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**PROBLEMS OF THE AUDIT MATERIALITY ASSESSMENT IN UKRAINE:  
PRACTICAL GUIDES' CASE STUDY**

***Abstract.** The purpose of the paper is to research the theory and to study practical guidelines on the audit materiality assessment for Ukrainian practitioners. The study of the audit materiality definition in Ukrainian and foreign professional standards is made. The comparative case study analysis of the materiality assessment based on Ukrainian and international audit guides is performed. The weaknesses and drawbacks of Ukrainian audit guides for practitioners are revealed.*

***Keywords:** audit, auditors, accounting, materiality, audit risk, control risk, professional judgment, guides and standards on materiality assessment.*

**Background.** Nowadays, the unqualified audit opinion is defined as one of the reasons of the financial crisis. Despite that, the crisis didn't cause criminal charges against auditors – the auditors on their own don't guarantee the accuracy of conclusions and imply the probability by reference to the audit risk (AR) and materiality. Moreover, according to the current standards there is no precise mathematical guidance to assess the materiality threshold and the risk components. It is a matter of professional judgment.

The main debatable question with materiality is whether specific mathematical guidelines have to be disclosed in professional standards. Supporters [5; 6] state that in the absence of specific quantitative standards auditor's judgments may lack consistency due to different evaluations about the magnitude of an error considered to be material. On the other hand, the U.S.'s Financial Accounting Standards Board [10] (and T. Lee [9]) state that materiality decisions are dependent on both quantitative and qualitative factors, thus, the precise guide can not be provided.

Review of the Ukrainian audit literature indicates that the concept of materiality is not considered with a significant attention. Moreover, some authors [1] write that application of materiality threshold itself violates the principle of completeness. So, the effectiveness of Ukrainian accounting and auditing guides of the materiality assessment

(MA) hasn't been analyzed yet.

**The purpose of the research.** The research objective is to study the theory as well as practical guidelines on the materiality assessment used by Ukrainian practitioners. The following tasks were established: to investigate the materiality concept; to apply the quantitative methods of the preliminary/planned materiality assessment and to determine factors that influence the choice of appropriate methods; to analyze Ukrainian guides and to define whether their application provides the effective and reasonable assessment of materiality.

**Analysis of the contemporary sources and publications.** We studied the materiality definition in the sources [1; 2; 3; 5; 6; 7; 9; 10]. The analysis reveals that the crucial concept of "materiality" has been defined only abstractly in both Ukrainian and foreign professional standards. However, from these definitions it's clear that decisions about materiality: (1) are matter of professional judgment; (2) depends on the needs of a reasonable person relying on the information; (3) involve both quantitative and qualitative considerations. Four factors are generally considered while determining materiality in practice: size of item, nature of item, the circumstances, and the cost and benefit of auditing the item.

**Explanation of the basic material.** According to current international professional standards, including International Financial Reporting Standards (IFRS) and ISAs, there is no mathematical guidance to assess materiality threshold. Thus, it is a matter of professional judgment. The Ukrainian guide, issued by the National Centre of Accounting and Auditing, states that materiality is strictly a matter of professional judgment [3, p.18]. The guide also states that the procedure of the MA in Ukrainian contemporary audit practice could be applied by the following methods: (1) the inductive method; (2) the deductive method. The auditor has the right to choose one of the methods according to the principle of competence and the principle of professionalism. The Ukrainian guide recommends the following approaches to assess materiality: (1) as a percentage of individual components of the financial statements; (2) as average level of materiality assessments for several individual components of the financial statements; (3) as a percentage of proper individual component of the financial

statements determined according to the risk of the accounting system.

The first approach is based on the deductive method. As the base for the preliminary MA total revenue, pre-tax income, gross profit, gross expenditures, equity, and assets are offered. The percentage determination is an object of the auditor's opinion and is based on the qualitative factors. The second approach of the MA doesn't disclose the procedure of allocating the PM to the components of financial statements. However, the procedure of the preliminary MA is performed. Thus, it could be assumed that this approach is also deductive. As a base for calculation 5 rules of thumb are offered: (1) 5% of pre-tax income; (2) 2% of total revenue; (3) 2% of total balance; (4) 10% of equity; (5) 2% of gross expenditures. Then, the overall materiality levels (\$) should be determined based on application of the following two methods. According to the first method the overall materiality level is determined as the lowest. According to the second method the overall materiality level is determined as an average value.

The third approach to the MA states that materiality as a percentage of the individual component of the financial statements is determined according to the risk of the accounting system as shown in the guide [3, p.23]. As the main disadvantage of this approach the authors emphasize the complication of the accounting system assessment on the planning stage of the audit [3, p.22]. Thus, this method could be applied only if the auditor applies a methodology of the accounting system assessment. Besides, according to the Ukrainian guide the qualitative characteristics of the MA include not only aspects of the business nature but also law and economic consequences by the current legislation.

The comparative analysis of Ukrainian and foreign audit practice of the MA and the risk assessment is presented in the Table 1. For the first view, Ukrainian audit guide complies with the foreign audit practice: (1) it assesses the preliminary materiality; (2) it assesses the materiality level for individual components of the financial statements; (3) it considers the factor of the risk influences in the auditing. In fact, the procedure of the risk and the materiality assessment is inappropriate and unreliable. The Ukrainian audit guide doesn't comply with foreign audit practice in material aspects. Moreover, they are opposing.

**Table 1. Comparison of Ukrainian and Foreign Audit Practice: Fundamental Aspects**

No.	Parameter	Ukrainian Guide			Foreign Practice
		approach No.1	approach No.2	approach No.3	
1.	Nature of errors	Uncorrected detected			Uncorrected known, likely and potential undetected
2.	Nature of the procedure	Deductive method Inductive and deductive methods are allowed because the preliminary materiality is not related directly to the materiality levels for components of the financial statements. Nevertheless, the sequence of the calculations performed as examples allow us to assume that the deductive method is used.			Deductive method
3.	Methods of the preliminary materiality assessment	The “rule of thumb” methods			1.The “rule of thumb” methods 2.Formula methods
4.	Approaches to the preliminary materiality assessment	Single rules	Variable or size rules	Not defined. (One from Approach No.1 or No.2)	1.1. Single rules 1.2. Variable or size rules 1.3. Average or blending 1.4. Sliding or incremental rate 2.1. KMPG formula
5.	Allocation of the Preliminary Materiality	Absent	Not defined. Could be assumed that is absent		Absent
6.	Risk considerations	1. Qualitative factor that could influence the auditor’s judgment		1. Qualitative factor that could influence the audit judgment 2. Quantitative factor that is used in mathematical calculations	
7.	Risk components	1.1.IR 1.2.CR 1.3.APR		1.1. IR 1.2. CR 1.3. APR 2.1. Risk of accounting system as the component of CR	1.1. IR 1.2. CR 1.3. TDR <sup>1</sup> 1.4. APR 2.1.IR 2.2. CR 2.3. TDR 2.4. APR
8.	Sampling application	Not defined			Present

<sup>1</sup> TDR (risk of tests of details) and APR (risk of substantive analytical procedures) constitute together the detection risk (DR) – DR=TDR\*APR

Ukrainian guide absolutely ignores the qualitative assessments of the Detection Risk components (such as sampling risk), the control environment risk and the control procedures risk during the MA process. It doesn't even consider sampling techniques. Thus, the judgment about the understated risk could be made. Accordingly, the materiality level is overstated. The only aspect that is performed by Ukrainian guide in accordance to the foreign practice is the preliminary MA. However, it is quite limited and doesn't disclose the variable of size rules approach, the formula methods. Moreover, it doesn't contain a sliding or incremental rate approach adapted from the AICPA audit guide. Despite the fact that the PM level is assessed, it isn't allocated to the individual components of the financial statements. These two levels of the materiality: preliminary overall and for individual components – are not related to each other. To summarize, Ukrainian guide doesn't directly contradict with the ISAs, but it also doesn't provide an “acceptably low level” of AR that, indeed, casts doubt on the reliability of the audit conclusion performed at the result. To demonstrate differences in fundamental aspects between the Ukrainian and foreign procedures of the MA and the risk assessment its application to the same case is performed.

The first step according to the foreign practice is the determination of the PM judgment. According to the quantitative assessment, the “rule of thumb” method and the single rules approach were chosen. Besides, the main qualitative factor is the small size of the company. According to the foreign audit practice [11, p.76] and to comply with the principles of stability and predictability the auditor has to choose either total revenue, or total assets, or income before taxes as the base of the “rule of thumb”. The appropriate financial data is the following: Total revenue=11,675,000; Total assets=9,850,000; Income before taxes=910,000. The history of income fluctuations allowed auditor to make the conclusion of its instability and unpredictability. Thus, the base should be used either 1% of the larger of total assets or total revenue. As the total revenue is larger the preliminary materiality judgment (PM) should be \$116,750.

The second step is the determination of the basic allowance for potential undetected error. Thus, initial and additional reductions from the PM should be made. According to the initial reduction the auditor based on his knowledge of the nature and

amount of errors detected in previous audits and anticipated \$15,000 of known error to be detected through audit procedures other than sampling applications in the current examination that the client will resist correcting (UNSE). The auditor expects \$10,000 of error in accounting estimates and \$5,000 of error in items that will be examined 100%. Thus, the adjusted planning materiality (PM adjusted) is \$100,000 (\$115,000 – \$15,000). According to the additional reduction the auditor has concluded that sampling will be used in two areas: inventories and property and equipment. The recorded amounts of the relevant accounting populations are: Inventories=1,140,000; Additions to property and equipment=1,030,000.

Based on past experience, the auditor expects projected error (APE) of \$10,000 of overstatement in the two accounting populations. This is 10% of adjusted PM. Thus, the additional reduction for imprecision (AI) is also 10% (as determined using the [4, p.77] on estimating a reduction for additional imprecision), or an additional \$10,000. Moreover, the auditor decided to allow for an additional cushion (C) of \$5,000 because of the difficulty of estimating errors. As a result, the auditor establishes a basic allowance (BA) of \$75,000, computed by the formula  $BA = PM - UNSE - APE - AI - C$  (PM=115,000; UNSE=(15,000); PM adjusted=100,000; APE=(10,000); AI=(10,000); C=(5,000); BA=75,000).

The third step is the determination of the items that are individually significant (ISI). For these items the auditor is not willing to accept any risk of failing to detect error. The auditor decided to use the general rule of thumb and to divide the basic allowance by 3 to determine the cutoff value. The auditor uses the \$75,000 basic allowance to establish a cutoff amount of \$25,000 ( $\$75,000 \div 3$ ) for individually significant amounts. The auditor will examine all inventory items (price testing and extensions) and all property additions that are \$25,000 or more. Scanning the lists for these two populations, the auditor selects items that are greater than the \$25,000 cutoff. These items total \$140,000 for inventory and \$130,000 for property and equipment. All selected items will be examined. The remaining populations (RRP), computed according to the formula ( $RRP = RP - ISI$ ), will be sampled – RRP Inventories=1,000,000; Property and equipment additions=900,000.

The fourth step is the determination of the sample size. The auditor assessed

inherent risk (IR) as maximum. Then for the determination of the risk factor the formula  $SS=(RRP/BA)*RF$ , and the table<sup>1</sup> should be used. The auditor believes that the moderate reliance on control procedures (CR) is appropriate for inventory pricing. Using the same table<sup>1</sup>, the auditor identifies a risk factor of 2.1. Hence, according to the formula the sample size (SS) is 28 items ( $\$1,000,000/\$75,000*2.1$ ). The auditor also believes that substantial reliance is possible on control procedures (CR) and on other relevant audit procedures (APR) for property and equipment additions. Thus, the appropriate risk factor is 1.2, and according to the formula the sample size (SS) is 15 items ( $\$900,000/\$75,000*1.2$ ). However, because the selection and evaluation techniques are not as rigorous as PPS techniques, the auditor decided to compensate by increasing the sample size computed in 20%. Thus, the auditor judgmentally determines to increase the sample size (SS) to 34 for inventories and to increase the sample size (SS) to 18 for property and equipment additions.

The fifth step is the sample selection. Because the sample size determination is based on PPS (Probability Proportional to Size) sampling theory, the appropriate method of selecting the sample is to approximate PPS selection techniques. The auditor is trying to approximate PPS sampling in selection of items from a detail listing. The auditor decides to subdivide (stratify) the remaining population (RRP) into three groups of items with an approximately equal recorded amount. Therefore, for inventories each stratum should approximately equal \$334,000 ( $\$1,000,000/3$ , rounded), and 11 items ( $34/3$ ) should be selected from each subpopulation (12 items from the largest one). The auditor foots the remaining population, ignoring (1) the four right-most digits (XX.XX) and (2) all individually significant items. He subtotals the pages and determines the strata for the purpose of sample selection. The auditor selects sample items from each stratum by scanning the subdivisions and selecting more large items than small items. The sixth step is the evaluating sample results. In testing inventory prices and extensions, the auditor detects some errors and computes the sum of error proportions as presented in the Table 2.

**Table 2. Sample Items that Contain Errors**

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<sup>1</sup> Gafford W.W. Materiality, Audit risk and Sampling: A nuts-and-bolts Approach (part two) / W. W. Gafford, D. R. Carmichael // Journal of Accountancy. – 1984. - №11. - P. 125-138. – P.130.

<i>Recorded amount, \$</i>	<i>Audited amount, \$</i>	<i>Error amount, \$</i>	<i>Error proportion (EP), size</i>
10,530	10,310	220	0.02
5,740	4,018	1,722	0.30
3,114	3,425	(311)	(0.10)

The aggregated error proportion is 0.22 (0.02+0.30-0.10). Thus, according to the formula ( $RPE = \sum EP * RRP / SS$ ) the projected error for the remaining population (RPE) is \$6,112 (0.22\*\$1,000,000/36). After the auditor has determined the projected error for the remaining population (RPE), it is compared to the estimate of projected error for the entire engagement (anticipated projected error for all populations sampled – APE from the formula  $BA = PM - UNSE - APE - AI - C$ ). \$6,112 is less than \$10,000. Thus, a qualitative assessment of inventory pricing errors was made that didn't cause the auditor to reevaluate the risk assessments made in planning. The auditor finds no errors in testing the property and equipment additions. Moreover, the error proportion doesn't exceed 1.0. Thus, PPS sampling theory is used properly.

Finally, the auditor has to combine the results of all audit tests. The results of sampling applications are summarized in the Table 3.

**Table 3. The Results of Sampling Applications**

<i>Description</i>	<i>Assets, \$</i>	<i>Liabilities, \$</i>	<i>Equity, \$</i>	<i>Earnings, \$</i>
Debit cost of goods sold				6,112
Credit Inventory	<u>(6,112)</u>	<u>        </u>	<u>        </u>	<u>        </u>
Pre-Total	(6,112)	-0-	-0-	6,112
Basic allowance	(75,000)	75,000	75,000	75,000
Additional imprecision	<u>(11,250)</u>	<u>        </u>	<u>        </u>	<u>11,250</u>
Total	<u>92,362</u>	<u>75,000</u>	<u>75,000</u>	<u>92,362</u>

The final additional imprecision is calculated by the same principle as the anticipated additional imprecision from the second step. The difference is that the anticipated additional imprecision is calculated according to the adjusted PM, and the final additional imprecision is calculated according to the basic allowance. Thus, the auditor calculates the percentage of projected error for the remaining population to the basic allowance and assesses the final additional imprecision. The fraction is 0.08 (\$6,112/\$75,000). Tracing down the left column to the next greater percentage of projected error to the basic allowance, the auditor finds 0.20. Tracing across the table, the auditor obtains the corresponding factor of 0.15. Therefore, the final additional imprecision is \$11,250 (0.15\*\$75,000). Table 3 is totaled and the total is transferred to the Table 4.



**Table 4. The Final Results**

<i>Description</i>	<i>Assets, \$</i>	<i>Liabilities, \$</i>	<i>Equity, \$</i>	<i>Earnings, \$</i>
Errors discovered:				
Debit cost of goods sold				10,000
Credit allowance for inventory obsolescence	(10,000)			
Debit cost of goods sold				30,000
Credit allowance for bad debts	(30,000)			
Reversal of above adjustments recorded by client:				
Debit allowance for bad debts	30,000			
Credit cost of goods sold				(30,000)
Subtotal	(10,000)	-0-	-0-	10,000
Table 3.13 total	(92,362)	75,000	75,000	92,362
Total materiality assessment	(102,362)	75,000	75,000	102,362
Materiality judgment	175,000	175,000	250,000	115,000

According to the postings in the “Error discovered” correcting entries for errors discovered in accounting estimates and items examined on a 100% basis are recorded. According to the postings in the “Reversal of above adjustments recorded by client” correcting entries have been reversed for those adjustments that were recorded by the client. The auditor has decided that his judgment about materiality for evaluation hasn’t changed from his planned judgment. He believes his initial judgment of \$115,000 is the smallest materiality level and that materiality amount related to earnings. He has decided that \$175,000 reflects his judgment about materiality in relation to assets or liabilities, which is moderately greater than materiality for earnings. The auditor has also decided that materiality for equity (principally considered the threshold for recording prior-period adjustments) is \$250,000. It doesn’t reflect how the auditor may judge prior-period adjustments that affect earnings of a prior presented period.

As the net of amounts posted in the Table 11 for errors in items examined on a 100% basis and errors in accounting estimates is the opposite sign of the total in the Table 4, and the absolute value in the Table 4 total is greater than the Table 3 total, then the basic allowance and additional imprecision have the same sign as the total in the Table 4. Among approaches of the MA presented in the Ukrainian guide we’ve chosen that one considering risk components (see [3, p.23]). According to the first step the PM is assessed. It was decided to apply the average approach. Thus, the preliminary MA is presented in the Table 5.

**Table 5. Preliminary Materiality Assessment: Ukrainian Guide**

<i>The base</i>		<i>The materiality level</i>	
<i>name of the component</i>	<i>\$</i>	<i>%</i>	<i>\$</i>
Pre-tax income	910,000	5	45,000
Total revenue	11,675,000	2	233,000
Total balance	9,850,000	2	197,000
Equity	8,410,000	10	841,000
Gross expenditures	8,172,500	2	163,000

Notes: the assessments of the materiality level (\$) are rounded.

According to the first method the overall materiality level is \$45,000. According to the first variation of the average method, the overall materiality is  $(45,000+233,000+197,000+841,000+163,000)/5=\$296,000$ . According to the second variation of the average method, the overall materiality level is  $(233,000+197,000+163,000)/3=\$198,000$ . It could be concluded that the auditor will choose \$198,000 as the PM level according to the qualitative characteristics of the company (the small size) and the principle of the professional skepticism.

The second step is risk assessment. The reliance of CR is moderate for inventory and pricing and is substantial for property and equipment additions. Thus, we assess the risk of the accounting system for assets – as moderate; for liabilities – as low; for equity – as low; and for earnings – as moderate. The third step is the MA for the individual components of the financial statements that is presented in the Table 6.

**Table 6. The MA for the Individual Components: Ukrainian Guide**

<i>Individual component of the financial statements</i>		<i>The risk of the accounting system, %</i>	<i>The materiality level</i>	
<i>name</i>	<i>\$</i>		<i>%</i>	<i>\$</i>
Assets	9,850,000	50	5	492,000
Liabilities	1,440,000	30	8	115,000
Equity	8,410,000	20	9	757,000
Earnings	11,675,000	40	7	817,000

Note: the assessments of the materiality level (\$) are rounded.

To compare the quantitative results of application Ukrainian and foreign guidelines the Table 7 was performed.

**Table 7. The Ukrainian and Foreign Materiality Guidelines: Comparison**

<i>Individual component of the financial statements</i>	<i>Preliminary materiality assessment, \$</i>		<i>The Materiality Assessment for the Individual Component, \$s</i>	
	<i>Ukrainian</i>	<i>foreign</i>	<i>Ukrainian</i>	<i>foreign</i>
Assets	198,000	115,000	492,000	102,000

Liabilities			115,000	75,000
Equity			757,000	75,000
Earnings			817,000	102,000

Notes: The assessments of the materiality level (\$) are rounded. The Table considers only quantitative assessments – the auditor’s corrections of the final materiality assessment for individual components are not disclosed.

To summarize, qualitative assessments confirm the results of the comparative analysis of the fundamental aspects of Ukrainian and foreign audit practice: (1) the PM level in Ukrainian guide is not related to the MA for the individual components of the financial statements; the difference between the overall materiality and allocated materiality is significant and, thus the PM determination seems to be not useful; (2) the MA for the individual components are overstated because of the understated risk. Therefore, the results obtained casts doubt about on the assurance that AR is maintained at an “acceptably low level” and on the reliability of audit results.

**Conclusions and perspectives for the future research.** Ukrainian and foreign materiality standards define the concept of materiality only abstractly. Traditionally, materiality threshold is used as an amount of evaluating the significance of known error. Materiality decisions are dependent on both quantitative and qualitative factors. Moreover, the qualitative factors play an essential role in the qualitative materiality assessment at all stages of the audit process.

The Ukrainian accounting and audit guides understate AR components and, thus, overstate materiality threshold. It doesn’t provide an acceptably low level of AR and, as a result, casts doubt on the reliability of the audit conclusions. The reasons are the following: (1) only the accounting system risk as a component of control risk (CR) is taken into materiality assessment – inherent risk (IR), the control environment risk, the control procedures risk, APR and TDR are absolutely ignored; (2) materiality threshold is considered traditionally, only as an amount used in evaluating the significance of known error; (3) the PM assessment methods are performed very rarely, there are no formula methods; the PM is not allocated to the individual components of the financial statement; (4) no qualitative factors are considered during the risk and the materiality assessment; (5) no sampling techniques are used.

In fact, the procedure of the risk and materiality assessment described in the Ukrainian audit guide [3] is unreliable and inappropriate. Thus, the development of a new guide based on the further research and the use of modern international standards and techniques is needed.

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## **ПРОБЛЕМИ ОЦІНКИ АУДИТОРСЬКОЇ СУТТЄВОСТІ В УКРАЇНІ: АНАЛІЗ ПРАКТИЧНИХ КЕРІВНИЦТВ**

*Анотація.* Метою даної статті є дослідження теорії, а також аналіз практичних керівництв щодо оцінки суттєвості для української практики. стандартів Здійснено вивчення дефініцій суттєвості в українських і зарубіжних професійних стандартах. Проведений порівняльний аналіз оцінки суттєвості на основі українських та міжнародних практичних керівництв. Виявлені слабкі місця і недоліки українських керівництв для практикуючих аудиторів.

*Ключові слова:* аудит, аудитори, бухгалтерський облік, суттєвість, аудиторський ризик, ризик системи контролю, професійне судження, керівництва і стандарти з оцінки суттєвості.