UDC 336.1:352:[005.52:005.334(497.7)
Original scientific paper

JADRANKA MRSIK *
TOME NENOVSKI **
ANDREJ DIMOV ***

THE THREE LINE OF DEFENCE MODEL FOR EFFECTIVE RISK MANAGEMENT IN LOCAL GOVERNMENT

Abstract

The aim of this paper is to evaluate the process of public finance risk management in local government in the Republic of Macedonia through the system of internal controls and internal auditing. The research was realized by interviewing the financial managers, internal controllers and internal auditors in 48 municipalities in Macedonia. We have evaluated the effectiveness of the overall process of risk management in each of the lines of the "three lines of defense' model by analyzing the answers of the questionnaires. Based on the results from the research we have proposed recommendations for improving risk control in the local government in Macedonia by promoting the "three lines of defense' model for adding value to public finance management.

Key words: 'three lines of defense' model, risk management, local government, public finance management
JEL classification: H830, M420, M480

* PhD**,** UACS Institute for entrepreneurship and leadership development, Senior Research Fellow jadranka.mrsik@uacs.edu.mk
** PhD**,** University American College Skopje, Full-time professornenovski@uacs.edu.mk
*** MSc, Butel Municipality, Chief financial officer , andrejdimov72@gmail.com

1. Introduction

Public organizations, with their specifics and sector position, are massively exposed to internal and external risk influence, a characteristic which it shares with corporate organizations. Risk range has been expanding and exposure to risk is increasing for public organizations. Drennan, McConnell and Stark[1] explain this issue through the development of societies which have become more complex.

Realistic risk assessments enable public sector organizations to make the right decision about the level of risk they are willing to bear[2]. The notion of risk should be embedded in the organizational culture while the management has to be aware that all their activities are an integral part of the process of managing risks, a process which should be conducted continuously.

In the second half of the 1990s, the EC developed the concept Public Internal Financial Control (PIFC)[3] to help upgrade the internal control systems in the public sector of EU member states and candidate countries for EU accession. The PIFC concept is composed of three elements: managerial responsibility - financial management and control, functional internal audit and a central harmonization unit, a driving force of change. PIFC covers the sector of public finances[4] and refers to the formulation of the state budget, fiscal discipline, public accounting, procurement, internal control and financial reporting and plays a significant role in the process of reforms in public finances.

A model for evaluating internal controls, developed in 1992 by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), has been adopted as the generally accepted framework for internal control. The COSO model defines internal control as a process effected by an authorized person and designed to provide reasonable assurance of the achievement of objectives in: effectiveness and efficiency of operations, reliability of financial reporting and compliance with applicable laws and regulations.

[1] Drennan, T. L, McConnell, A. and Stark, A.: Risk and crisis management in the public sector. 2nd ed. Routledge, 2014.

[2] CIPFA and IFAC: International Framework: Good Governance in the Public Sector, CIPFA, IFAC. 2014.

[3] European Commission.: Welcome to the world of PIFC, Brussels, European Commission, 2006.

[4] De Koning, R.: PifC, Public Internal Financial Control, a European Commission Initiative to Build New Structures of Public Internal Control in Applicant and Third-Party Countries, Sint Katharina Lombeek, Belgium, 2007.

For the implementation of Macedonia's strategy for membership in the EU, a Law on Public Internal Financial Control (LPIFC) was adopted that was based on the principles of PIFC. The law regulates the system of internal control in accordance with internationally accepted standards for internal control and the use of interconnected components, such as: control environment, risk management, information and communication, and control and monitoring.

The financial management and control (FMC) of the local government system applies the principles of the COSO framework for internal control. Additionally, Standards for Internal Control in the public sector have been adopted, and they explain in detail the components of financial management and control in the public sector. Similarly, the Ministry of Finance publishes a Strategy for Development of Public Internal Financial Control every three years.

The Ministry of finance of the Republic of Macedonia[5] reports that 88% of the local self-governmental units do not disclose the most important risks and almost 68% have not appointed a person responsible for risks. Neither has it adopted procedures for the realization of the strategic plan for 2014.

The State Audit Office[6] in the 2014 report states that 68% of the budget users at the central level and 32% from the revised 19 local government units (LGUs) have not adopted a plan to establish FMC. 74% of LGUs lack risk assessment-related activities, 42% have established ex-ante financial control, while 26% of the budget users and 30% of LGUs have established ex-post financial control at the central level.

The findings from the above mentioned reports indicate an inefficient form of risk management in the system of financial management and control in the local self-governmental units. Therefore, the organization of the risk management in local governments units in Macedonia is the subject of research in this paper and the aim is the promotion of the model of three lines of defense for increasing the efficiency of this management.

[5] Ministry of Finance of R.M.: Annual Report on the system of public internal financial control functioning. Skopje, 2015

[6] State audit office: Annual Report for 2014, Skopje, 2014.

2. THE THREE LINES OF DEFENSE MODEL

The structure of the "three lines of defense" model is a conceptual distinction between the internal controls in each of the three lines of the model: (i) identification of risks in the first line, (ii) a system of internal controls and monitoring in the second line and (iii) an independent system ensuring the relevance of the internal control system in the third line. According to ECIIA and FERMA[7], the "three lines of defense" model provides a framework where the management will better understand the importance of the internal controls and the role of internal audit in the overall risk management of an organization.

The Three Lines of Defense model's implementation throughout the world is illustrated by the results of a Global Internal Audit Common Body of Knowledge (CBOK) research from The IIA Research Foundation, published in 2010. According to this report, 55 % of respondents from publicly traded organizations, 43 % from the public sector, 41 % from non-profit organizations, and 40 % of respondents from private companies (all excluding the financial sector) are using the model.

Despite the model's widespread recognition, some authors have conflicting opinions about it, especially due to the model's limiting factors. One of these critiques is voiced by Norman Marks in his blog "The Three Lines of Defense model is the Wrong model"[8] where he claimed that the model is not as perfect as it seems. Ernst and Young[9] draws attention on the model's functionality when an organization declares to be using the "three lines of defense" model but is unable to carry out comprehensive mapping of risks in each line.

Andrew Smart in his blog **"**Is it time to kill the Three Lines of Defence model?"[10] considers the Three Lines of Defence model to be an artificial construction and calls the industry (Financial Services) and the profession (Risk Management) to abolish it. He gives a few key reasons for that: the model has taken a disproportionate amount of time and too often it is perceived as a 'regulatory thing' rather than something that enhances governance and decision-making within the business, and it is well-understood by operational risk and compliance professionals, but not by the businesses themselves.

[7] ECIIA and FERMA: Guidance on EU 8th company law directive, art 41, part 1, Brussels, 2010.
[8] Posted on January, 25, 201.5
[9] Ernst & Young: Maximizing value from your lines of defense, A pragmatic approach to establishing and optimizing your LOD model, 2013.
[10] Posted on March 18, 2016.

3. METHODOLOGY AND DATA

The system of internal controls within LGUs was examined using a non-financial questionnaire, since the examination of the process of internal controls in most cases is associated with human behavior. A qualitative method of examining the problem in our research was applied in each of the lines of the promoted "Three lines of defense" model. This approach provided assessment of the internal controls and the risk management system in the public finances in LGUs.

A structured form of questionnaires was designed, combined with multiple-choice and Yes/No questions which according to SAO[11] are common in questionnaires for internal controls. The questions were designed by the Balanced Scorecard (BSC) principle based on the four segments for measuring the success of the BSC model: Management, Finance, Employees and Processes. The model is widely used in the corporate sector, but currently is often used in the public sector as well. The data included in this research are considered to be valid, since the questionnaires that investigate the problem comply with the law that addresses the issue of introducing internal controls in the public sector. The questions regarding internal control are in accordance with the five components of the COSO framework for internal control: control environment, risk assessment, control activities, information and communication and monitoring[12] (COSO, 2013).

Three sets of questionnaires were designed according to the model principles which were submitted to:

- Mayors or secretaries of municipalities and heads of offices for the first line;
- Heads of departments of Finance for the second line and
- Internal auditors for the third line.

Data was provided through online communication with the respondents and the survey was conducted over a period of three months from September to November 2015. Contact was made with 55 of the 85 municipalities in Macedonia and responses were received from 40 municipalities involving 95 respondents: 34 in the first, 39 in the second and 22 in the third line of the model.

[11] SAO: Accountability Modules, Data Analysis:Describing Data - Descriptive Statistics. Texas State Auditor's Office, Methodology Manual, rev. 5/95, 2013.

[12] COSO: Internal control-Integrated framework. American Institute of Certified Public Accountants, The Committee of Sponsoring Organizations of the Treadway Commission. 2013.

The problem in the first line was tested with a set of 35 questions in the second line with 29 questions, whereas in the third line it was tested with a set of 25 questions[13]. The questions include offered answers "Yes", "No" and "N/A, not applicable". The answers "No" and "N/A" were negatively assessed. There was a distinction in the assessment: The N/A items were given a greater degree of risk because it was believed it indicated that management was not considering taking appropriate measures regarding the risk issue and internal controls at all.

After the examination of the problem situation, we moved towards the evaluation of the internal control processes in LGUs. A semi-quantitative method was applied that examined the expectations for the performance of the internal control system in LGUs expressed in the hypothesis of our research. The Comprehensive Assessment Model - CAM, the Institute of Internal Auditors Research Foundation (IIARF) methodology was used. The CAM methodology was promoted by Dittmeier and Casati[14] because it is suitable for the internal auditors in the organizations observing the system of internal controls through their design and functionality. They have summarized the assessment criteria for the design of internal controls as follows:

a. Relevance: the level to which the control activity addresses the pertinent control objective under analysis
b. Timeliness: how long it takes for controls to respond to negative events.
c. Strength: series of factors that influence the probability of control effectiveness should related risks arise
c.1 Discretion: the level to which the control is discretional or subjective
c.2 Segregation: the level of control segregation that goes beyond the well-known concept of separation of roles and duties between process activities
c.3 Independence: the capability of the control owner to manage resources (technical, human, informational, economic) so that the control is most effective, acquiring or integrating resources as needed
c.4 Integration: the degree and manner in which the control reinforces other control processes for the same objective
c.5 Automation: the degree to which the control process is activated by automated systems that reduce errors derived from human behavior

[13] The questionnaires can be provided on the request to the authors

[14] Dittmeier, C. and Casati, P.: Evaluating Internal Control Systems: A Comprehensive Assessment Model (CAM) for Enterprise Risk Management, Altamonte Springs, The Institute of Internal Auditors Research Foundation, 2014.

c.6 Adaptability: how adaptable the control is to fluctuating volumes of activity

c.7 Traceability: the degree to which the control can be verified subsequently in all respects

d. Coverage: the level in which all significant risks are addressed.

The performance assessment (effectiveness) of the system of controls by CAM includes:

a. Availability of resources for the smooth operation of controls (financial, technical and human)

b. Compliance of the established internal controls;

c. Measurement of residual risk.

The criteria in both parts (design and performance) of assessment, are applicable to each control process individually. Control objectives are rated from 1 (optimal) to 5 (weak). CAM includes risk weight for each criterion manifested through the adjustment of the control objective with the risk assessment for a certain process. The top management or the audit committee define the risk weights of internal controls based on their perception of risk.

Hypotheses

- For the ability to create an effective system of internal controls through the first line of the "three line of defense" model, the following hypotheses were formulated:
  H1: Management is not sufficiently aware of the risk management concept.
  H2: Management does not take sufficient action to effectively manage risks.
- In the second line of the model the following hypotheses were formulated:
  H3: The system of internal controls is partially functioning and is not fully effective.
  H4: There is a danger that, at some point, the controls cannot prevent fraud or error due to:
  а) insufficient number of employees in the department; and
  б) inadequate training of employees in the department.
- The role of the internal auditor was examined in terms of independence for which the following hypotheses were formulated:

H5: Internal audit is not fully independent and cannot provide added value in risk management.

H6: Internal audit is completely independent, it is an effective tool for minimizing the financial irregularities.

4. RESULTS

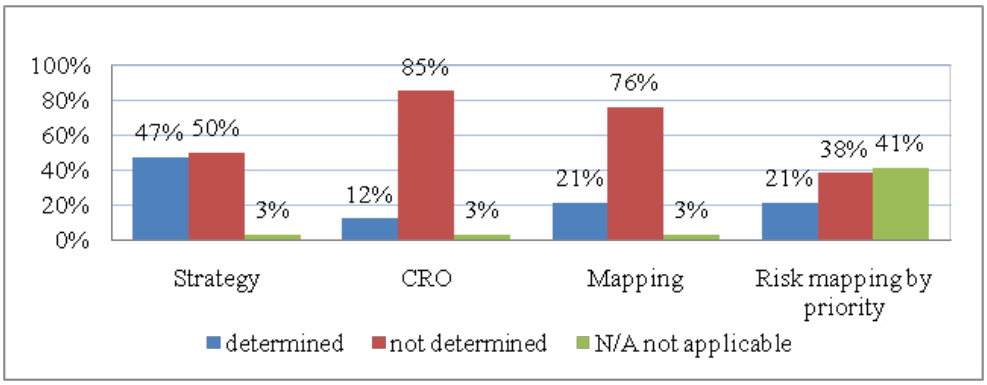
4.1 First line of defense – Top and operational management

The analysis of the system of risk management and internal controls started by assessing the ability of top management to organize efficient processes for dealing with risks. Three key elements and their sub-components as a starting point for examining the processes of risk management were determined:

- Risk management strategy,
- CRO (coordinator) for risk management and
- Mapping of the most important risks.

Public organizations should have a strategy for risk management. The responses show that 47% of respondents have established risk management strategy, 50% have not established the strategy yet and 3% found it inapplicable. Furthermore, only 21% of respondents keep a risk register of areas and priority of significance, 76% do not map the risks and 3% found mapping to be inapplicable. Only 12% of respondents have established CRO, 85% have not established it and 3% found it inapplicable.

Figure 1. Initial elements of risk management in LGUs



Source: The authors` own work

The high percentage of unimplemented CRO and improper recording of priority risks indicates that in most LGUs the strategies are inapplicable and they only satisfy the regulatory measure.

Even though 88% of LGUs have regular meetings, 38% of them consider the most significant risks and 35% take action to mitigate the identified risks. Of the total number of surveyed LGUs 21% record the most significant risks, 12% have an established CRO (coordinator) for risk management i.e. a total of 33%, which confirms the findings that 35% of LGUs take action to mitigate risks.

The survey results show that 85% have a person or department that manages information technology, but a very high 65% have not established an IT strategy, while 76% have no contingency plan for the protection of IT systems in an emergency situation. In terms of the internal control system, 76% have established procedures for FMC, of whom 74% have defined employees' duties and 50% have operating controls according to procedures. The functional analysis of the system of controls was conducted with a questionnaire in the second line of the mentioned model where the process of internal control actually happens.

To the question whether the management understands the risk management and internal control concept, 53% of respondents gave positive answers while 47% did not. The above question is in fact the first hypothesis of this research. However, the final opinion was formed after an extensive data testing from the first line using CAM methodology for the evaluation of internal controls.

4.2 Second line of defense – system of internal controls

For a more detailed analysis of the quality of internal controls, a comparative analysis was performed between the creators (first line) and the implementers (second line) of the controls with a questionnaire. The analyzed data was presented in accordance with the principles of COSO framework for internal controls as they are contained in the questions for examination of the problem. The existence of procedures for FMC was positively responded to by 79% which confirms the reliability of the data, because it is close to the 76% response rate by the LGUs' management.

4.2.1 Control environment

The process of internal controls in LGUs, due to the narrowed focus of study (Finance departments), was examined only with the LGU staff. 82% have staff in the accounting department, tax administration (67%), public procurement (64%) and lowest staffing occurred in the budgetary control department (38%). The analysis showed a significant discrepancy between planned and filled jobs. In most LGUs (44%), according to the job classification, the finance department should count between 11-15 employees. However, this level of staffing is achieved by only 15%. Inadequate staffing of jobs in the finance department seriously hampers control processes, as evidenced by the fact that only 36% of LGUs introduced a policy of job rotation. Job rotation in the control process is important because it allows employees to be familiar with the types of controls and their meanings.

4.2.2 Risk assessment

The data analysis in the first line defines the extent of the risk assessment in the public finances and the lack of assessment matrix of the most significant risks. All Finance departments adopt a budget calendar before the start of the fiscal year; 97% have a program-oriented budget while 92% have programs with a numeric value of projects. All departments adopt programs before the adoption of budget, but only 38% have procedures for estimation and calculation of budget revenues. A high 67% estimate revenues before the budget adoption which increases the risk of overestimating revenues.

4.2.3 Control activities

79% of LGUs have an appointed chief accountant of control, but only 48% have prepared accounting policies for control activities. The high percentage of respondents (97%) providing verification of each control function leads in the end to an inefficient system of internal controls. This is related to the first principle “control environment” where a lack of staff in the finance department was detected, which has a negative impact on the “control activities” principle and the effectiveness of the internal controls.

4.2.4 Information and communication

92% of the Finance departments have established controls to monitor budget implementation and 69% report on budget implementation and accepted liabilities on a monthly and quarterly basis instead of on a daily or

weekly basis. The delayed reaction produces delayed communication between the first and second line, thus 77% of the management approves orders for capital investments based on projected amounts in the budget, whereas only 23% do that based on the report on the implementation of balance sheet items in the budget. This approach of taking responsibilities increases performance uncertainty as the obligations may exceed the actual level of sustained liquidity in LGUs.

4.2.5 Monitoring activities

The monitoring activities have been assessed through the contracts for capital investments where we found that all Finance departments monitor the implementation of the contracts, mostly (89%) in terms of value fulfillment of contracts and embedded quantities. A high 85% confirm that for each signed contract, funds have been provided in the budget before the organization of public procurement. This indicates that monitoring processes are satisfactory, and it guarantees that this system, at least regarding the contracts fulfillment, works in ways that will prevent damage to the budget.

4.3 Third line of defense – internal audit

Out of the total 40 surveyed LGUs, 22 internal auditors for them responded to questionnaires. When asked how many auditors according to the job classification are planned in the audit department, most of them or 64% report 2-4, 18% report 5-7 and more than 8 auditors. 50% have only one internal auditor, 45% have 2-4 and only 1% have 5-7 auditors. For these reasons the average annual performed controls in this complex process of internal controls are 1-2 in the last 3 years.

86% report they keep records of all audits and all auditors make recommendations for improvement of internal controls. 68% of the LGUs' management act upon the recommendations of the internal auditor, which corresponds to the questions in the first line. In 54% the auditors do not monitor the implementation of the risk strategy and a high 68% are not involved and do not express any opinion on the quality of the mapped risks. 82% of internal auditors disagree with the evaluation by top management, and they all agree that an audit committee should be formed in order to represent the internal auditors' rights.

4.4 Hypotheses testing

In the first and second line of defense model the analyzed data was tested by using CAM methodology to assess the controls in the organization. Evaluation of the internal audit effectiveness and confirmation of the hypotheses was based on the analysis of respondents' answers.

According to CAM, for both lines (first and second line) of the model, the objectives of internal control were defined. For the research's purposes, the CAM principles were adjusted so that the internal control assessments, depending on the percentage of negative responses, were allocated on a scale from 1-appropriate (strong) to 5-inappropriate (weak). Additionally, due to the significance of the "N/A not applicable" answers, one percentage point for each answer was added.

Table 1. Criteria for evaluation of internal control (1-appropriate, 5-inappropriate)

Percentage of negative answers (%)	Internal control assessment
0-19	1
20-39	2
40-59	3
60-79	4
80-100	5

Source: The authors` own work

The assessments of the elements of internal controls were adjusted to a risk weight in order to reduce the gap between positive and negative responses. For research purposes the assessment criteria for the elements of FMC have based upon negative "No" and unfavorable responses. The favorable and positive "Yes" responses have not been assessed and therefore each assessment has been adjusted to a risk weight.

Table 2. Risk weights

Priority	Control assessment	Risk weight
Low	1-2	5
Medium	3	4
High	4-5	3

Source: The authors` own work

The assessment of the internal control system in LGUs was performed in the finance departments and internal audit, with examination of two elements: the elements of FMC and elements of internal controls. The elements of FMC were examined according to the legal regulation, whereas the elements of the internal controls were examined in accordance with the CAM principles, FMC and internal controls design and performance.

Data calculation was performed in accordance with the criteria and weights for assessment of the FMC elements that have been defined by our own judgement according to the research needs and the CAM methodology principles for internal control assessment.

The assessment of the design and performance of the internal controls system was conducted by measuring the cross-data in the first and second lines of defense. In accordance with the CAM principles and the narrowed observation range of internal controls in LGUs (Finance departments), the elements that were important to investigate the problem were separated.

Table 3. Assessment of the internal controls system in LGUs (n≈40)

	Rules	FMC elements		Control elements	
		Grade	Adjusted grade	Grade	Adjusted grade
(I) Design of the internal controls system					
Relevance	a	1,50	1,50	3,75	3,69
Timeliness	b	2,00	1,89	-	-
Strength:(average c.1 - c.6)	c		1,98		3,71
Discretion	c.1	-	-	4,33	4,20
Segregation	c.2	2,25	2,00	3,50	3,43
Integration	c.3	-	-	3,00	3,00
Automation	c.4	1,50	1,50	4,50	4,50
Traceability	c.5	-	-	3,40	3,12
Adaptability	c.6	2,50	2,44	4,00	4,00
Overall rating of design (average a+b+c)			1,79		3,70
(II) Performance of the internal controls system					
Discretion	d	1,67	1,67	4,00	3,90
Compliance	e	1,86	1,79	4,00	4,00
Overall rating of performance (average d+e)			1,73		3,95
Overall rating of the internal controls system (average I+II)			1,76 (2)		3,83 (4)

Source: The authors` own work

FMC elements are assessed with two (2) which means an appropriate level of established regulations on internal controls with need for improvement in some areas. Elements of internal control are assessed with four (4) which means an inappropriate internal control system that should undergo substantial improvements.

1. The basis for H1 support has been the calculation of the following elements: established strategy, appointment of CRO for risks, risk mapping and job staffing in the finance departments. The elements in the section performance of controls, under the criteria discretion, were assessed with grade 3,90 (Appendix A 3). The grade (3,90) confirms our expectations for H1 that the LGUs' management does not possess or has insufficient knowledge of the term risk management.

On the other hand, the LGU management takes all necessary measures to implement the required legislation for FMC. CAM calculations indicate solid discretion with 1.67 and compliance with 1.79 with the regulations on risk management. In comparison, the grades were analyzed between the regulation (FMC) and the implementation (controls). There is an obvious gap between regulation versus discretion (1.67) and compliance (1.79) versus implementation, and discretion versus (3.90) and compliance (4.00). The grades confirm our expectations of H2 in the first line of defense, that the LGUs' managements do not pay enough attention to efficiently manage the risks associated with LGUs.

Supported hypotheses (H1 and H2) indicate that the management is oriented towards satisfying the legislation instead of quality risk management of LGUs which increases the risk of damage in the public funds.

2. Due to the correlation of data for examining the problem in the second line of defense, a unified opinion was expressed to test the expectations of hypotheses (H3 and H4). Correlation was detected between the required number of trained employees and their impact on the quality of the internal control system.

Internal control's relevance was negatively graded 3,69 which confirms the fact that in most LGUs (62%) there is an absence of discussion regarding the risk factors as well as activities to mitigate the most significant risks. The overall rating for control design was complemented with the element control strength, which according to CAM methodology is negative (3,71) since it indicates that the controls are not strong enough to mitigate the risks' effects. Control discretion was impaired due to the significant number of LGUs who do not map the risks and do not rank them by importance. Segregation was graded 3,43 which impairs the strength of controls due to the fact that an employee usually performs two or more than two control functions. The element automation has a weak grade of 4,50. Accordingly, the overall rating (4) for the efficiency of the internal controls system is unfavorable.

3. To verify the expectations of H5 and H6 answers of internal auditors were analyzed. Results indicate partial support of H5 and H6 because analyzed data indicate partial independence of internal auditors in LGUs. Internal auditors agree to be evaluated according to the Law on Public Internal Financial Control (LPIFC) and to have an established Audit Committee to protect their rights.

5. SUMMARY AND RECOMMENDATION

LGUs in the Republic of Macedonia represent secondary, decentralized government with financial responsibilities and have been established for an efficient treatment of local needs. LGUs are obliged to finance projects in accordance with the legislation and the citizens' needs. The usage of public funds is strictly regulated by law and regulations. However, there is still a dilemma how these funds can achieve more public benefit. Therefore, the achievement of more efficient risk management in public finances is of great significance.

Research results on the effectiveness of risk management in LGUs in the Republic of Macedonia indicate the following:

- management is oriented towards satisfying the legislation instead of quality risk management of LGUs which increases the risk of damage in the public funds;
- internal controls in LGUs are not functioning, partially achieve control goals and function in a way that does not satisfy the requirements of the established regulations and
- internal auditors in LGUs are partially independent in their work

LGUs comply with the law and regulation and have introduced acts regarding risk management and internal controls, but the internal control system in LGUs does not correspond to the established rules and procedures. It may be concluded that the risk management efficiency in the public finances of LGUs is weak. To overcome the problem, this research promotes the model "three lines of defense". The model offers the internal control system in LGUs a good opportunity to function in accordance with the established regulations.

Based on the results from this research some recommendation are offered for policymakers in order to improve the controlling process and the public finance management in the local government in Macedonia:

- to impose a necessity of a risk management department in public sector administration.
- to enforce a compulsory risk register within the public sector organization.
- to impose an obligation of maintaining a full capacity of controlling staff and to provide a high quality capacity of the personnel.
- to promote an audit committee for local governmental units with involvement of the controlling risk personnel and with broad authorization for protection of the integrity of the internal auditors.
- to initiate an implementation of the "Three lines of defense" model for managing risks in the public sector.

6. RESEARCH PROBLEMS AND LIMITATIONS

The focus of interest of this research have been the public finances of LGUs. Data reliability might have been at a higher level if respondents from other departments (public procurement, urban planning, environment etc.) were included.

This research covers urban and rural municipalities with different capacities. Therefore, responses from smaller rural municipalities might have affected the hypotheses results.

CAM methodology provides an objective opportunity to examine and evaluate risks and controls, but it is relatively new (2014) and there is not sufficient evidence of its applicability.

References:

1. CIPFA and IFAC: International Framework: Good Governance in the Public Sector, CIPFA, IFAC. 2014.
2. COSO: Internal control-Integrated framework. American Institute of Certified Public Accountants, The Committee of Sponsoring Organizations of the Treadway Commission. 2013.
3. De Koning, R.: PifC, Public Internal Financial Control, a European Commission Initiative to Build New Structures of Public Internal Control in Applicant and Third-Party Countries, Sint Katharina Lombeek, Belgium, 2007.
4. Dittmeier, C. and Casati, P.: Evaluating Internal Control Systems: A Comprehensive Assessment Model (CAM) for Enterprise Risk Management, Altamonte Springs, The Institute of Internal Auditors Research Foundation, 2014.
5. Drennan, T. L, McConnell, A. and Stark, A.: Risk and crisis management in the public sector. 2nd ed. Routledge, 2014.
6. ECIIA and FERMA: Guidance on EU 8th company law directive, art 41, part 1, Brussels, 2010.
7. Ernst & Young: Maximizing value from your lines of defense, A pragmatic approach to establishing and optimizing your LOD model, 2013.
8. European Commission: Welcome to the world of PIFC, Brussels, European Commission, 2006.
9. Ministry of Finance of R.M.: Annual Report on the system of public internal financial control functioning. Skopje, 2015. Available on: http://www.finance.gov.mk/files/u249/Godisen%20izvestaj%20za%202014%20godina%20OPST%20DEL_0.pdf
10. SAO: Accountability Modules, Data Analysis:Describing Data – Descriptive, Statistics. Texas State Auditor's Office, Methodology Manual, rev. 5/95, 2013.
11. State audit office: Annual Report for 2014, Skopje, 2014. Available on: http://www.dzr.mk/en/Uploads/SAO%20Annual%20Report%202014.pdf