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CONTROLLING AS AN INFORMATION SOURCE IN RISK MANAGEMENT PROCESS

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A b s t r a c t

An increasingly visible tool in identifying risk is controlling. Its tasks include collecting, processing, and analyzing information. Thus, in the stage of identifying the risk management process, controlling should supply management with information regarding the impacts of risks on particular departments of the company. The purpose of this article was to emphasize the role of controlling in the risk management process within an organization. This objective was achieved through a study of literature from research conducted in the field. Over the course of this study, the value of controlling and its role in the risk management process were revealed. Also, the role of budgeting was shown to be a key tool of controlling in the process of risk management. The implementation of controlling in a company permits full use of information and enables the use of modern management techniques, thereby facilitating making good decisions to rectify or mitigate risk for a specific organization or unit.

CONTROLLING JAKO ŹRÓDŁO INFORMACJI W PROCESIE ZARZĄDZANIA RYZYKIEM

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S ł o w a k l u c z o w e: controlling, ryzyko, proces zarządzania ryzykiem, budżetowanie, system informacyjny.

A b s t r a k t

Coraz częściej zauważalnym narzędziem przy identyfikowaniu ryzyka jest controlling. Do jego zadań należy między innymi gromadzenie, przetwarzanie i analiza informacji, dlatego też na etapie identyfikacji procesu zarządzania ryzykiem controlling powinien być głównym narzędziem zasilającym kierownictwo w informacje o ryzyku, mającym oddziaływanie na poszczególne piony przedsiębiorstwa.

Celem artykułu było wskazanie roli controllingu jako źródła informacji w procesie zarządzania ryzykiem w przedsiębiorstwie. Cel został zrealizowany dzięki przeprowadzonym studiom literaturowym z przedmiotowego zakresu. W toku prowadzonych rozważań wskazano miejsce i określono rolę controllingu w procesie zarządzania ryzykiem. Ponadto wykazano rolę budżetowania jako głównego narzędzia controllingu w tym procesie.

Wdrożenie w przedsiębiorstwie controllingu pozwala na dysponowanie pełną informacją, posługiwanie się nowoczesnymi technikami zarządzania oraz podejmowaniem trafnych decyzji niwelujących bądź zmniejszających ryzyko w działalności danej jednostki.

Introduction

The rapidity of changes of economic conditions, harsh domestic and global competition, unsatisfactory economic development and growing complexity of problems are the features of the environment in which economic entities have to operate. Moreover, growing possibilities of choice and alternatives that the board of a company faces result in a greater risk of mistakes in decision making, the effects of which may be both long-lasting and difficult to correct. The above factors entail that economic entities adapt to market economy realities, involving implementation of modern management tools to ensure the existence of the company and the increase the profitability of employed capital. In the view of approaching changes, when the market struggle is not only about the development of the company but also about its survival, information is the basic asset allowing for expanding the knowledge on the entity's environment. The emerging risk requires that the board skilfully lead the entity, using suitable tools as information sources. Controlling is undoubtedly one of these instruments.

The key feature of controlling is the minimization of the level of uncertainty in the decision making process by measuring, analyzing and forecasting key decision parameters. In this respect, controlling can be defined as a risk management tool (KAPCIA 2002, p. 241). In a number of companies it is assumed that the implementation of controlling as an effective means of fighting the increasing environment variability will let the company avoid many problems and attain competitive advantage due to monitoring and identification of diverse threats that appear together with civilizational, social and economic development, as well as in the circumstances of economy globalization.

The main purpose if this article is to present the role of controlling as a source of information in the risk management process. The subject literature analysis within the scope of management accounting and risk management was used in order to achieve the indicated purpose. The study was divided into three phases: 1) Indicating the core of risk management process; 2) Discussing

controlling in respect of risk; 3) Employing budgeting as the main controlling tool in the risk management process. Our analysis is aimed at answering the following research question: In what way does the controlling supply information to the decision-making bodies of a company and how does it support risk management process in the given entity? Inference was based on deduction.

The core of risk management process

Striving for predetermined goals is laden with execution risk, therefore, assessing risk is crucial. From the point of view of a company, the definition of risk is slightly different than from the common view. In everyday language, risk is usually defined as a threat or danger resulting from incidents that do not depend on us, or as something resulting from the decisions taken. For a company, however, risk is a basic element of the environment in which the company operates – although the existence of risk means the uncertainty of the future results, it can equally be a source of losses and profits. This is because the existence of risk may involve the occurrence of both better and worse results than the expected ones (TARCZYŃSKI 2001, p. 15). In the subject literature one can find a number of definitions of risk, interpreting it in various ways. T. Kufel claims that risk is a probability of the occurrence of any action, or of the lack of it, the result of which may be a detriment to possessions, or an image of a given entity; or that it is a probability of the occurrence of an incident that will interrupt attaining goals and tasks (KIZIUKIEWICZ 2007, p. 63). K. Jajuga, on the other hand, gives an alternative definition of risk, viewing it from two points of view. Firstly, as a threat, i.e., a probability that the desired effect will not be achieved. Secondly, the scholar observes the possibility of arriving at a result different from the desired one and thus, risk is seen as a chance and a threat (JAJUGA 2007, p. 13).

A situation in which the interest rate is the determinative factor may serve as an example. The influence of the interest rate on values of some assets and liabilities, e.g., on a credit with a variable interest rate, may be diverse. Depending on the type of the economic entity and the course of changes of the interest rate value, the risk connected with it may exert both positive and negative influence on the market participants (KIZIUKIEWICZ 2007, p. 64).

The diversity of the interpretations of risk results in its numerous types. Due to restrictions concerning the volume of this study, only the types crucial for reaching the goal of this article is presented. From the point of view of the information indispensable to making decisions in a company, risk can be of operational and strategic type. A comprehensive list of these is given in table 1.

Table 1

Types of risk in an entity

	Type of risk	Characteristics
Strategic risk	political	connected with political incidents and decisions taken in the country.
	social	connected with the behaviour of the citizens, with rules of culture and tradition.
	legal	means a threat for the entity's operation and results from changing laws or various interpretations of them.
	of an interest rate	results from the value of the connection of some assets and liabilities with the changes of interest rates.
	environmental	concerns the environmental consequences of achieving the goals of the organisation, e.g., energy efficiency, noise, pollution.
Operational risk	financial	it is connected with financial planning and control.
	legal	concerns the possible breach of law.
	occupational	connected with the characteristics of a specific occupation.
	physical	concerns fire, safety, accident prevention, etc.
	contractual	connected with not providing the services or not delivering the goods by the deliverer in accordance with the price and specification agreed.
	technological	concerns the company being dependent on the equipment used, e.g., it systems.
	managerial	results from human fallibility or intentional negative behaviour.
	of human resources	concerns workers' negligence or fraud.

Source: own study based on (KIZIUKIEWICZ 2007, p. 64, 65; *Zarządzanie...*, p. 35, 36).

The diversity of the risk types that the company is subject to means that, for the board, the crucial ability is to predict changes in the environment, as well as the analysis of internal and external information together with taking rational actions on this basis. In practice, it means conscious risk management.

The above-mentioned process is defined as a logical and systemic method of creating the context, identification, analysis, evaluation, operation, control and information about the risk in a way that enables the organization to minimize loss and maximize opportunity (*Zarządzanie*..., p. 7). Risk management involves the use of systemic methods during the entire process, including the identifying and analyzing the risk, as well as influencing the stated risk. Moreover, this management creates the basis for controlling and analysing the risk, as well as for communication of the groups of workers inside and around the company (KACZMAREK 2010, p. 19).

Risk management is divided into five phases:

– Phase I – Defining the framework of the process
– Phase II – Identification of the risk
– Phase II – Analysis of the risk

– Phase IV – Evaluation of the risk
– Phase V – Influencing the risk

Defining the framework is crucial in order to carry out the risk management process efficiently. Most importantly, one needs to determine the scope and parameters of risk management implementation. Internal conditions should also be-taken into consideration, e.g., the strategy of the company, its policy, structure and values, as well as external ones, e.g., cultural, political, social, legal or economic circumstances. Moreover, responsibility and competence, the scope of study, the method and criteria of risk management have to be settled (KACZMAREK 2010, p. 19).

The defined framework will be a basis for identifying the risk within the organization. Risk identification means pointing to areas which may cause irregularities. Such identification should be carried out at least once a year. In addition, there should be established an acceptable level of risk at which the company may constantly aim. Risk identification is done either top-down (by the board or the high-rank managers) or grass-roots (by the medium-rank managers and the rest of workers) and based on, among others, the following methods: 1) brainstorming; 2) SWOT analysis; 3) surveys among workers; 4) the experience of the company. One should remember, however, that one, perfect method does not exist. Establishing their combination and adjusting to the specificity of a given company may be the solution. In addition, it is important to maintain an appropriate level of knowledge about risk and incorporate the risk identification process into the main operational processes of the company.

Controlling is an instrument which is increasingly noticeable in risk identification. Usually, it is assumed that controlling is used to gather, process and analyze information coming from the company's environment and from the internal organizational units of the company. This is the reason why at this phase of the risk management process, controlling should provide the board with information about the risk influencing specific units of the company.

After identifying the essential risk types, evaluation of the probability of their occurrence and their relative relevance is another phase. One can employ various solutions here: from quality evaluations, to detailed mathematical quantitative evaluations so that management can decide which of the potentially risky incidents pose the greatest threat to the company (MOELLER 2011, p. 164).

Risk analysis lies in understanding the nature, reasons and result of the identified risk. The evaluation is carried out in order to demonstrate the efficacy of internal control mechanisms used for decreasing the risk, as well as to emphasize the serious risk which can be hidden despite operating control mechanisms.

A risk evaluation score matrix can be an instrument of risk management. Two variables are used: the influence of risk on the company and the probability of risk occurrence. The product of these two variables equals the score evaluation for the given risk.

The risk management process finishes with taking the decision about influencing the risk. It is connected with taking specific actions mitigating the identified risk as well as selecting the strategy of influencing the risk.

The following procedure is possible (cf. KACZMAREK 2010, p. 27):

– Risk avoidance – deciding not to take the risk and suspending the process or activities connected with it,

– Minimizing the risk – removing the source of threats, limiting the probability of occurring risk and its results,

– Risk transfer – e.g., taking out an insurance,

– Risk acceptance – accepting the probability of incurring the risk, especially if there appears an opportunity of gaining a profit.

An efficient risk management process is connected with monitoring the identified risk in order to determine whether it changes or not. Moreover, for the board of the given entity, a functional information and communication system within risk management is essential, and within that system, controlling plays a crucial role.

Controlling with respect to risk

An efficient risk management process requires incorporation into the company management process. It needs to be emphasized, however, that the management process is effective only if the board has a set of essential instruments at their disposal. Controlling is one such instruments.

Management control has been subject to a number of inconsistent approaches and interpretations. A significant group among the definitions emphasize the coordinating function of controlling. W. KRÜGER defines controlling as „a system of agreed means, rules, goals, methods and techniques serving the intersystemic control and the control of goals concerning the results" (KRÜGER 1979, p. 161). P. Horvath, on the other hand, presents controlling as an integrated subsystem of management, creating and coordinating controlling, planning and information supplying, supporting adaptation and coordination of the entire system (HORVATH 1998, p. 111).

The separation of management subsystems reveals a need for coordination between, and integration of, them into a single coherent information system, i.e., controlling.

H. Steinmann and G. Schreyogg define controlling as a „methodological managerial task, which is aimed at the efficient development of organizational structures, processes, motivators, information-systems, and roles, which supports senior management in the formulation of plans, and which requires effective coordination between two key processes: planning and control" (STEINRNANN, SCHREYOGG 1986, pp. 747–765). K. Wierzbicki expands the scope of controlling to include the coordination of specific activities in the field of management, particularly in planning and control, the collection and processing of information, and the selection and training of personnel (WIERZBICKI 1994, pp. 8, 9). On the other hand, J. Weber asserts that the three most important facets of controlling are the control of information, the philosophy of management, and the coordination of processes and systems (WEBER 2001 pp. 19–23).

Controlling is a modern method of managing a company. It is realized by creating and updating the architecture of planning systems, constructing indicators and measures of financial evaluation, and preparing information for current and future strategic decision-making. It is used by managers in planning, controlling, coordinating, collecting information, and communicating business needs and objectives (KACZMAREK 2010, p. 168).

The authors of these definitions emphasize the pursuit of controlling systems to secure business objectives. The main priorities of such a system are coordination and control. In many definitions controlling is primarily the coordination of the major functions of management, including planning and executing of business strategy and managing the process for supplying information. The coordination of these processes is possible only if the enterprise has defined objectives and a plan to achieve them.

Therefore, it can be concluded that the risk management process is a subset of controlling. This process is realized by identifying, analyzing, evaluating, steering, managing, and reporting risk in both strategic and operational areas. An important task in this context is the functional coordination of the controlling system within an organization with the business environment (KACZMAREK 2010, pp. 168, 169).

Considering that controlling systems are typically developed in response to the needs of particular business unit managers, it is also important to determine the information needs of all levels of management, especially those of individuals (or teams) who steer the company.

The information supplied by controlling systems facilitates formulation of policies, planning and control of a company, and decision-making (risk reduction). The multifunctionality of this information, used for everything from planning to coordinating and steering activities to motivating employees, demonstrates the value and inherent complexity of controlling systems.

An important aspect in the process of risk management is maintaining a sufficiently adequate database. Undoubtedly, a key role in database management is controlling. Controlling systems provide necessary information for decision-making at every level of management and facilitate timely and effective steering of activities. Thus, these applications not only help govern and shape management functions, i.e., planning, organization, motivation and control, but they also permit the development of subsystems to support risk management processes via ancillary coordination or information systems. This relationship is illustrated in Figure 1.

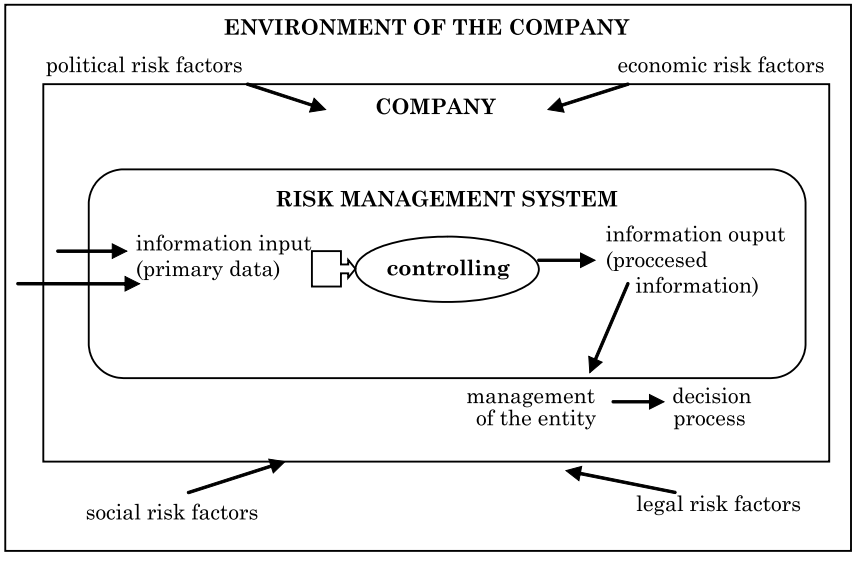

Fig. 1. System of information processing through controlling
Source: own study based on (NOWAK 2008, p. 26).

A risk management system operates in a specific environment in which there are a number of risk factors that affect a company. „Raw" data that is entered into the database is queried by controlling system applications that perform various analyses, converting the data into actionable output information. This supplies managers with information about sources of risk for the entity, supporting the decision-making process.

Implementation of controlling requires the coordination of planning, control, and information systems, which facilitates the governance of the activities necessary to achieve the assigned objectives. This need for coordination is also a product of the relationship between the company and the business environment, as well as the dependences between and within individual management systems.

In Polish enterprises, coordination processes often take place in a random, unorganized way, without clearly defined competences or delegation of responsibilities. This results in a need to establish a system of coordination, connecting various levels of management and providing senior management with information needed for better decision-making, helping the organization achieve its corporate objectives. Controlling alone can play a large role in the construction of an effective system of coordination (WIERZBICKI 1994b, p. 12). The coordination function of controlling distinguishes it from other management systems, because unlike the other systems, the coordination function is the main objective of a controlling system. Coordination can be broadly defined as the orientation of individual activities for a specific purpose (CZUBAKOWSKA 2000, p. 9). Coordination requires the cooperation of all the subsystems of a company. It allows managers to detect any inconsistencies, contradictions, and unrealistic plans (SKULLS 1998, p. 34).

Appropriate corporate conditions must be maintained or created for process control coordination to be effective. Efficient achievement of objectives is not possible without harmonizing the tasks and activities of separate entities of a company. Coordination makes sense only if it relates to clearly formulated and achievable goals. These requirements are not always met. In small companies goals are usually formulated top down/centrally, while in larger organizations they are the result of a „tender" of individual decision-makers.

Coordination involves identifying the most critical processes/functions of the company and recognizing deviations that can cause „bottlenecks". Coordination also involves the harmonization of strategic planning with operational planning and the inclusion of lower levels of management to formulate strategies (SCHROEDER 1989, p. 29). Recognizing these key characteristics of coordination is necessary for successful implementation of controlling.

The use of budgeting as a key tool of controlling in the risk management process

Budgeting is considered to be among the classic controlling tools that allow management to minimize business risk (*Managerial Accounting* 1997, pp. 195). In the past, budgeting was the only form of „controlling" (GOLISZEWSKI 1996, p. 26, STEJSKAL 1995, p. 108), helping to forecast costs and revenues for a given period. Nowadays, with the increased complexity of the activities of economic entities, the budget is considered to be the main tool for both managing and controlling, supporting decision-making and priority-setting for the use of resources. Also, budgeting, which is a method of monitoring progress in achieving corporate objectives, is a basic tool for internal control.

Quantifying the cost/benefit of corporate initiatives helps managers to predict and avoid problems, reducing risks to the business. In addition, quantitative expressions of defined goals and action plans provide metrics used to gauge performance. A budget provides expectations and limitations to responsible individuals, who will consciously strive to meet the expectations under the prescribed limitations.

Planning in a company is necessary for three main reasons: the complexity of enterprise activities, the uncertainty of the future and continuously evolving risks associated with this uncertainty, and the time delay between making decisions and the consequences of those decisions. Therefore, effective business management requires the development of forward-looking business plans, which are necessary to steer, and maintain the financial health of, the company.

Plans can be categorized by functionality (BUCZKOWSKA 2003, p. 106):

– operational plans, concerning real processes taking place within an enterprise, such as procurement, production, sales, employment, etc. These plans form the basis of tangible output models to create cost plans, financial plans, and feasibility studies.

– financial plans, concerning revenues, costs, investments, and financing activities. Financial plans minimize the risk of insolvency and periodic shortages or overages of cash.

Planning coordination plays an important role in the planning process, with a main task of linking strategic planning with operative planning and linking individual partial plans in a comprehensive plan. The coordination of partial plans, and the combined impact of them in the comprehensive plan, takes into account the competition between these plans for scarce company resources and establishes the functional and temporal relationships between them. The effectiveness of planning depends not only on identifying the correct targets, tools, and procedures, but also on effectively controlling the implementation of the plan.

The form of control is distinguished by its nature and intended purpose (WIERZBICKI 1994b, pp. 11–25):

– initial control (ex ante), regarding plans (intentions, budgets, decisions) with different time horizons, with particular regard to feasibility, risks, possible dangers, etc.,

– current control (operational), concerning the implementation of current initiatives, which forms the basis for immediate responses to emerging threats and dangers,

– retrospective control (ex post), which is associated with the assessment of results achieved in terms of goals and objectives,

– sporadic control, related to selected issues or problems arising from emerging needs.

Comparing actual results to expected ones reveals the magnitude of deviations, which are the basis for taking corrective actions. There can be many reasons for variations: unrealistic goals, the use of substitute materials, equipment failure, deterioration, fluctuating price levels, etc. (CZUBAKOWSKA 2000, p. 33).

These forms of control are considered managerial functions only if they are used to adjust operations as needed to achieve the stated objectives, or reduce inconsistencies within allowable limits. If the control ends at the time of measurement and evaluation of results (to identify the extent and causes of deviations), then it ceases to remain a management function and loses much of its substantive value.

It should be emphasized that medium and long term planning procedures and methods help to reduce future uncertainty, and thereby also reduce the risk arising from future operating conditions and enterprise development.

Conclusion

In conclusion, it should be noted that rapidly changing business conditions faced by enterprise managers are forcing them to employ modern procedures and methods of planning and control practices. These modern practices help to reduce the uncertainty and risk arising from future operating conditions and help to optimize decision-making.

Risk management aims to increase the likelihood of achieving target objectives. The risk management process should be documented and updated on, at least, an annual basis. Identified risks should be analyzed to determine the likelihood and magnitude of outcomes (SMOLEN 2014, p. 498).

In the context of risk management implementation within a company, the controlling system provides managers with „full" information, uses modern techniques of management, and supports decision-making in enterprise management processes.

Since controlling systems are not directly regulated, but are tailored to the information needs of companies, a fundamental feature of the information generated by these systems is its relevance to, and usefulness in, making decisions to rectify or mitigate risk for a specific organization or unit.

Risk management is an important issue for all organizations, both in the private and public sectors. Therefore, each organization should be aware of the risks associated with its activities and apply tools to manage this risk. Undoubtedly, one such tool is a controlling system.

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References

Buczkowska A. 2003. *Rachunek wyników w systemie informacyjno-decyzyjnym jednostki gospodarczej*. Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin.

Czubakowska K. 2000. *Controlling jako instrument zarządzania*. Zeszyty Metodyczne Rachunkowość (dodatek), 14 (38).

Goliszewski J. 1998. *Controlling: geneza, istota i granice skuteczności w warunkach polskich*. Praca doktorska. Uniwersytet Warszawski, Wydział Zarządzania.

Horvath P. 1998. *Controlling*. 7 Auflage, München.

Humsmel T.R. 2000. *Controlling. Grundlagen und Instrumente.* Heidelberg [cyt. za] W. Brzezin. 1995. *Instrumentarium controllingu*. Prace Naukowe, 868, Wydawnictwo AE we Wrocławiu, Wrocław.

Jajuga K. 2007. *Koncepcja ryzyka i proces zarządzania ryzykiem – wprowadzenie.* In: *Zarządzanie ryzykiem*. Ed.. K. Jajuga. Wydawnictwo Naukowe PWN, Warszawa.

Kaczmarek T. 2010. *Zarządzanie ryzykiem. Ujęcie interdyscyplinarne.* Difin, Warszawa.

Kapcia B. 2002. *System controllingu w Elektrometal S.A.* In: *Controlling – doświadczenia krajowe i zagraniczne. Problemy, projekty, instrumenty, perspektywy.* Ed. H. Błoch. VIII Międzynarodowy Kongres Controllerów. PROFIT, Katowice.

Kiziukiewicz T. 2007. *Audyt wewnętrzny w jednostkach sektora finansów publicznych.* Difin, Warszawa.

Kruger W. 1979. *Controlling: gegenstandsbereich. Wirkungsweise und Funktionen im Rahmen der Unternehmenspolitik*. BfuP 31.

Nowak E. 2008. *Rachunkowość kurs podstawowy*. Polskie Wydawnictwo Ekonomiczne, Warszawa.

Rachunkowość zarządcza 1997. Ed. G.K. Świderska. Poltext, Warszawa.

Schroeder E. 1989. *Modernes Unternehmenscontrolling*. Ludwigshafen.

Sekuła z 1998. *Controlling operatywny*. Przegląd Organizacji, 10.

Steinrnann H., Schreyogg G. 1986. *Zur organisatorischen Umsetzung der strategischen Kontrolle, Schmalenbachs Zeitschrift für betriebswirtschaftliche*. Forschung, 38.

Stejskal J. 1995. *Rola controllingu w funkcjach gospodarowania*. Zeszyty Naukowe Wyższej Szkoły Inżynierskiej w Opolu, Seria: Nauki Społeczne, 39(211).

Moeller R. 2011. *Nowoczesny audyt wewnętrzny*. Oficyna a Wolters Kluwer, Warszawa.

Tarczyński W., Mojsewicz M. 2001. *Zarządzanie ryzykiem.* PWE, Warszawa.

Ustawa o finansach publicznych. Komentarz. 2014. 2 wydanie. Ed. P. Smoleń. Wydawnictwo C.H. Beck, Warszawa.

Weber J. 2001. *Wprowadzenie do controllingu*. Oficyna Controllingu Profit, Katowice.

Wierzbicki K. 1994a. *Controlling w zarządzaniu przedsiębiorstwem*. Ekonomika i Organizacja Przedsiębiorstwa, 3.

Wierzbicki K. 1994b. *Zakres działania i formy organizacyjne controllingu*. Ekonomika i Organizacja Przedsiębiorstw, 5.

Zarządzanie ryzykiem w sektorze publicznym. Podręcznik wdrożenia systemu zarządzania ryzykiem administracji publicznej w Polsce. Ministerstwo Finansów, www.mf.gov.pl (access: 13.02.2014).