International Journal of Studies in Business Management, Economics and Strategies
Volume 4, Issue 7, July - 2025
ISSN (E): 2949-883X
Scholarsdigest.org

INVESTIGATING THE EFFECT OF AUDITOR GENDER AND AUDITOR SIZE ON THE QUALITY OF AUDIT: AN APPLIED ANALYSIS OF BUSINESSES INDEXED ON IRAQ'S FINANCIAL REGULATOR

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Abstract
This work reveals the effect of both the auditor's gender and the auditor's size on the quality of the audit (auditor reputation and duration). To this end, 35 Iraqi local businesses were chosen from 2011 to 2021, the data of which were informed by the information published by corporations listed on Iraq's stock regulator (ISR). The results of the study found a statistical significance of both the size and the gender of the auditor on audit quality measured by the auditor's duration. Also, the study found a statistical significance of both size and the gender of the auditor on audit quality measured by the auditor's reputation.

Keywords: Auditor's biophysical characteristics, Auditor number, Audit features, Iraqi economy, Audit practices.

Introduction

Legally imposed in the public's interest, audit is a social and economic profession. This profession should offer high-quality services to improve its credibility and stay updated on developments in all fields, including auditing, which benefits its clients.

Recently, researchers have become more interested in audit quality because of the financial crisis faced by audit firms and regulatory bodies. There is a strong push from these

organizations to rebuild trust in audits and improve their quality to fix their damaged reputation.

Therefore, high audit quality is expected to lead to high-quality financial reporting, which in turn is a tool to prevent financial crises. In addition, the external auditor is responsible for ensuring that the financial statements are properly prepared in accordance with accepted accounting standards. Accordingly, such responsibility increases investor confidence, as stakeholders (investors) consider auditors' report to be top important.

2.Objectives

The present work is aiming to attain the aims highlighted above by:

1.Identifying the effect of the auditor's gender (AGEN) on the audit duration (ADUR).

2.Finding how AG affects the audits reputation (AREP).

3.Checking the impact of the auditor's size (ASIZ) on ADUR.

4.Recognizing the impact of ASIZ on AREP.

3.Significance

This study can be significant as it:

1. Analyzes and measures the impact of AGEND and stature on the audit quality in order to optimize audit quality.

2.Investigates how far women's representation, as stipulated in the Iraqi constitution, is consistently represented in audits as per the state directions and obligations provided therein to enable them practice audit.

3.Contributes to the current local and global literature on such cutting-edge topics. This study is the first in Iraq to study the impact of AGEN and ASIZ on the AQUAL with a focus on certain companies listed on ISR.

4.Hypotheses

Main Hypothesis 1

It states that there is a statistical significance of AGEN on AQUAL. Additionally, there two sub-hypotheses that are based on that hypothesis:

1.There is statistical significance of AGEN on AQUAL (ADUR).

2.There is a statistical significance of AGEN on AQUAL (AREP).

Main Hypothesis 2

It states that there is a statistical significance of ASIZ on AQUAL. Additionally, there two sub-hypotheses that are based on that hypothesis:

1.There is a stat sign. of ASIZ on AQUAL (AREP).

2.There is a stat sign. of ASIZ on AQUAL (AREP).

5.Previous Literature

There were different studies that uncovered the impact of gender, work period, reputation, and related conditions on AQUAL across different business sectors. These studies underlined how these factors negatively or positively contributed to audit. Amer and Bouazza (2016)

investigated the impact of creative accounting practices on AQUAL in Algerian economic organizations, focusing on accountants and accounting offices in western Algeria. This study concluded that there was an inverse correlation between creative accounting practices and AQUAL.

Al-Naasan (2018) analyzed the factors influencing audit quality from the external auditors' viewpoints. The study showed that various factors likely improved AQUAL, such as the skills of the auditors, their qualifications, their ability to be objective and independent, and issues related to audit fees.

Nourelimane (2020) elaborated on the factors affecting AQUAL from the external auditors' perspective with an emphasis on a sample of state auditors in Algeria. The study underlined a significantly high connection among external audit quality factors. Also, the study found that statistical significance exists between audit quality factors and scientific qualification attributable to autonomy and objectivity factors and factors related to the review team. The relationship between AQUAL and both practice function and professional experience is linked to the factors concerning the audit staff.

Yaqoob and Minshed (2021) studied how the quality of external audits affected the use of international audit standards. The study found that audit quality does not affect the proper application of international standards.

6.Research Design

Having chosen some companies listed on ISR as a sample of analysis, this study used a descriptive-deductive approach to verify whether or not there is an inter-variable correlation. To this end, a multiple linear regression was used. To collect data, the financial statements of the companies sampled here and already published on ISR website were surveyed being the focus of analysis. To collect, extract, organize, and classify data, a Microsoft Excel sheet has been used. Additionally, a similar spreadsheet software, namely EViews 13, has been used to analyze data and process findings. To provide further information on this study from a theoretical and previous perspective, several local and international studies have been consulted.

7.Sample and Data

The samples of data set for analysis included all Iraqi shareholders listed in ISE from 2010 to 2021 provided that these companies:

1.Are listed on ISE from 2009 to 2021, due to some variables requiring prior year data.

2.Continuously and actively operate while data is collected.

3.Have their financial statements available when collecting data.

Following these conditions, only 35 companies operating in 4 sectors (services, industry, hotels and tourism, and agriculture) listed on ISE have been found to fit these norms. The companies' financial statements were collected from the respective websites and from the Securities Commission, Iraq's top financial regulator, being the only official authority tasked with financial publication and reporting.

Hypothesis Testing

In order to verify the first main hypothesis and sub-hypotheses, the below multiple linear regression (MLR) equation has been used:

$$AT_{t.i} = \beta_0 + \beta_1 ASize_{t.i} + \beta_2\, ROA_{t.i} + \beta_3\, SIZE_{t.i} + \beta_4\, LEV_{t.i} + \beta_5\, SEO_{t.i} + \beta_6\, LOSS_{t.i} + \beta_7\, Age_{t.i} + \beta_8\, MTB_{t.i} + \varepsilon_{t.i}$$

To test the second main hypothesis and sub-hypotheses, this MLR equation is used:

$$AT_{t.i} = \beta_0 + \beta_1 AGender_{t.i} + \beta_2\, ROA_{t.i} + \beta_3\, SIZE_{t.i} + \beta_4\, LEV_{t.i} + \beta_5\, SEO_{t.i} + \beta_6\, LOSS_{t.i} + \beta_7\, Age_{t.i} + \beta_8\, MTB_{t.i} + \varepsilon_{t.i}$$

To test the third main hypothesis and sub-hypotheses, that MLR equation was used:

$$AR_{t.i} = \beta_0 + \beta_1 ASize_{t.i} + \beta_2\, ROA_{t.i} + \beta_3\, SIZE_{t.i} + \beta_4\, LEV_{t.i} + \beta_5\, SEO_{t.i} + \beta_6\, LOSS_{t.i} + \beta_7\, Age_{t.i} + \beta_8\, MTB_{t.i} + \varepsilon_{t.i}$$

To test the fourth main hypothesis and sub-hypotheses, the following multiple linear regression equation was used:

$$AR_{t.i} = \beta_0 + \beta_1 AGender_{t.i} + \beta_2\, ROA_{t.i} + \beta_3\, SIZE_{t.i} + \beta_4\, LEV_{t.i} + \beta_5\, SEO_{t.i} + \beta_6\, LOSS_{t.i} + \beta_7\, Age_{t.i} + \beta_8\, MTB_{t.i} + \varepsilon_{t.i}$$

Where;

$AT_{t.i}$ is ADUR

$AR_{t.i}$ is AREP

$ASize_{t.i}$ is ASIZ

$AGender_{t.i}$ is AGEN

$ROA_{t.i}$ is the return on assets: equals net profits before taxation/ total assets

$LOSS_{t.i}$ is loss as a binary variable: if (i) records loss in year (t), it takes (1). Otherwise, it takes (0).

$SEO_{t.i}$ is capital increase as a binary variable: if (i) increases capital in year (t), it takes (1). Otherwise, it takes (0).

$MTB_{t.i}$ is ratio of market value to book value: measured by share prices in market multiplied by the number of shares

$SIZE_{t.i}$ is the bank size: represented by a typical logarithm of bank assets

$LEV_{t.i}$ is the financial leverage: equals total liabilities/ total assets

$Age_{t.i}$ is the company age: equals current year since establishment

$\varepsilon_{t.i}$ is the error value (residuals)

Variables

Independent variables

Variable 1 (AGEN)

To measure AGEN, a binary variable that takes (1) if the auditor is a woman and (0) if it is not, has been adopted, as indicated by Martinez et al. (2020).

Variable 2 (ASIZ)

To measure ASIZ, a binary variable, that takes (1) in case the company is audited by Iraq Federal Board of Supreme Audit and (0) if it is not, has been adopted, as indicated by Thammasiri (2014) and Khalbas et al. (2018).

Dependent Variables

In this study, AQUAL has been chosen as a dependent variable. To measure that variable, two sub-variables have been adopted: ADUR and AREP. ADUR is measured by the time spent by the auditor from the start of working. In other words, how long an auditor has worked at that business, as indicated by Myers et al. (2003). AREP is measured by dividing the total revenues of auditors by the total revenues of other auditors operating in the same business sector. In other words, how much profits an organization has made while audited by that auditor, as indicated by Hassoon et al. (2021).

Audit Variables

There are many audit variables that may affect AQUAL following Hassoon et al. (2021), Khalbas et al. (2018), Thammasiri (2014), Jensen et al. (2013), and Choi et al. (2012). Of these variables are company size, financial leverage, capital increase, return on assets, losses, and the ratio of market to book value.

Analysis

Descriptive Statistics

To statistically describe all the variables selected from the affected companies from 2011 to 2021, the table displays the arithmetic average, mean, upper and lower boundaries, and the standard deviation of all variables.

Table (1) Descriptive statistics of variables

S.D	Min	Max	Median	Mean	Variable
2.792	1.000	13.000	3.000	3.747	**AT**
0.303	0.000	0.983	0.250	0.346	**AR**
0.361	-4.339	0.349	0.018	-0.032	**ROA**
1.367	19.245	26.895	22.391	22.377	**SIZE**
1.485	0.001	19.782	0.250	0.579	**LEV**
13.428	9.000	74.000	28.000	32.367	**AGE**
102.803	-1817.272	561.819	2.083	4.247	**MTB**
Frequency %		**Frequency**		**Virtual variable**	
0.615		250		***ASIZE***	
0.613		249		***Agender***	
0.20		81		***SEO***	
0.362		147		***LOSS***	

As the table above shows, highest ADUR in the same company was 13 years, while lowest ADUR was one year, with a mean of 3.747 and a standard deviation of 2.792. Also, highest AREP was 0.983, while lowest AREP was 0.000, with a mean of 0.346 and a standard deviation of 0.303. More than 62% of the companies selected in this study have been audited by the Iraqi Federal Board of Supreme Audit during the study period, while more than 61% of the companies selected in this study have been audited by women during the same period.

Correlation Coefficient of Variables

The correlation coefficient measures the degree of linear association between two variables. The correlation factors of the study variables are elaborated on in the table below.

Table (2) Correlation matrix of study variables

MTB	AGE	LOSS	SEO	LEV	SIZE	ROA	AGENDER	ASIZE	AR	AT	Correlation
										1.000	AT
										-----	Probability
									1.000	-0.173	AR
									-----	0.001	Probability
								1.000	0.370	-0.459	ASIZE
								-----	0.000	0.000	Probability
							1.000	0.641	0.447	-0.256	AGENDER
							-----	0.000	0.000	0.000	Probability
						1.000	-0.039	-0.154	0.067	0.038	ROA
						-----	0.445	0.003	0.193	0.463	Probability
					1.000	0.157	0.227	0.195	0.234	0.012	SIZE
					-----	0.002	0.000	0.000	0.000	0.815	Probability
				1.000	-0.147	-0.701	0.128	0.234	0.031	-0.064	LEV
				-----	0.004	0.000	0.013	0.000	0.548	0.212	Probability
			1.000	-0.087	0.108	0.108	-0.040	-0.053	-0.059	-0.006	SEO
			-----	0.092	0.035	0.036	0.439	0.300	0.248	0.909	Probability
		1.000	-0.148	0.263	-0.125	-0.442	0.030	0.178	-0.184	-0.105	LOSS
		-----	0.004	0.000	0.015	0.000	0.554	0.001	0.000	0.041	Probability
	1.000	0.315	-0.109	0.252	-0.046	-0.273	-0.152	0.012	-0.244	-0.038	AGE
	-----	0.000	0.034	0.000	0.374	0.000	0.003	0.811	0.000	0.456	Probability
1.000	0.004	-0.097	0.008	-0.014	0.015	0.053	0.007	0.015	0.023	0.022	MTB
-----	0.937	0.060	0.880	0.792	0.772	0.308	0.885	0.775	0.649	0.676	Probability

Table (2) indicates that the correlation coefficients between independent variables are below (0.80 ±). This means zero problems in the linear association between independent variables. Similarly, there is a reverse (negative) sign. between independent variables (ASIZ and AGEN) and dependent variable (AQUAL measured by ADUR), and an inverse (positive) sign. between independent variables (ASIZ and AGEN) and dependent variable (AQUAL measured by AREP).

Hypotheses Testing

The sample selected for analysis included 35 companies that are engaged in four economic sectors (industry, services, hotels and tourism, and agriculture), all of which are listed on ISR from 2011 to 2021. Necessary information was gathered from the financial statements published on the ISR website.

Model 1: Testing Sub-hypothesis (1) derived from Main Hypothesis 1 and Main Hypothesis 2

Variability Inflation Coefficient (VIF)

VIF tests demonstrated these findings

Table (3) VIF Testing of Model 1

Variables	VIF
ASize	1.413
Agender	1.084
ROA	1.957
SIZE	1.317
LEV	2.201
SEO	1.036
LOSS	1.086
AGE	1.084
MTB	1.037

Table (3) above indicates that all VIFs are below (10), which finds no problem with linear correlation among the Model 1 variables.

Model 1: Testing Sub-hypothesis (1) derived from Main Hypothesis 1 and Main Hypothesis 2

Sub-hypothesis (1) derived from Main Hypothesis (1)

There is a stat sign. of AGEN on AQUAL (ADUR).

Sub-hypothesis (1) based on Main Hypothesis (2)

There is a stat sign. of ASIZ on AQUAL (ADUR)

Table (3) above details that all VIFs are below (10). Therefore, there was no problem with linear correlation among the Model 1 variables.

Table (4) Testing Sub-hypothesis 1 derived from Main Hypotheses 1 and 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	316.159	381.691	0.828	0.408
ASize	-6.028	1.329	-4.536	0.000
Agender	1.118	0.381	2.932	0.004
ROA	0.458	0.364	1.256	0.210
SIZE	-0.057	0.293	-0.196	0.845
LEV	0.070	0.120	0.585	0.559
SEO	-0.104	0.201	-0.515	0.607
LOSS	-0.039	0.240	-0.162	0.871
AGE	-0.018	0.042	-0.426	0.670
MTB	0.001	0.001	1.000	0.318
R-squared	0.688	Adjusted R-squared		0.677
F-statistic	65.571	Prob. (F-statistic)		0.000
Durbin-Watson stat		2.215		

Stat analysis in the above table demonstrates that the model is statistically significant. Prob. value of the F-statistic test was found to be less than (0.05), reaching (0.000). Such frequency reveals that the model is both valid and reliable. The Durbin-Watson stat is 2.215, greater than R-squared, which is 69%. This explains the lack of self-association and false regression. The R-squared value was 0.688, which means that the interpretive power of the variables independent of the dependent variable is 69%. The adjusted R-squared stat is 0.677, which means that independent variables affect the dependent variable by 68%. The residuals (32%) are due to other non-model factors.

Testing Sub-hypothesis 1 derived from Main Hypotheses 1 and 2

Stat analysis demonstrates that Prob. stat of independent variables (ASIZ and AGEN) is less than (0.05), reaching (0.000) and (0.004), respectively. This indicates a stat sign. of both ASIZ and AGEN on AQUAL measured by ADUR.

Model 2: Testing Sub-hypothesis (2) derived from Main Hypothesis 1 and Main Hypothesis 2

Variability Inflation Coefficient (VIF)

VIFs demonstrated these findings

Table (5) VIF Testing of Model 2

Variables	**VIF**
ASize	1.865
Agender	1.979
ROA	2.371
SIZE	1.202
LEV	2.202
SEO	1.187
LOSS	1.459
AGE	1.256
MTB	1.013

Table (5) above displays that all VIFs are below (10), which means zero problems with linear correlation among the Model 2 variables.

Sub-hypothesis (2) based on Main Hypothesis 1 and 2

Sub-hypothesis (2) derived from Main Hypothesis 1: There is a stat sign. of AGEN on AQUAL (AREP).

Sub-hypothesis (2) based on Main Hypothesis 2: There is a stat sign. of ASIZ on AQUAL (AREP).

Table (6) Testing sub-hypothesis (2) derived from Main Hypothesis 1 and 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.241	8.967	0.473	0.637
ASize	0.134	0.035	3.780	0.000
Agender	0.099	0.036	2.724	0.007
ROA	0.033	0.054	0.606	0.545
SIZE	0.037	0.010	3.664	0.000
LEV	0.020	0.013	1.562	0.119
SEO	-0.052	0.034	-1.539	0.125
LOSS	-0.072	0.032	-2.295	0.022
AGE	-0.004	0.001	-3.673	0.000
MTB	0.000	0.000	0.116	0.908
R-squared	0.369	Adjusted R-squared		0.350
F-statistic	19.515	Prob. (F-statistic)		0.000
Durbin-Watson stat		0.909		0.000

The statistical analysis in the above table demonstrates that the model is statistically significant. Prob. stat of the F-statistic test is less than (0.05), reaching (0.000). Thus, the model is valid and reliable. The Durbin-Watson stat is 0.909, greater than R-squared, which is 37%. This variation uncovers the lack of self-association and false regression. The R-squared stat was 0.369, meaning the interpretive power of the variables independent of the dependent variable is 37%. The adjusted R-squared stat is 0.350, which means that independent variables affect the dependent variable by 35%. Residuals, amounting to 65%, are due to other non-model factors.

Concluding Interpretation of Sub-hypothesis (2) Testing derived from Main Hypothesis 1 and 2

Stat. analysis demonstrates that Prob. stat of the independent variables (ASIZ and AGEN) was less than (0.05), reaching (0.000) and (0.007), respectively. These frequencies refer to a stat sign. of both ASIZ and AGEN on AQUAL as measured by AREP.

Conclusions

The current study examines the impact of AGEN and ASIZ on AQUAL (ADUR and AREP). Results of hypothesis testing reveal a stat sign. of ASIZ and AGEN on AQUAL as measured by AREP. Also, there is a stat sign. of ASIZ and AGEN in AQUAL as measured by AREP. Accordingly, these results signal that the Iraqi Federal Board of Supreme Audit is the highest audit authority in Iraq; its auditors have diversity in gender and are well experienced in audit.

Recommendations

Based on the conclusions and discussions elaborated on above, this study recommends investors take into account the findings of this study when investing in companies audited by the Iraqi Federal Board of Supreme Audit, given the accuracy and high quality of their reports.

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