

AUDIT EVALUATION OF INTERNAL CONTROL SYSTEMS

Audit, as a specific type of control, plays a significant role in the process of evaluation of the effects related to the development of both private and public-sector entities. The need for constant enhancement of its practical efficiency is the principal drive for the development of the audit theory and practice and provides solutions to various problems related to its practical implementation. Despite the development of the audit technology in the last decades, there are still some technological problems and controversial issues regarding their practical interpretation.

This is why this article tackles some issues related to the audit evaluation of the internal control systems using the audit risk assessment model. The evaluation of internal controls efficiency during the audit is an important element of the assessment of the overall audit risk and a key factor for the overall auditing process used by the auditors to achieve a sustainable higher quality of the auditing activities they perform.

The article reviews the possible theoretical models for assessing the adequacy of the internal controls systems of audited entities based on the internationally accepted audit risk assessment model. It also aims to determine the relation between the accuracy of the assessment of internal controls' adequacy and the quality of the audit activities.

Throughout the discussion we should answer the following specific questions: What is risk and how does it relate to audit practice?; What model should we use to assess the audit risk?; How can we assess the adequacy of internal controls and will this assessment affect the overall audit risk assessment?

During the last decade the term risk became popular in both theory and practice. Regardless of the field we work in, we are trying every day to identify, assess and manage the risks that may have positive or negative effects for the achievement of our goals. This is why we are often trying to answer the question What is risk and how can we assess and manage it efficiently?

The risk management theory defines risk as „the combination of the probability of an event and its consequences”¹. In other words, risks are assessed in terms of the probability of their occurrence and the degree of their impact on the goals of a certain activity such as practical auditing (Fig. 1). Thus we may determine which

risks are significant for achieving the goals of an activity and what measures should be taken to ensure the achievement of these goals.

In practice Risk management is usually associated with the methods, means and techniques to control the events that would have an adverse effect for the achievement of the goals. Such a definition is incomplete and incorrect because the events that may have a positive effect should also be considered risks. This is due to the fact that risks have dynamic characteristics and can therefore have negative as well positive effect. In this article we shall discuss only the risks that have negative consequences for the achievement of the set goals as well as the need for risk management mechanisms.

The focus of risk management is the identification, evaluation and management of identified risks by the organization's managers. The main objective of each risk management system is to methodically address the risks attaching to the organization's activities and minimize the adverse effect thereof by including well-structured and effective internal controls of processes and activities.

In a purely practical aspect, audit is exposed to certain risks as well. If they are not adequately assessed and managed by the auditors, they could impair the quality of their work and thus jeopardize the achievement of the purposes and effects of the audit. The identification of the risks by the auditors is an important part of the management of each audit. In international audit theory and practice the risk that an auditor may issue unqualified report due to auditors failure to detect material misstatement either due to error or fraud is known as „audit risk” and the model for assessing and managing such risk for each particular audit is known as „audit risk model”.

Audit risk must be assessed and managed due to the fact that the auditor cannot detect all material misstatements or conflicting data about the activities of the audited organization. This may be due to objective as well as subjective reasons. The objective reasons may be: audit tests may fail to detect material misstatement (pool-based audit tests); complexity of the audited operations; many factors that influence the reliability of data, etc. The objective reasons may be: the level of auditor's qualification and competence; industry and management pressures, etc.

¹ See: A Risk Management Standard, AIRMIC, ALARM, IRM: 2002, translation copyright FERMA, 2003

This is why Audit Risk (AR) is considered an essential audit category and should be considered when we determine the scope and methods of the audit. The acceptable overall audit risk is usually a relative value that reflects the auditors' awareness that upon completion of the audit they will have detected and reported all existing misstatements in the organization. Since in practice it is almost impossible for them to carry out a comprehensive review of all the operations of the audited organization, the auditors must accept a certain level of audit risk.

Without entering the theoretical debate on the nature of audit risk, we may say that it is the risk that auditors may issue an unqualified report due to their failure to detect a material misstatement either due to errors, frauds or other reasons they were not aware of during the audit.

All international audit standards², regardless of the types of audit they refer to, point out that to assess the audit risk auditors should rely on their professional judgment and then develop the necessary audit procedures to reduce the audit risk to an acceptable level.

The international theory and practice define audit risk as a combination of three key components (Fig. 2):

– Inherent Risk (IR) is defined as the susceptibility of an assertion about a class of transaction, account balance or disclosure to a misstatement that could be material, either individually or when aggregated with other misstatements, before consideration of any related controls. Inherent risk is in fact the business risk the audited entity is exposed to in the course of its activities.

– Control Risk (CR) is defined as the risk that a misstatement that could occur in an assertion about a class of transaction, account balance or disclosure and that could be material, either individually or when aggregated with other misstatements, will not be prevented, or detected and corrected, on a timely basis by the entity's internal control. Control risk is assessed in terms of the level of efficiency of the entity's internal control system.

– Detection Risk (DR), also known as procedural risk. This is the risk that the procedures performed by the auditor to reduce audit risk to an acceptably low level

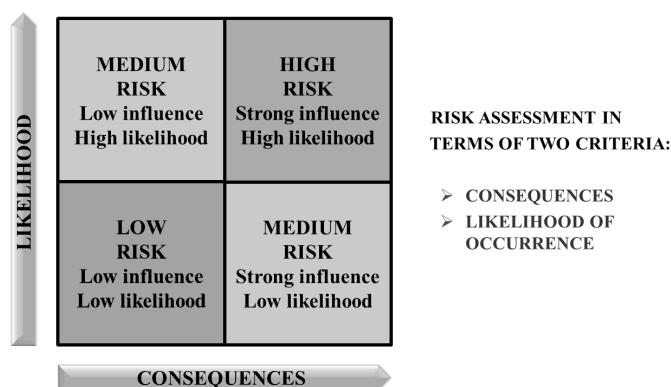


Fig. 1. Risk portfolio

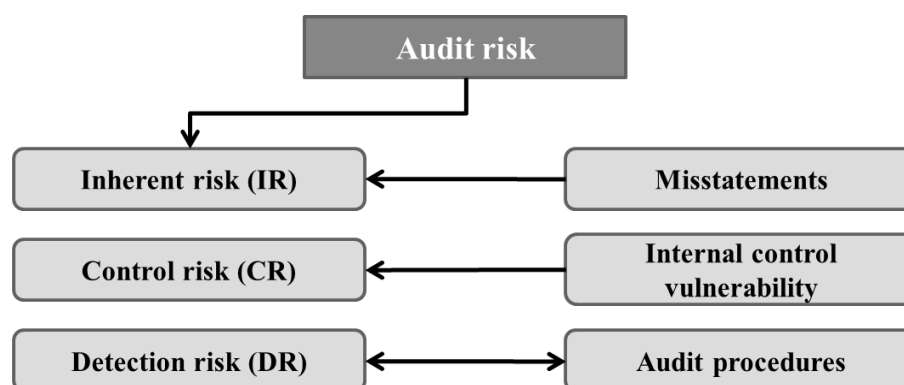


Fig. 2. Audit risk components

²Such as the International Audit Standards, the International Standards of Professional Practice in Internal Audit, the International Standards of Supreme Audit Institutions

will not detect a misstatement that exists and that could be material, either individually or when aggregated with other misstatements. Detection risk reflects the probability assumed by the auditors that despite the audit procedures they have performed and the data they have collected there still might be some material misstatements. This risk is related to determining the scope of audit activities and the evidence that must be collected during the audit.

The audit risk model shows the relations between these components. There are two practical approaches for assessing audit risk³:

– Intuitive (qualitative) – this approach is more popular among auditors that are less prone to apply statistical methods for assessment of the audit risk. With this approach the auditors estimate the level of risk on the basis of their professional experience, knowledge on the business and the management, and personal informed judgment.

The intuitive approach to assessing the audit risk is based on assessment of its elements as well as the overall audit risk in terms of three categories – low, medium and high. The interrelationship among the IR, CR and DR is illustrated in Table 1⁴.

– Quantitative – this approach is based on mathematical models for assessment of the audit risk using the interrelations among its constituent elements, i.e. the so-called probability multiplication rule or assessment of the residual effect of risks. It can be expressed mathematically as [1]:

$$AR = IR \times CR \times DR \quad [1],$$

where: OP is the audit risk;

IR is the inherent risk;

CR is the control risk;

DR is the detection risk

The international practice has assumed that the overall audit risk should not exceed 5%, i.e. the level of

audit adequacy (accuracy) should be at least 95% (100% – 5% = 95%). The level depends on the test methods used during the audit procedures. This is why the overall audit risk level is determined by the auditors prior to commencing the audit and considering the specific characteristics of the audited entity, auditors' professional competence and the policy of the audited entity.

In this respect the assessment of audit risk depends on the assessment of the detection risk (DR). Thus we are able not only to determine the effectiveness of the audit plan but also its feasibility (rationality). In this sense the level of detection risk will determine the quantity of evidence the auditors will need. The acceptable quantity of evidence is inversely proportional to the level of detection risk – the lower the risk, the greater volume of auditor's work and evidence will be required and vice versa. DR level is calculated as [2]:

$$DR = \frac{AR}{IR \times CR} \quad [2],$$

where: OP is the audit risk;

IR is the inherent risk;

CR is the control risk;

DR is the detection risk

Here we should refer back to one of the questions raised above – How can we assess the adequacy of internal controls and will this assessment affect the overall audit risk assessment? Auditors very often face the question „To what extent the internal control system established and implemented by the management of the audited entity is adequate and to what extent can they rely on it when performing the audit procedures?

International standards⁵ define internal control as a process related to activities and operations that are considered risky by the entity's management. It is implemented using certain resources of the organization. Its effects are defined in terms of its contribution (added

Table 1

The intuitive audit risk assessment method

Auditor's assessment of the inherent risk (IR)	Auditor's assessment of the control risk (CR)		
	CR – high	CR – medium	CR – low
	Auditor's assessment of the detection risk (DR)		
IR – high	DR – low	DR – low	DR – medium
IR – medium	DR – low	DR – medium	DR – medium
IR – low	DR – medium	DR – medium	DR – medium

³See: Герхауд, Н., Пол Дж. Смит и Р. Абхелмауер, „Международни одиторски стандарти”, изд. „Икономика прес”, С., 2009, р. 153

⁴ Source: http://www.bg-ikonomika.com/2010/11/9_337.html

⁵ See: Internal Control – Integrated Framework „COSO”, Committee of Sponsoring Organizations of the Treadway Committee, Jersey City, NJ:AICPA, 1992

value) to the achievement of the goals of the organization at the optimal level of costs it requires. These effects are not always directly measurable (e.g. as income from sales, reduction of direct production costs, etc.)

The internal control system operates through the internal controls effected by the entity's management. They are developed and effected in order to minimize the consequences of the inherent risks and maximize the efficiency of entity's processes and operations. Inherent risk may be defined as the probability of non-compliance of processes and activities. It may arise from poor performance in terms of compliance with the adopted standards or in terms of the achieved results before consideration of any related controls. The inherent risk may be measured in terms of the harm/damage the entity would incur from the event.

The level of risk, i.e. the risk vulnerability (V) of a process or an activity depends on the probability of occurrence of the event (P) and the severity of its adverse effects (S) and is calculated as $V = P \times S$.

Entity's management must decide (according to its risk „appetite” (tolerance) which inherent risks should be managed by means of internal controls in order to minimize their impact to an acceptable low level known in the risk theory as „residual risk”. The adequacy of the internal control is measured in terms of the value it adds to the organization's value by improving its processes and operations, i.e. by reducing the level of its residual risk.

The main criteria for evaluating the internal controls are their efficiency and effectiveness.

Effectiveness is defined as the degree to which entity's objectives are achieved in terms of comparing the actual and the expected results. The effectiveness of the internal controls of an organization may be assessed in terms of the degree of minimization of the inherent risks (IR) and the reduction thereof to the acceptable level of residual risk (RR) for a process of an activity. A greater degree of minimization of the inherent risks and their reduction to the acceptable level of residual risk would mean a better effectiveness if the internal controls and vice versa. The degree of effectiveness varies between 0 and 1.

The effectiveness of the internal controls may be estimated both as an absolute and as a relative value. As an absolute value it is the difference between the assessed inherent risks of the processes and operations and the residual risk after the controls are effected (i.e. the absolute reduction of the expected harm/damage from the process/activity) using equation [3]. As a relative value it is the risk reduction ratio calculated as:

$$Ek = IR - RR \quad [3]$$

$$Ek = 1 - RR/IR \quad [4],$$

where: Ek is the effectiveness;

IR is the inherent risk;

RR is the residual risk

Efficiency is defined as the degree to which entity's objectives are achieved in terms of the resources used for effecting the internal controls in the organization.

Efficiency is measured by comparing the degree of achieving the objectives and the resources (material, financial, human, etc.) used for achieving them. The efficiency of the entity's internal controls is measured in terms of the return on the costs made for effecting them. Using the popular return on investment (ROI)⁶ ratio, we may calculate their efficiency as [5]:

$$Ef = \frac{(IR-RR)-C}{C} \quad [5],$$

where: Ef is efficiency;

IR is the inherent risk;

RR is the residual risk;

C are the costs

The efficiency of the entity's internal controls may be considered from still another point of view – the allowable limit of costs for effecting the internal controls compared to the expected maximum utility (the expected maximum added value) thereof using equation [6]:

$$ACL = \frac{EMU}{(1+Ef)} \quad [6],$$

where: ACL is the allowable cost limit;

EMU is the expected maximum utility;

Ef is the efficiency

The above models for assessment of the adequacy (operating effectiveness) of the internal controls are applicable to those inherent risks that are significant for the audited processes and activities of the organization. To assess the adequacy of the internal controls the auditors may use the specific audit procedures known as tests of control. These are planned activities that aim to assess the (operative) adequacy of the controls effected for prevention, detection or correction of significant non-compliances of processes, activities or operations.

Prior to planning and performing these audit procedures the auditors should consider the following factors:

– First – the reasons for assessing the risk of significant misstatement of a specific process, activity or operation due to:

· probability of significant non-compliance resulting from the specific characteristics of the process, activity or operation, i.e. inherent risk (IR);

⁶ See: Lenskold, James. Marketing ROI. American Marketing Association, The McGraw-Hill, 2003, pp. 157 – 185

· the presence of controls, i.e. the control risk (CR). In this respect the auditors will rely on the operating effectiveness of the controls to define the type, duration and scope of the audit procedures and therefore should check whether the controls function effectively.

– Second – the level of risk assessment, i.e. the detection risk (DR) because it will define the volume of auditor's work and the plausibility of audit conclusions.

In conclusion I will outline the possible „benefits” for the auditors if they perform these procedures for assessment of the control risk within the audit risk model:

– First – They will have a comprehensive view of the implemented internal control system of the organization. Thus they will eliminate the problem with the intuitive assessment of the control risks within the audit risk model.

– Second – They will be able to define accurately the degree of effectiveness and efficiency of the tested internal controls for any given process, activity or operation and thus will achieve a better accuracy of the assessment of their awareness of the audit procedures they perform.

– Third – They will improve the quality of their audits in terms of the accuracy of the assessments and conclusions of their audits.

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Иванов Г. Оцінка системи внутрішнього контролю при аудиті

Аудит як конкретна форма контролю має суттєвий вплив на оцінку ефектів розвитку і бізнес-організацій в цілому, і бізнес-організацій публічного сектору економіки. Незалежно від поступального руху в розвитку технології аудиту в останні десятиліття, навіть зараз все ще можуть бути виявлені певні технологічні неузгодженості, і не існує єдиного погляду щодо їхньої практичної інтерпретації. У статті зосереджено увагу

на питаннях, пов'язаних з оцінкою ефективності систем внутрішнього контролю при використанні моделі для визначення аудиторського ризику при проведенні аудиту. У структурному плані розглянуто можливі теоретичні моделі оцінки ефективності системи видів внутрішнього контролю в об'єктах, що підлягають аудиту, на основі прийнятої в міжнародній практиці моделі аудиторського ризику.

Ключові слова: аудит, контроль, система, організація, ризик.

Иванов Г. Оценка системы внутреннего контроля при аудите

Аудит как конкретная форма контроля оказывает существенное влияние на оценку эффектов как от развития бизнес-организаций в целом, так и бизнес-организаций публичного сектора экономики. Независимо от поступательного движения в развитии технологии аудита в последние десятилетия к настоящему моменту все еще могут быть обнаружены некоторые технологические неясности, по которым не существует единой точки зрения в отношении их практической интерпретации.

В статье сфокусировано внимание на некоторых из вопросов, связанных с оценкой эффективности систем внутреннего контроля при использовании модели для определения аудиторского риска при проведении аудита.

В структурном плане рассматриваются возможные теоретические модели оценки эффективности системы видов внутреннего контроля в объектах, подлежащих аудиту, на основе воспринятой в международной практике модели аудиторского риска.

Ключевые слова: аудит, контроль, система, организация, риск.

Ivanov G. Audit Evaluation of Internal Control Systems

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Key words: audit, control, system, organization, risk.

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