THE NEXUS BETWEEN INTERNAL AUDIT INDEPENDENCE AND FIRM PERFORMANCE OF LARGE FIRMS: THE CASE OF ROMANIA AND POLAND

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Abstract: *The influence of internal auditors on firm`s performance represents an ongoing debate between scholars and practitioners, academics and regulators, managers and auditors. This study examines whether the audit characteristic such as internal auditors independence has an influence on firm performance. We use a series of linear regression estimations in order to test the influence of internalauditor's independence on firm performance for a sample of large companies from Romania and Poland. Overall, our results indicate, that an independent internal audit committee has a beneficial influence on company performance in listed and unlisted companies. Thus increasing the independence of the internal audit committee can lead to a higher resource management of the company, which is reflected in an increase in the overall performance. A more independent internal audit committee can lead to a higher performance in the companies from Romania and Poland.*
Keywords: *Internal Audit, Firm performance*

INTRODUCTION

Internal Audit provides an independent and objective opinion to the management of an entity in terms of maintaining acceptable risk levels and provides recommendations regarding the activity of an entity conducting increased organizational performance. Internal audit is an objective and independent assessment of activity in an entity organized as a service. Functions, scope and objectives of internal audit determines its place and role. Internal audit depends and varies according to organization structure, management requirements of the organization and organization size. There are multiple definitions of audit but they all lead to a common idea, namely that the audit is the activity of analysis of property and financial documents, conducted by an independent, specialized and authorized to formulate an opinion just the reality, the financial statements providing financial context of the organization interviewed (Toma, 2011).

This study examines whether the audit characteristic such as independence defined as independent auditors in the audit committee have an influence on firm performance. The study contributes in extending the existent literature by revealing specific channels through which the independence of internal audit improves firm performance of large listed and unlisted companies. We believe that, by studding the influence of the internal auditor on firm performance in both listed and unlisted companies in Poland and Romania is important due to the specifics characteristics of the institutional environment and accounting and reporting standards of both private and public companies. The remainder of this paper is organized as follows: Section 2 reviews the literature. Section 3 describes data and preliminary analysis. Section 4 describes the methodology used. Section 5 presents the results. Section six conclusions.

LITERATURE REVIEW

The Institute of Internal Auditors (2017) in the International standards for the professional practice of internal auditing (standards) imply that the internal audit activity and committee must be independent and thus the internal auditors must be objective in performing their work. There are several studies that examine the internal audit characteristics, especially the audit committee`s existence and audit committee composition. Fama and Jensen (1983) found that independent audit committee directors can view the internal audit work as a mean in enhancing their reputational capital and can exacerbate the damage for the director if a financial misstatement arises while the director serves the audit committee.

Menon and Williams (1994) found that the independence of the internal audit committee is unlikely to outcome effectiveness unless the committee is also active. Abbott and Parker (1999) found that the independence and activity of the internal audit committee are more likely to engage higher quality for the external auditors; this higher quality is defined as the likelihood of identifying and reporting the financial misstatements (De Angelo, 1981). Thus, an active and independent audit committee is associated with a higher likelihood in identifying and reporting the financial misstatements. (Abbott, et al. 2000) found that the presence of the audit committee that is active and independent is associated with a higher likelihood in identifying and reporting the financial misstatements and preventing fraud. Independent audit committee conducts to greater quality in monitoring financial statements thus increasing the performance (Kamarudina, et al.2012). An independent audit committee contributes to stronger earnings informativeness, Woidtke and Yeh, (2013), the case of East Asian firms). Furthermore, the audit compositionin the case of the Est Asian firms, has more significant impact on firms with concentrated cash flow ownership than others. Owens-Jackson Robinson, and Shelton, (2009) analyzed the audit committee meetings and their independence and found that there is a negative relationship between them and the probability of fraudulent financial reporting. The likelihood of fraudulent financial reporting is negatively related to audit committee independence, number of audit committee meetings and managerial ownership and positively related to firm size and firm growth opportunities and the likelihood of fraudulent financial reporting given a totally independent audit committee is inversely related to the level of managerial ownership and the number of audit committee meetings

The independence and financial knowledge of the audit committee in Malaysia helps preventing the non-compliance of continuous financial disclosure thus preventing being reprimanded (Khamsi, et al. 2015). The association between audit committee, audit quality and discretionary accruals showed that audit committee and audit quality reduce manipulation of accounts, Nuraddeen and Hasnah, (2015). Based on the existent literature regarding the relationship between internal audit and firm performance we derived the following hypothesis:

H.1. Independent internal auditors have a positive influence on firm`s performance.

DATA AND PRELIMINARY ANALYSIS

One of the main objectives of our analysis is to test the influence of an independent internal auditor on firm performance, thus we use a sample of 21 large companies from Romania and Poland from a ten years period (2004-2013). Our main filter in criteria was that the company was considered to be a large company according to the European Commission definitions and the company should have at least ten years of data in Orbis database. In order to determine the relationship between independent internal audit an company`s performance we used the following variables as presented in table 1.

In determining influence of internal audit independence on firm performance we use return on assets (ROA) as dependent variable, consistent with other studies that tacked in consideration this variable as a measurement of firm performance such as (Brick *et al.*2006); (Cheng, 2008); Jackling and Johl, (2009). ROA is considered the actual firm performance (Ponnu, 2008). We use return on assets (ROA) calculated by dividing earnings before interest and taxes depreciation (EBIDA) to total assets in order to remove the bias of country specific fiscal policies, and return on equity ROE calculated by dividing earnings before interest and taxes depreciation to shareholders funds. We employ additional firm control variables such as: *Current ratio (CR)* representing current assets divided by current liabilities, *Solvency ratio (SRA)* is calculated by dividing the sum of net income plus depreciation to the sum of short-term liabilities and long-term liabilities, *Liquidity ratio (LR)* calculated by dividing the difference between current assets and stock to current liabilities, *Net assets turnover (NAT)* is calculated by dividing sales to total fixed assets, *Gearing (GEA)* is calculated by dividing he sum of long-term debt, short-term debt to total assets and *Cash flow-operating revenue* (CFOR) calculated by dividing cash-flow to operating revenue.

Table 1 Variables definition

Variable	Description	Data source
Dependent variable		
ROA	Return on assets calculated by dividing EBITDA to total assets (%)	Orbis
ROE	Return on equity calculated by dividing EBITDA to shareholders funds (%)	Orbis
Internal audit characteristics		
AI	Dummy variable equal to 1 if there is an independent internal audit committee and 0 if not.	Hand- collected data
Firm characteristics		
EBITDA	Earnings before interest and taxes depreciation	Orbis

CR	Current ratio (%)	Orbis
SRA	Solvency ratio (Asset based) (%)	Orbis
LR	Liquidity ratio (%)	Orbis
NAT	Net assets turnover (x)	Orbis
GEA	Gearing (%)	Orbis
CFOR	Cash flow / Operating revenue (%)	Orbis

Source: Authors definition

As table no 2 suggest our data is an unbalanced panel data, and on average 49.17% of our companies have independent internal audit committee. This high degree of

Table 2 Descriptive Statistics

	ROA	ROE	AI	EBITDA	CR	SRA	LR	NAT	GEA	CFOR
Mean	0.0916	0.2351	0.4917	292165.3	1.5068	40.992	0.8683	3.3162	58.753	5.8940
Median	0.0891	0.2290	0.0000	33814.4	1.2490	48.620	0.7230	1.7360	37.706	6.1960
Maximum	0.5650	3.0864	1.0000	3239424	10.573	99.945	3.578	22.985	434.2000	96.3930
Minimum	-0.6152	-5.2897	0.0000	-45210.7	0.0470	-78.929	0.027	0.112	0.0000	-82.9900
Std. Dev.	0.1344	0.6049	0.5013	529323	1.2129	30.491	0.6511	3.9430	73.263	19.6239
Skewness	-0.4422	-4.2988	0.0332	2.3342	3.0807	1.3038	1.421	2.4361	2.8864	-0.9778
Kurtosis	8.7935	49.305	1.0011	9.3756	19.980	4.9775	5.1177	10.368	12.965	9.9008
Observations	157	157	181	155	179	175	179	166	130	171

Source: Authors calculation

An initial analysis testing of the influence of independent internal auditors on firm performance is done via the correlation matrix presented in the table 3.

Table 3 Correlation matrix

	ROA	ROE	AI	EBITDA	CR	SRA	LR	NAT	GEA	CFOR
ROA	1									
ROE	0.5773**	1								
AI	0.1866**	0.0820	1							
EBITDA	0.5623**	0.1910	0.1301*	1						
CR	0.2921**	0.0558	-0.0015	0.0489	1					
SRA	0.5152**	-0.0391	0.2653*	0.3707**	0.4288*	1				
LR	0.5596*	0.1860	0.1949*	0.2211**	0.6054*	0.5909**	1			

	*			*			*			
NAT	-0.2132	0.0078	-0.1683	-0.2902**	-0.1092	-0.6272**	-0.1719	1		
		-0.2255*						0.2613*		
GEA	-0.3031	*	-0.0523	-0.1966*	0.1936*	-0.5951	0.2716**	*	1	
	-0.5814*				-		-	-		
CFOR	*	0.3336*	0.2117*	0.4105**	0.0009*	0.3301**	0.3004**	0.2723*	0.2956*	1

Note: ** Correlation is significant at 1% and * at 5%
Source: Authors calculation

Correlation Matrix (similar to a covariance matrix where the columns are standardized), presented in Table no. 3 describes the correlation between the variables analyzed. As we can see, between variables, we have both positive and negative correlation, perfectly normal, due to the significance of each analyzed variable. The correlation matrix suggests that there is a weak but statistically significant relationship between company performance proxied by ROA and independent internal auditor while we could not find a similar link in regards to the performance depicted by ROE indicator.

METHODOLOGY

In testing the relationship between firm performance and independent internal auditors committees, we will use a two-step approach. In the first part of the analysis, we will use the Principal Components Analysis in order to select the most suitable determinants of firm performance of large companies from Poland and Romania. In the second step, we will use a series of linear regression estimation in order to test the actual influence of independent internal auditor on firm performance.

The methodology in our analysis is composed of two distinct steps:
- *The Principal Components Analysis methodology;*
- *Linear Regression Estimation- an Ordinary Least Square model (OLS estimation)*

The Principal Components Analysis (PCA), also known as Hotelling transformation or Karhunen-Loeve transformation is a technique factorial analysis; where the purpose is to reduce the number of variables initially used, taking into account a small number of representative variables. The goal of PCA is to get a small number of linear combinations (the main components) from a set of variables that retain as much information as possible from the initial variables.

In our analysis we will use the OLS estimation to estimate the influence of the internal auditors independence on firm`s performance as in formula (1):

$$ROA_{i,t} = \alpha_i + \beta_1 AI + \gamma_{i,t} FC + \varepsilon_i \qquad (1)$$

Where:
i-is the firm and *t*-is the time;
$ROA_{i,t}$ – is company performance indicator proxied by the return on assets;
α_i – is the firm specific intercept;

$\beta_1 AI$ – depicts the internal auditors independence, dummy variable that equals 1 when the internal auditors are independent

$\gamma_{i,t} FC$ – are the firm`s specific characteristics such as: Earnings before interest and taxes depreciation; Current ratio; Solvency ratio (Asset based); Liquidity ratio; Net assets turnover; Gearing and Cash flow / Operating revenue.

ε_i – represents the standard error.

A full description of all the variables of our analysis can be found in Table 1. In all of our estimations, we will use Hubert-Whites Heteroscedasticity-consistent estimators.

EMPIRICAL RESULTS

The Total Variance Explained Table presented in Table no.4 provides the first information specific to the factorial analysis. Using the Principal Components Analysis (PCA) method, a number of eight main components, the so-called factors, were generated. As we can see in table 4, four factors meet the selection criterion (own values> = 1).

Table 4 Results of Principal Components Analysis

Principal Components Analysis
Sample (adjusted): 1 179
Included observations: 107 after adjustments
Balanced sample (listwise missing value deletion)
Computed using: Ordinary correlations
Extracting 12 of 12 possible components
Eigenvalues: (Sum = 12, Average = 1)

Number	Value	Difference	Proportion	Cumulative Value	Cumulative Proportion
1	4.130770	1.948647	0.2951	4.130770	0.2951
2	1.856997	0.302520	0.1326	8.169889	0.5836
3	1.554476	0.237306	0.1110	9.724365	0.6946
4	1.317170	0.546891	0.0941	11.04154	0.7887
5	0.770279	0.113843	0.0550	11.81181	0.8437
6	0.656436	0.191079	0.0469	12.46825	0.8906
7	0.465357	0.132072	0.0332	12.93361	0.9238
8	0.293067	0.103317	0.0209	13.55996	0.9686
9	0.189750	0.032509	0.0136	13.74971	0.9821
10	0.157240	0.083852	0.0112	13.90695	0.9934
11	0.073388	0.053726	0.0052	13.98034	0.9986
12	0.019663	---	0.0014	14.00000	1.0000

Variable	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10	PC 11	PC 12	PC 13
CFOR	0.24	0.18	0.35	-0.25	-0.03	0.51	0.05	-0.03	0.02	0.13	0.05	-0.01	0.00
CR	0.08	0.37	-0.25	0.21	0.23	-0.05	0.51	-0.38	-0.04	0.01	-0.05	-0.01	0.00
EBITDA	0.38	-0.14	0.17	-0.10	0.08	-0.01	0.13	0.03	-0.60	-0.26	0.16	0.04	0.00
GEA	-0.17	-0.20	0.36	0.62	0.19	0.20	0.03	0.35	-0.19	0.33	0.02	-0.01	0.00
AI	0.17	0.05	-0.08	0.13	-0.01	0.47	0.43	0.03	0.27	-0.13	0.00	0.20	0.00

LR	0.20	0.43	-0.08	0.05	0.37	0.13	-0.45	0.39	0.17	-0.40	0.06	0.04	0.00
NAT	-0.24	-0.12	0.14	-0.57	0.49	0.07	0.05	-0.04	0.20	0.33	0.09	0.05	0.00
ROA	0.28	0.33	0.34	-0.20	-0.09	-0.08	0.09	0.07	-0.27	0.22	-0.19	-0.07	0.00
ROE	0.08	0.16	0.61	0.13	-0.30	-0.31	-0.05	-0.22	0.44	-0.12	0.08	0.06	0.00
SRA	0.38	-0.32	-0.04	0.01	0.06	0.00	-0.01	0.05	0.22	0.05	-0.40	-0.13	0.71
SF	0.32	0.29	-0.30	0.11	-0.11	-0.14	-0.13	0.15	0.09	0.66	0.22	0.03	0.00
ST	0.12	0.04	0.18	0.14	0.60	-0.45	0.10	-0.08	0.03	-0.02	-0.02	-0.01	0.00
TA	0.34	-0.38	-0.04	0.03	0.04	-0.04	-0.01	-0.12	0.14	0.00	0.65	0.26	0.00

Source: Authors calculation

The Sums of Squared Loadings columns provide the values for their own values (Total column), the variance explained (column% of Variance) and the cumulative variance (Column %), in the context of the initial solution, before rotation. The variance explained by each factor is distribute as follows: first factor, 0.2951 and second factor, 0.1326, the third factor 0.1110 and the fourth factor 0.0941. All four factors explain 0.6328 of the value of the variance analyzed. The Rotation Sums of Squared Loadings columns show the values for the factors, but after applying the rotation procedure. In the context of the same and the total variants (75.414%), one can see a redistribution of the variance explained by each factor, as follows: the first factor 62.090% and the second factor, 13.324%. As can be seen in table no.4, by the rotation method, the first factor loses the saturation level in favor of the second factor. We took into account, after the PCA a number of 10representative variables and conducted our OLS regression presented in table no 5.

Table 5 Results of Ordinary Least Square model
Dependent Variable: ROA
Method: Least Squares
Sample (adjusted): 1 179
Included observations: 107 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.048281	0.020298	-2.378536	0.0194
CFOR	0.000736	0.000299	2.461586	0.0156
CR	-0.000807	0.003994	-0.202118	0.8403
EBITDA	1.01E-07	1.19E-08	8.445939	0.0000
GEA	-0.000135	6.82E-05	-1.973043	0.0514
LR	0.014626	0.009004	1.624321	0.1076
NAT	0.005437	0.001473	3.691915	0.0004
ROE	0.165228	0.017612	9.381391	0.0000
AI	0.018991	0.011329	1.676371	0.0970
SRA	0.001964	0.000394	4.980023	0.0000
R-squared	0.853052	Mean dependent var		0.119324
Adjusted R-squared	0.836037	S.D. dependent var		0.093557
S.E. of regression	0.037883	Akaike info criterion		-3.603266
Sum squared resid	0.136339	Schwarz criterion		-3.303510

Source: Authors calculation

The results of our estimation from table no. 5 indicate that the independence of the internal audit committee has a positive sign and statistically significant on return on assets dependent variable. Our results are consistent with other studies such as (Abbott, *et al*.2000); (Kamarudina, *et al*.2012) and Woidtke and Yeh, (2013) in which the presence of independent internal audit committee leads to a higher financial disclosure, a higher likelihood in identifying and reporting the financial misstatements and increasing overall the company`s performance. We can imply that companies that have an independent internal audit committee have an increased performance reflected by ROA with 0.018991 than the companies that do not have independent internal audit committee. Thus our hypothesis: H.1. Independent internal auditors have a positive influence on firm`s performance was confirmed at a 0.1 level.

CONCLUSIONS

The aim of this paper was to determine if independent audit committee could improve the performance of a company via advising and control of the manager actions. We used a series of linear regression estimation to test the influence of independent auditors of company performance in a sample of large companies from Poland and Romania over the period 2004-2013.

Our results indicate that independent auditors can increase performance of companies via better monitoring and control. Our results are similar to other studies such as (Kamarudina, et al.2012) who argues that independent audit committee conducts to greater quality in monitoring financial statements thus increasing the performance of an entity. In addition, our results reveal that the presence of the audit committee as an active and independent is associated with a higher likelihood in identifying and reporting the financial misstatements and preventing fraud, conducting to higher performance. Furthermore, our results are consistent with Woidtke and Yeh (2013) who argues that an independent audit committee contributes to stronger earnings informativeness.

It is important that the companies take in consideration in their corporate governance system the independence of the internal audit committee. We consider that increased independence of the internal audit committee can lead to a higher resource management of the company, which increases the overall performance. Moreover, an independent internal auditor committee contributes to higher financial disclosure and avoids conflict of interests between management parties and shareholders.

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