firm is a reliable long-business term partner [32]. He prove, that firms, demonstrating higher level of risk management effectiveness compared to their industry peers, are associated with higher performance outcomes (among them are: lower average cost of capital, lower transactional premiums charged by commercial counterparts; lower effective corporate tax rate; lower earnings volatility).

Some authors give a qualitative characteristic of efficiency of risk management [33, 34] They state, that effective risk management responses frequently include avoidance, control, cooperation and limitation. They states, that risk management will only be efficient if people throughout the organization receive clear, consistent messages from leadership and understand what they need to do [35] Much broader question of the efficiency of risk management is presented in papers devoted to project risk management. For example, Chris

Chapman and Stephan Ward [44] give “basic definition” of risk efficiency “the minimum risk decision choice for a given level of expected performance”, ‘expected performance’ being a best estimate of what should happen on average, ‘risk’ being ‘the possibility of adverse departures from expectations’”. They state, that at the project level the efficiency of risk management will yield if the if the rule is observed: “Always minimize the expected cost of a project unless the risk implications at a corporate level are unacceptable, in which case the minimum expected cost increase to yield an acceptable level of corporate risk should be sought. «Unity of interpretation of the concept of risk management efficiency is due to the existence of a single detailed methodology of project risk management dictated by standard of project management [36].

Sufficiently interested is the position of a number of authors who argue that the effectiveness of risk management “...cannot be judged on whether such outcomes materialize. The role of risk management is to limit the probability of such outcomes to an agreed-upon value-maximizing level... Different organizations can manage the same risk with different levels of effectiveness. And one goal of enterprise risk management should be to encourage corporate focus by getting rid of all the functions that can be performed more effectively outside the organization....” [45]. In this case, the term “successful” is used [25,15].

Follow-up studies in the field of ERM efficiency investigate how enterprise risk management increases the value of the company. The question of whether or not increases, and if so, how it is relevant for companies that are in the process of decision-making on the construction of the risk management system and for evaluating the effectiveness of an already running system [37,11]. Companies implementing elements of risk management (insurance and hedging) really show the best, compared to other companies, indicators [37], but ERM is a complex methodology, and the definition of the complex effect of ERM can be done by studying the reaction of the stock market for the presence of the company's risk management system.

In a study of Beasley M., Pagach D., and Warr R. [10] an indicator of ERM efficiency is the information about appointment of CRO. The appearance of a top manager, consolidating activities in the field of risk management is seen as a signal that the board of directors and senior management are aware of the importance of ERM, and the system is at a certain stage of development. Practical study of research rather weak confirms this hypothesis: for 120 companies (62 are the financial sector, 24 - energy, 34 - other industries), where in the period of 1992-2003 CRO were appointed, no statistically significant association between this event and the

change in the stock price. However, for a subset of large non-financial companies with relatively low liquidity of the market responds positively to the appearance in the company of Chief Risk Officer.

Hoyt R. and Liebenberg A. [11] argue that the indicator of ERM is existence of reports on the activities in the field of risk management, presented in the statements of the company and the media. The study focused on the insurance segment in the US in 1995-2004. For 16% of the 166 insurers found information that allows concluding that the presence of the company's risk management system. The company's value expressed in terms of Tobin's q (the ratio of market value to the replacement cost of tangible assets), for which a model depending on the indicator ERM and other value drivers. The impact of ERM on firm value is statistically significant: ERM-premium averaged 3.6% of the value of the company.

In relation to public companies a comparative analysis of the share price of companies that have implemented and implemented ERM, in moments of the stock market crash can be applied. According to various studies, the presence of the risk management system falling of stock prices is reduced by 10-30%, and it is much faster in returning to pre-crisis levels[46].

Despite this, the practice of risk management in abundance provides various methods, tools and recommendations on risk management.

Hilson D. and R. Murray-Webster [23] provide the most comprehensive list of organizations and societies exist specially to promote and support the discipline of risk management on international level. Among the most prominent are the Institute of Risk Management (IRM) and the Association of Insurance and Risk Managers (AIRMIC) in the UK, the Global Association of Risk Professionals (GARP), the Public Risk Management Association (PRIMA), the Risk Management Association (RMA), the Federation of European Risk Management Associations (FERMA), the European Institute of Risk Management (EIRM) and the Society for Risk Analysis (SRA). Other professional bodies in different sectors also have specific interest groups (SIGs) covering risk management, for example the Project Management Institute (PMI), the UK Association for Project Management (APM), the International Association of Contract and Commercial Managers (IACCM), the International Council on Systems Engineering (INCOSE), the Insurance Information Institute (III), the Insurance Institute of America (IIA), the Risk Management Institution of Australasia (RMIA) and the Professional Risk Managers' International Association (PRMIA).

This list can be extended with International Organization for Standardization, Committee of Sponsoring Organization of the Treadway

Commission and a few local national societies. All of these societies give their own vision and recommendations of to the risk management of the company, of neither of them can fully mitigate risks. Choice of a particular model of risk management depends on the target audience and the availability of consultants in the market. The most common standards are ISO , OCEG , BS , COSO , FERMA , SOLVENCY II .

Worth noting that the use of standards is more positive aspect to the firm, rather than an extra extension to the existing system management and monitoring. Each standard, anyway, has three main objectives:

- 1) accompany the objectives of the company, or even assist in the identification of new, higher targets;
- 2) help to maintain a certain level of activity in the company, and to assist in controlling the operation of all units;
- 3) To provide the proper level of compliance with existing government regulations, standards, etc.

A predominant ERM framework sees risk management as the means to assure that corporate goals are achieved [8; 38]. That is, the handling of changing conditions is not depicted in these frameworks as a part of dynamic strategy-making process. Nevertheless, the strategic responsiveness of the firm seen essential for effective risk management outcomes given that strategic risks constitute some of the most significant corporate exposures [39]. That means that risk management not only serves to limit downside losses, but also seeks to identify, develop, and exploit opportunities [39,40 30].

The presented approaches to the management risk efficiency are the result of its versatility. Risk Management is so versatile that evaluation of the effectiveness of management activities for its implementation in a single operation is not possible, so rank is offered as a measure to assess its efficiency.

From the theoretical point of view, the efficient risk management is a strategy that improves corporate governance in general and represents the ability to cope with environmental risks and uncertainties that could affect variability in net sales and thereby influence the stability of the corporate earning development.

From a practical point of view, efficient risk management is a process precisely organized in accordance with the recommendations of standards and programs and is focused on the optimization of the company's profits under risks.

None of the listed above approaches to determine efficiency of the ERM cannot be transferred to the Russian market. Firstly, the necessary conditions for their use are the publicity of a companies and the availability of daily stock price history for several years before and after the implementation of the risk

management system. Secondly, the impact of hedging on the value organizations cannot be evaluated because of the virtual absence of the derivatives market. Third, collection a sample of companies of required size is not possible: very few Russian non-financial firms have implemented ERM, and even fewer companies that have approached to the issue not formally. Moreover, it is impossible to form the sample of companies by industry sector.

Solution seems in finding the positive effects of risk management that can be converted into a company's value.

Summing up different approaches to determining of efficiency, we can conclude that:

1. Qualitative and quantitative
2. ERM efficiency on the level of a company or of a project
3. ERM efficiency from the perspective of target audience: cost effectiveness, operational efficiency (managerial efficiency), process efficiency, value-based efficiency and market efficiency (how the market responds to the ERM), etc.

3. Results

Analysis of the definitions of "ERM efficiency " revealed the following key points:

Effective ERM:

1. reveals most of the factors that create an unfavorable environment for the company's activity
2. reveals opportunities to improve the efficiency of the company
3. enables the company to be ready for any eventuality;
4. is strategically and value oriented system;
5. operatively and promptly responds to changes;
6. positively affects on a persistence of accounting earnings, on a firm performance and value;
7. is clearable system with minimum decision choice.

And at the same time, ERM as an integral part of business management should therefore meet the basic criteria of business efficiency [PRMIA, COSO, 2004;Andersen T. 2008], such as:

1. At the same time, the risk management is an integral part of business management should therefore meet the basic criteria of business efficiency [36, 8, 31], such as:
 1. To be good at turning out maximum outputs given minimum inputs [41];
 2. To be on the verge of production capacity;
 3. Reduce the cost of debt [37];
 4. Create added value for shareholders and stakeholders [42];

5. Create favorable conditions for self-fulfillment and professional growth of managers and senior management personnel [43].

Summing up presented characteristics it can be concluded that the efficiency of ERM is the sum of formation of a risk-oriented company culture and the implementation of all regulatory procedures on risk management, having a non-direct positive impact on business performance.

4. Conclusion

Thus, the represented definition of "efficiency" covers and direct qualitative characteristics of risk management and the positive impact on the effectiveness of company performance..

In this case it is necessary to take into account the indirect impact, since the risk management should be balanced between the desire to regulate as much as possible procedures and at the same time not harm the company's key performance indicators.

Application of the proposed approach to the definition of efficiency is seen in the practical assessment of the effectiveness of risk management processes.

Practical approaches to evaluating the effectiveness of risk management is still under development: so, S & P intends to develop integrated methods of assessment only in 2016 and then implement them in the rating business valuation. Evaluation the efficiency of ERM is not expediently carried out through separate scoring, but as part of the overall business risk rating companies in the following areas: compliance, stock market, strategy, processes.

Thus, the evaluation of the efficiency of risk management need the following set of measures:

- Assessment of the economic effects of risk management;
- Evaluation of compliance and organizational effectiveness of risk management: in this case we are going to use rating score;
- Evaluation the efficiency of subject area of risk management

The result is a multi-component system performance evaluation, focused on compliance with the best principles of risk management as well as with creation of business value.

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