

## CONSIDERATIONS ON APPLYING THE ANALYSIS MATRIX METHODS OF THE RISKS WITHIN THE AUDIT OF THE PROCUREMENT-PAYMENT CYCLE

Svetlana SLOBODEANU

Academy of Economic Studies of Moldova, +373 69 289 863, Rep. of Moldova  
sslobodeanu@gmail.com

Neli MUNTEANU

Academy of Economic Studies of Moldova, +373 69 182 160, Rep. of Moldova  
slobonell@yahoo.com

### Abstract

*In the article hereby we analyse the matrix method of analysis of the risks for fraud and error at the level of the procurement-payments cycle.*

*The risk of presentation of certain fraudulent information regarding the accounts of the procurement-payments cycle becomes more and more accentuated in the enhancement of the administration's wish to present financial indicators of performance. In these conditions, the auditor is to necessarily quantify the involvement of this phenomenon for the report of audit. As a consequence, the auditor is to evaluate the risk for fraud and apply additional audit procedures for identifying all the possible indicators for „remaking” the financial situations on the side of the accounts of suppliers, activity, as a last consequence of which may be a qualified opinion on audit.*

**Key words:** financial audit; procurement-payments cycle; significant distortions; matrix method; risk for fraud.

**JEL Classification:** M42

### I. INTRODUCTION

In the interpretation of the Audit International Standard (SIA) 240 „The auditor's responsibilities regarding the fraud within an audit of financial situations”, the fraud represents an intended act committed by one or more individuals from the administration to governing responsible persons, employees, or third parties implying the use of deceit in order to obtain an unjustified or illegal advantage (IFAC, 2009, p.166).

Though the fraud is a large legal concept, in the SIA context, the auditor is interested in the fraud that produces specific distortions of the financial situations.

We recall that the primary responsibility of preventing and detecting the fraud is both of the entity-governing persons, and the administration (IFAC, 2009, p.164).

In the context of the cycle of operations related to procurement of goods and/or services and account settlements with the suppliers, we consider that from the point of view of the probability for the fraud to be produced, this group of transactions admits high possibility for fraudulent schemes to realize.

In order to make the purpose of the audit works more efficient by directly maximizing the lucrativeness of the audit team activity, the planning of the procurement-payments cycle is being imposed, based on the criteria of the risk for fraud.

### II. ANALYSIS BASED ON RISK CRITERIA

The methodological essence of the analysis based on the criteria of risk consists in the distribution according to most important criteria (factors) of risk, relevant to the audited cycle of operations, and the award of the related points according to an agreed scale, this being multiplied by the weight of each criterion depending on its relevance for the general level of risk of the fraud.

The risk criterion implies a set of circumstances or traits of the audited subject, the existence and intensity of which may indicate the probability of causing certain distortions of the financial situations.

The application of the method implies the correspondence of the risk criteria to the following conditions:

- a) be relevant to the activity conditions of the audited subject;
- b) cover all the sectors of activity of the control-supposed enterprise. Namely, the criteria chosen should be relevant to the activity and/or traits of the controlled persons, and/or the goods used/produced by them;
- c) be based on reliable, true and accessible information;
- d) be able to be weighted between themselves;

- e) make possible the gradation of each of them by the intensity of the risk it reflects;
- f) be reported to the multidimensional character of the risk sources. It is essential that they do not overlap and that those are chosen which are connected with the subject and object, as well as to the previous relations with the audit company.

We should mention that a similar method is used by the state control bodies of Moldova (RM) for planning the state control on the activity of entrepreneur in line with the Law on the State Control of the Entrepreneurial Activity no.131 as of 08.06.2012. For the purpose of the analysis, described in the article hereby, the risk criteria have been used, imposed by the General Planning Methodology of the State Control over the Entrepreneurial Activity based on the analysis of the risk criteria, approved by Governmental Decision no. 694 as of 05.09.2012, being adopted for the purpose of research, needs and objectives of the financial audit.

Thus, for the purpose of analysis of the fraud risk in the context of the audit of the procurement-payments cycle, every risk criterion is distributed by degrees/levels of intensity, evaluated according to the value of the risk level. The value scale levels between 1 and 5, where 1 represents the minimal level and 5 the maximum level of risk. We should mention that the evaluation interval may be extended or reduced, depending on the professional rationality of the auditor and concrete circumstances of the mission. the only condition of settling the interval is that the maximal level equals an uneven number.

On granting the value numbers, the weight of each level is taken into account within the risk criterion and the uniformity of passing from one level of risk to another, so that from the minimal level of risk to the maximal one a complete and relevant registry of the possible risk levels.

Thus, within the analysis of the probability of producing the risk of fraud, the following risk criteria may be stressed out:

**1) period in which the audited subject is realizing the control-supposed activity.**

*General rationality:* the longer an enterprise activates on the market and the longer its activity history is, the more probable it is that its management is knowledgeable about the market rules, social, economic, legislative, etc. environment, and the more careful it is about its reputation and, most often, it implements internal systems of quality control.

**2) regularity of the financial situations auditing.**

*General rationality:* in the conditions when the financial situations of the entity are regularly (annually) supposed to external audit, the probability of the transactions conformity is higher, which are at the basis of the information, reflected in the financial situations, economic realities and provisions of the active legislative and normative acts.

**3) type of the previous auditor's report.**

*General rationality:* the auditor's unqualified opinion (opinion without comments), issued on the basis of the financial situations audited in the past, may signify a significantly more reduced probability of the existence of elements of fraud unless the opinion is commented or criticized.

This criterion is valid just in the case when the financial situations have been previously audited. In case when the financial situations have not been audited, the criterion concerned is excluded, and the weight of the other criteria have been proportionally increased or attributed to one or more criteria, depending on the level of their evaluated importance. The last variant of the weight implies, de facto, the construction of a new weight matrix model of the risk criteria.

**4) the date of the last fiscal control/control from other entitled state bodies,** aiming at verifying the authenticity and legacy of the financial transactions.

*General rationality:* the longer period when the economic agent liable for control is not inspected, the higher is the uncertainty related to its conformation to the normative provisions, giving minimal risk to the entities recently controlled and the maximal risk to the entities that have not been recently supposed to state control.

**5) former infringements, revealed during the last fiscal/other state bodies control, mentioned in p.4.**

*General rationality:* lack of infringements since the last control indicates the disposal of the entrepreneur to follow the law and, respectively, low level of their violation. While the existence of the infringements revealed during the last control, assign the economic agent a high level of risk. For the purpose of our analysis, we consider that the degrees of the risk levels can be accepted, settled by Governmental Decision no. 694 as of 05.09.2012, and the points concerned.

**6) pseudo-procurement risks.**

*General rationality:* the significant turnover in the absence or presence of the VAT payment obligations to the state budget, according to data of the VAT Declarations for the last 24 months (the period can be increased depending on the auditor's professional rationality), may generate suspicions vis-a-vis the tendency of the administration to register fictitious procurement for diminishing the fiscal obligations for VAT. The indicator is valid just for the audit of the entities, registered as VAT payers, and they are calculated by the following relation:

$$\%VAT = VAT_{budget} / VAT_{supplies} \times 100\% \quad (1)$$

where:

%VAT – is the VAT weight for budget payment in the VAT total sum related to supplies in the fiscal period (month);

VAT<sub>budget</sub> – is VAT for budget payment (indicator from line 19 from the VAT Declaration) for the fiscal period analysed;

VAT<sub>supplies</sub> – VAT related to supplies (algebraic sum of the indicators from lines 2 and 4 from the VAT Declaration) for the fiscal period analysed.

Though they mean that the suggested method will be used at the control-planning stage, we consider that the monitoring of the suggested indicators should take place during the entire mission by their eventual adjustment depending on concrete circumstances that may influence the evaluation of the fraud risk.

Hereinafter, each criterion is to be settled its weight in relation with all the selected criteria, taking into account the importance of the criterion concerned depending on the specific of the activity of the audited subject and concrete circumstances of the audit. The weight of the risk criteria represents a complicated process and bears high responsibility exclusively based on the auditor’s professional rationality. Taking into consideration the multitude of the factors and circumstances likely to influence the relevance of each criterion, we recommend the periodical re-evaluation of the weight (importance) of the criterion concerned and the way of granting the degree of risk. Thus, the same criteria may have different relevance (and weight), depending on the specific of the mission.

The weight technique of the risk criteria is the following: we determine the weight per each risk criterion, in sub-units, so that the summed weight of all the criteria constitutes a unit. Giving higher weight to one criterion imposes the reduction of the weight of the other criteria. For example, if five criteria are selected, all of them could have 0.2 weight each, being equal or, if the importance of at least one criterion is higher, its weight will be higher, and that of the others decreases significantly.

On determining the weight for each criterion, the following shall be taken into consideration:

- ✓ the influence of the selected criterion on the potential distortions of the financial situations;
- ✓ the multitude and complexity of the risk sources, the criteria, which relate to different aspects, being weighed accordingly (subject, object, previous relations).

A model on attributing the points and weight to risk criteria is represented in Table 1.

**Table 1. Evaluation Matrix of the Risk Criteria (Factors) of the Fraud at the Audit Level of the Procurement-Payments Cycle**

Nr	Criterion (factor) of risk	Weight	Points				
			1	2	3	4	5
1.	Period of activity of the enterprise	0.1	More than 20 years	15-20 years	10-15 years	5-10 years	Up to 5 years
2.	Regularity of the financial situations auditing	0.3	yearly	Financial situations that have been audited one reporting period ago	Financial situations that have been audited two reporting periods ago	Financial situations that have been audited three reporting periods ago	Financial situations that have been audited more than three reporting periods ago / financial situations that have never been audited
3.	Type of the previous auditor’s report	0,2	Non-modified opinion	The auditor’s opinion contains insignificant reserves in the context of the present audit	The auditor’s opinion contains reserves making reference to the auditor’s incapacity to obtain enough and adequate	The auditor’s opinion contains reserves referring to significant distortions for the financial situations	Opposite opinion or refusal to express one’s opinion

Nr .	Criterion (factor) of risk	Weight	Points				
			1	2	3	4	5
					audit evidence, but he concludes the possible effects to unfound distortions on the financial situations, in case they are, they could be significant but not omnipresent		
4.	Duration since the last fiscal control /control from other authorized state bodies, aiming at verifying the authenticity and legacy of the financial transactions	0,2	Up to 6 months	6-12 months	1-2 years	2-3 years	More than 3 years
5.	Previous infringements, revealed during the last fiscal control /of other state bodies	0,1	Minor infringements have been found, but which do not constitute contravention or felony (prescription has been forwarded)	Minor infringements have been found which constitute contravention, without causing damages to third persons (sanction has been applied)	Infringements have been found which constitute contravention and caused damage to third parties (sanction applied, payment of damages)	Infringements have been revealed which constitute contravention and minor damages have been caused to third persons (sanction applied, payment of damages)	Infringements have been revealed which constitute contravention and major damages have been caused to third persons (sanction applied, payment of damages)
6.	Risk of pseudo-procurement	0,1	> 18%	12 – 18 %	8 – 12 %	3 – 8 %	< 8%
	<b>TOTAL</b>	<b>1,00</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

Source: elaborated by authors

Let's follow the evaluation procedure of the risk of fraud based on an arbitrary exercise:

**Example:** At the audit-planning stage of the procurement-payments cycle of the enterprise „Genesis International” Ltd, the auditor obtained the following data on the criteria of risk (table 2):

**Table 2. Evaluation of the Fraud Risk Criteria based on the Matrix Method at the Enterprise „Genesis International” Ltd.**

Criterion No.	Criterion Title	Content of the Criterion for the audited client	Criterion Quantification		
			Points	Weight	Weighted Score
A	I	2	3	4	5=3*4
1.	Period of activity of the enterprise	3.5 years	5	0.1	0.5
2.	Regularity of the financial situations auditing	The financial situations have not been ever audited	5	0.4	1.5
4.	Duration since the last fiscal control/control from other authorized state bodies, aiming at verifying the authenticity and legacy of the financial transactions	17 months	3	0.3	0.6
5.	Previous infringements, revealed during the last fiscal control /of other state bodies	Minor infringements have been revealed which constitute contravention, without causing damages to third persons (sanction has been applied)	2	0.1	0.2
6.	Risk of pseudo-procurement	%VAT = 15.6 %	2	0.1	0.2

Source: elaborated by authors based on data from „Genesis International” Ltd.

Taking into consideration the fact that the financial situations of „Genesis International” Ltd have not been audited, criterion 3 from the evaluation matrix of the risk of fraud has been excluded, and its attributable weight has been proportionally distributed on the other criteria as follows: criterion 2 (regularity of the financial situations auditing) – 0.4, criterion 4 (duration since the date of the last fiscal control) – 0.3, weight of criteria 1, 5 and 6 does not change, as at the proportional distribution of the weight of criterion 3, its share belonging to each of the three criteria does not significantly modify the initial level of its weight.

Hereinafter, the weighted score is placed in the matrix of the risk fraud and error (table 3) as follows: diagonally, we indicate the average possible weighted score for the criterion concerned (for example, for criterion 1 the weight is settled at 0.1 level, and the points are attributed at a scale of 1 to 5; respectively, the middle of the interval is 3, and the average possible weighted score is calculated by the weight multiplication in the middle of the score interval and it will be 0.3); hereinafter, the weighted score, determined for each criterion is placed in the matrix, by following the rule: the points exceeding the average score moves into the next immediate cell above the matrix diagonal in the same level with the analysed criterion; respectively, the score lower that the average level will be indicated in the cell under the matrix diagonal.

Table 3. The Matrix of the Risk for Fraud and Error

Criterion	Attributed weight	Criteria Quota					
1	0.1		0.3	0.5			
2	0.4			1.2	1.5		
4	0.3			0.6	0.9		
5	0.1				0.2	0.3	
6	0.1					0.2	0.3

Source: elaborated by authors

The graphical presentation of the criteria of the fraud risk as matrix allows identifying the criteria, the weighted score of which exceeds the possible average.

Thus, according to the data from our example, we can conclude that three out five criteria have been evaluated under the possible average weighted score, determined from the weight settled per each concrete criterion.

Hereinafter, after the concrete criteria have been determined to be used, as well as their weight, we settle the weighted average of the specific degrees of risk based on the following formula (formulas 2 and 3):

$$RF = (w_1R_1 + w_2R_2 + \dots + w_nR_n) / n \tag{2}$$

or

$$RF = (P_1 + P_2 + \dots + P_n) / n \tag{3}$$

where:

RF – general risk for fraud,

$w_1$  – weight of each risk criterion, where the sum of the individual weights is equal to the unit,  
 $R_1$  – the degree of risk (score) per each criterion,  
 $P_n$  – the weighted score, attributed to each criterion.

By using the data from our example, the general risk for fraud at the level of the audit of the procurement-payments cycle is determined by the mathematical calculus (formula 4):

$$RF = (0.5 + 1.5 + 0.6 + 0.2 + 0.2) / 5 = 0.6 \quad (4).$$

Taking into account the fact that the level of the general risk for fraud, in the suggested model may obtain values in the limits of the interval 0.2 – 1, where 0.2 indicates the risk of minimal fraud, calculated for the concrete mission of the audit of the procurement-payments cycle, and 1 – is the maximal level of risk for fraud, we are suggesting the following grid for evaluating the risk for fraud depending on the weighted score of the specific degrees of risk (table 4):

**Table 4. Appreciation of the General Risk for Fraud at the Audit Level of the Procurement-Payments Cycle**

Level of Evaluation	Low	Average	High
General Risk for Fraud	$0.2 \leq RF < 0.4$	$0.4 \leq RF < 0.7$	$0.7 \leq RF \leq 1$

*Source: elaborated by authors*

Depending on the ranking of the general level of the risk for fraud, the auditor will plan the application of the mission by using additional audit procedures the nature of which, moment and extension reply to the risks evaluated by significant distortion as a result of fraud at level of statements.

Thus, the general risk for fraud calculated in the context if the audit of the procurement-payments cycle of the entity „Genesis International” Ltd, may be appreciated as average.

the determining of the general reactions for treating the risks of significant distortion evaluated as a result of the fraud, includes, in most of the cases, the analysis of the way how the general organization of the audit is able to reflect a stressed professional scepticism; for example, by increasing the sensitiveness while selecting the nature and field of coverage of the documents to be examined for the justification of the significant transactions, and the stressed recognition of the need to corroborate the administration’s explanations or statements on significant aspects.

### III. CONCLUSIONS

As a conclusion, we can stress that the advantage of the evaluation method proposed of the general risk for fraud consists in its perfect mobility and possibility to adapt the application technique by supplementing / excluding criteria (factors) of risk, the modification of their evaluation scale and weight attributed to each criterion selected depending on the concrete circumstances of the mission. At the same time, we remind that by the weakness of the method, we will note the stressed dependence of its components by the auditor’s professional rationality. Anyway, it is indisputable that the richer the auditor’s professional experience, who is responsible for evaluating the general risk for fraud at mission level, the lower the probability of an inadequate appreciation of its level.

### IV. REFERENCES

1. International Federation of Accountants-IFAC. (2009) *Manual de standarde internaționale de audit și control de calitate audit financiar [Manual on International Standards of Quality Audit and Control, Financial Audit]* 2009, Bucharest, Irecson, 876 p.
2. *Governmental Decision RM no. 694 as of 05.09.2012 on approving the General Methodology of State Control Planning of the Entrepreneurial Activity based on the Analysis of the Risk Criteria*, Official Monitor of the Republic of Moldova no. 198-204 as of 13.09.2013.
3. *Law no.131 as of 08.06.2012 on the state control of the entrepreneurial activity*, Official Monitor of the Republic of Moldova no. 181-184 as of 31.08.2012.