LEGAL AUDIT QUALITY AND FRAUD RISK: THE CASE OF TUNISIAN LISTED COMPANIES

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ABSTRACT

The aim of this study is to examine the impact of legal audit quality on the likelihood of accounting fraud, for a sample of 48 companies listed on the Tunisian stock market over the period between 2014 and 2018. Based on the logit panel regression, we have shown that the audit firm's membership in one of the Big networks and the rotation of external auditors are two major determinants in the reduction of cases of fraud in Tunisian companies. In addition, the results showed that joint audit deteriorates the quality of auditing and thus increases the risk of fraud. This study provides new insights in terms of legal audit and fraud risk in the Tunisian context based on the econometrics of panel data, which is a valuable method to measure the impact of several actions alone or simultaneously. It has allowed us to analyze the behaviors of companies by considering the effect of many proxies of legal audit quality.

Keywords: Fraudulent Financial Statements, Manipulation, Audit Quality.

JEL Classification Codes: G32, M42, C23.

INTRODUCTION

Since the crisis of confidence (2001-2002), which took place with the dismantling of the audit firm "Arthur Andersen" following its involvement in a complicated fraud process with Enron in the United States, the quality of financial information and the quality of service provided by external auditors have become increasingly important. Indeed, the economic environment for companies has undergone a marked change both internationally and nationally, as Tunisia has not escaped fraudulent financial scandals. The "Batam" case and that of "General Leasing" demonstrate the seriousness of the scourge of fraud. This evolution has been materialized mainly by laws that have been appointed to remedy these scandals. These are the Sarbanes-Oxley Act (2002) in the United States, the Financial Security Act

(2003) and the Green Paper on Auditing (2010) in France and the law on strengthening financial security (2005) in Tunisia.

All these reforms share the same objective, namely, to protect financial markets from new crises by ensuring the transparency of financial information and improving audit quality (Lamkaraf & Zaam, 2019).

However, studies conducted by Price Waterhouse Coopers (PwC) and the Association of Certified Fraud Examiners (ACFE) prove that the risk of financial statement fraud still exists, generating considerable losses. This has happened when the statutory auditor's intervention is not of high quality. This is the case of the Turenne Lafayette, which noted that the presence of an external auditor may not be an effective solution to detect or reveal the fraud committed. In fact, this company engaged in financial fraud, increasing their turnover and thus concealing their insolvency for years without being revealed by the intervening auditor. The case was only detected after the death of its founder[1], at the end of 2016, and the firm in charge of certifying the accounts of this firm, MAZARS, was therefore suspected of complicity in fraud. This firm, despite belonging to the national majors[2], did not succeed in guaranteeing the formula of audit quality dictated by De Angelo (1981), which is composed of two characteristics: independence and competence.

The external audit, as a mechanism for controlling management activity, has been the subject of numerous research studies, including that of Chen, Hope, Li, & Wang (2011), who believe that the intervention of external auditors helps to mitigate the opportunistic behaviour of managers and therefore constitutes a guarantee of the quality of financial information. Probably management activities are increased when asymmetric information is more important (Parvin, Rana & Shams, 2020) so an external audit quality may limit this behaviour. Also, García, Martínez, & Sánchez (2014) state that audit quality generally helps to restrict the practice of results management. In this same framework, we question the impact of external audit quality on the risk of fraud in the financial statements of listed Tunisian companies.

We believe that Tunisia is a very suitable framework to undertake such research, insofar as Tunisian legislation places great importance on audit quality. Indeed, since the creation of the Order of Chartered Accountants of Tunisia (OECT) various laws have been enacted to organize the profession of external audit, this began with Law No. 59-129, which gave birth to the Commercial Code. Then law 88-108 of August 18, 1988 defined the profession of auditor (CAC) and distinguished it from that of chartered accountant. Subsequently, Law No. 2000-93 of November 3, 2000 presented the scope of an auditing mission and thus reinforced the independence of the external auditor. Finally, Law No. 2005-96 of October 18, 2005 was promulgated, which reinforced the security of financial relations. Indeed, the Financial Security Law introduced in 2005 was designed to enhance the transparency, the reliability of financial information and to ensure better corporate governance. Especially, it emphasized the importance of audit quality as a key corporate governance mechanism. In fact, the financial security act has reinforced the auditor independence by limited mandates to indefinite renewals. Then, the statutory auditor is appointed for a period of three years, with a maximum of three mandates renewals if the auditor is a person and five renewals if he acts as a firm. Numerous other reforms have also followed, in particular the adoption, in 2010, of the International Standards of Audit ISA and

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[1] Monique Piffaut, who died in November 2016, was the President of Financière Turenne Lafayette. She allegedly falsified the accounts of her companies in order to conceal a debt of nearly 350 million euros and inflated her turnover by more than 800 million euros.

[2] There are seven French national majors: Mazars&Guérard, Salustro Reydel, Amyot Execo, Calan Ramolino, Costantin, BDO Gendro and Fidulor.

the adoption of the revised version of opinion standards in 2017. Then, recently, the Tunisian National Accounting Council decides to adopt the International Financial Reporting Standards (IFRS) from 2021 to prepare the consolidated financial statements. In fact, there is a growing need for financial statement harmonization across the globe, and for that matter, the adoption of International Financial Reporting Standards has taken center stage in recent debats (Amankwa, Mawutor & Yiadom, 2020 Alhassan, Gololo, & Islam, 2019; Islam et al., 2021; Islam & Bhuiyan, 2021; Musa & Tanimu, 2017). Despite all these laws, the Tunisian context is characterized by an emerging capital market, weak protection of minority shareholders' right, a high level of ownership concentration, and a low level of corporate disclosure. It gives an important role to the statutory auditor in order to achieve high quality control of the information published by companies.

The objective of this article is to specify the nature of the relationship that could exist between audit quality attributes and the risk of accounting fraud. It is thus structured in three sections. The next section presents a review of the literature on the subject and develops research hypotheses. Section 3 describes the methodology aspect. The empirical results are presented in section 4. Finally, section 5 concludes.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Financial statement users rely on the auditor's report to provide assurance on the financial statements. The concern of stakeholder is financial information credibility as reported by auditors who should communicate the appropriate information (Ibanichuka & Briggs, 2018). Therefore, the audit must be of high quality. The birth of the concept of audit quality was in 1981 by DeAngelo, who defined it as "the market's assessment of the joint probability that an auditor will simultaneously discover a significant anomaly or irregularity in the client company's accounting system and mention and publish this anomaly or irregularity". In this sense, audit quality is based on two criteria, the first relates to the technical competence of the auditor, which enables him to detect cases of fraud or error in the annual accounts, and the second criterion is independence, which is the quality of disclosure of criminal facts to the public.

According to the literature on external audit quality, these two dimensions are difficult to observe and cannot be easily measured. For this reason, most studies examining audit quality have tended to use proxies or attributes that have the advantage of being observable and measurable. Audit fees, firm reputation or size, and mandate length are the three attributes most commonly used by researchers. They have the advantage of an apparent quality that can be judged by users. For the interest of our study, we will discard the first attribute which presents the external auditor's economic dependence on his client. Indeed, the Tunisian framework has defined a scale of fees, to which all auditors are subject, so the quality of services offered by the latter cannot be motivated by fees.

We therefore opt for the last two attributes of audit quality to which we add two others, the joint statutory auditor and the level of experience, which are the subject of assumptions in the framework of this study.

The Auditor's Experience and the Fraud Risk

Experience is an important factor in the auditor's competence to help him carry out his mission and achieve the objective of detecting manipulation in the accounts. Indeed, several authors including Moutahaddib (2017) have confirmed that good experience in the audit field helps auditors in detecting anomalies in accounts. This experience enables them to recognize areas of risk and the occurrence of fraud. Similarly, Knapp (1991) states that experienced auditors with more than four years of auditing experience tend to detect more anomalies, frauds and failures than less experienced auditors, as the latter will need time to understand

the financial and accounting systems applied in companies and to acquire knowledge about the risks and weaknesses in the sector.

This idea therefore stipulates that the presence of an experienced auditor for an audit assignment improves the quality of the opinion published for users who will have confidence in the reliability of financial information. As a result, the risk of financial statement fraud would be low.

This led us to our first hypothesis:

H$_1$: The auditors experience negatively influences the accounting fraud.

We can therefore retain the auditor's experience as an independent variable for the object of our study, measured by the number of years of experience in the auditing field, i.e. since the year of the auditor's registration in the OECT (Noubbigh, 2014).

The Joint Auditor and the Fraud Risk

The joint auditor is a factor that fosters both the independence and competence of the auditors, as each of the two presenters tries to be as objective as possible. Piot & Janin (2005) argue that mutual evaluation helps to promote auditor independence and improve auditor competence.

According to the Bouton report (2003), joint auditis a "fundamental guarantee of the independence of auditors[3]". Thus, according to Piot and Schatt (2010),"joint-audit is a means of enhancing the competence of auditors through the cross-fertilization of often complementary expertise".

The review of an audit file by a co-partner means that the audit work is done twice by different experts; any irregularity not perceived by one will normally be discovered by the other, which certainly reduces the risk of expressing a positive and erroneous opinion on fraudulent financial statements.

Piot and Schatt (2010), stipulate that the presence of joint-audit improves the probability of detecting cases of financial statement fraud. Similarly, Paugam & Casta (2012) have agreed that the presence of two accounting firms to certify a company's accounts has a positive impact on the quality of financial reporting.

Involvement of two auditors in the same assignment would make it possible to make a comparison between the two opinions expressed and give greater weight to the audit opinion. As a result, the quality of the opinion would improve, and the management of accounting data would be reduced.

This led us to the following hypothesis:

H$_2$: The joint auditors statutory negatively influence the accounting fraud.

The Auditor' Size and the Fraud Risk

The size of the firm is a key factor in the audit quality. It is a variable that can be easily measured according to various criteria, such as the number of clients audited, the number of employees or the firm's membership of the BIG FOUR. For our study, we have chosen the latter measure, which is the simplest and we therefore retain that "BIG" means large firm and "not BIG" the firm is considered to be small.

Several authors consider that the stamp of a Big firm on a firm's annual report is a guarantee and synonymous with the quality of these statements (Dwekat, Mardawi, & Abdeljawad,

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[3] Bouton Report (2003), CDI Report 1999-2003.

2018, Ayadi, Lajmi, & Boumedien, 2019, Barakat, Perez, Ariza, Barghouthi & Islam, 2020). The audit quality is better with the intervention of the Big, because it is recognized that recruitment in these firms is done only for the right people, be they accountants or other stakeholders. The BIG4 team has a solid training and more extensive skills, which allows it to perform due diligence to detect accounting irregularities and reveal them in the audit report. Thus, the Big are known by the public by their good reputation that they take care to protect it to guarantee an always important market share. This reputation is also important to avoid legal sanctions, especially after the Enron-Andersen affair. Another reason that motivates the good quality of the service provided by the Big is that their client portfolio is quite large and as diversified, which allows them not to be dependent or under pressure from a given executive. However, for the other "not big" firms, which are financially dependent on their clients, they are more sensitive to the loss of a client, and therefore the decision whether or not to disclose the detected irregularity may be influenced by the risk of losing their client and potential clients.

Therefore, we propose the following hypothesis:

H₃: The audit firm belonging to a Big4 network negatively influences the accounting fraud.

The Mandate Length of Auditor and the Fraud Risk

The auditor's mandate has been the subject of a regulatory intervention (SOX, 2002) stipulating that long-term relationships between companies and their auditors are likely to create a high level of familiarity that calls into question the independence of the auditors and, moreover, reduces the quality of their service. It is the same in Tunisia, where auditor rotation is a major contribution of the law on the security of financial relations (LSF 2005). In this sense, the mandate of auditors is set at three years[4] with the possibility of renewal, which in some cases may be as much as five successive terms for private companies. After this period, the auditor is required to set aside the client's legal audit file for a certain period of time to give rise to another auditor to be the new signatory for the company.

The correlation between audit quality and mandate length has been the subject of several studies (Ball, Tyler, & Wells, 2015; Cameran, Prencipe, & Trombetta, 2016; Patterson, Smith, & Tiras, 2019). Thus, to the extent that this factor may impact both the independence and competence of the auditor, the results of their studies have been controversial. Indeed, Cameran et al. (2016) and Patterson et al. (2019) argue that mandate is negatively correlated with audit quality. Ball et al. (2015), on the other hand, has shown that the longevity of tenure improves audit quality.

In this sense, Carey & Simnett (2006) illustrate the effect of tenure on audit quality in three phases that can occur during the audit mandate. Firstly, at the beginning of his intervention to audit a client's accounts, the auditor is highly independent, but audit quality may be average due to a lack of knowledge of the company's environment and system. The second phase presents an excellent audit quality associated with the development of a certain expertise in relation to the activity and operations handled by the company. For the last phase, this is characterized by a significant risk of deterioration in audit quality due to the establishment of intimacy, reduced vigilance, and lack of critical insight towards the client.

In the Tunisian context, Zehri (2006) found that the extended duration of the audit mandate has a positive impact on the practice of results management, and Omri, Hakim Ghorbel, & Triki Baklouti (2009) found that auditor rotation promotes the quality of accounting results.

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[4] Article 13 bis of the CSC

Insofar as studies carried out in the Tunisian context have found that the extended duration of mandates deteriorates the quality of the accounting result, we will therefore make the latter hypothesis:

H_4: The duration of auditor's mandates positively influences the accounting fraud.

DATA AND MODEL

Data Description
The sample used consists of Tunisian companies listed on the Tunis Stock Exchange (BVMT) over a period of 5 years from 2014 to 2018. Based on a total population of 81 firms, we have excluded 27 financial firms since they follow specific regulations regarding the preparation of their financial statements. Similarly, firms that did not provide their financial statements for the entire period of our study were also excluded. Consequently, the final sample will be composed of 48 firms for a period of five years (i.e. 240 observations).

Model Presentation
To test the hypotheses developed above, we use the following regression model:

$$FRAUD_{i,t} = \beta_0 + \beta_1\,EXP_{i,t} + \beta_2\,Co\text{-}COM_{i,t} + \beta_3\,BIG\,4_{i,t} + \beta_4\,MANDAT_{i,t} + \beta_5\,TAIL_{i,t} + \beta_6$$

$$ENDE_{i,t} + \beta_7\,ROA_{i,t} + \beta_8\,LIQ_{i,t} + \varepsilon_{i,t}$$

FRAUD: is the dependent variable. It is a dummy variable which takes 1 if the fraud is committed by the company and 0 otherwise.

EXP: is an independent variable measured by the number of years of experience since the auditor's registration in the OECT.

Co-COM: is an independent variable that indicates the presence of more than one auditor to perform the same engagement. It takes 1 if the company is audited by two auditors and 0 otherwise.

BIG 4: is an attribute of the audit quality which is coded 1 if the firm belongs to the big international network and coded 0 otherwise.

MANDAT: is the duration of the auditor's mandate, it takes 1 if the number of consecutive years exceeds three years and takes 0 if the auditor's intervention is for a single mandate.

We use also, these control variables:

SIZE: is the size of the firm, measured by the natural log Total Assets.

ENDE: it is the level of leverage of the firm, measured by the Total Debt divided by the Total Assets.

ROA: is the economic performance of the firm, measured by the Net Income divided by the Total Assets.

LIQ: is the liquidity available in the company's accounts, determined by the ratio of current assets to current liabilities.

i: indicates the companies; **t:** indicates the years; **β_0:** the constant term; **β_i:** the regression coefficients; **ε:** the error term.

To calculate our dependent variable, we opt for the model of Beneish (1999), which is based on the calculation of indices from accounting data. This is a model with a high power to detect cases of accounting fraud (Ozkan 2018; Halilbegovic, Celebic, Cero, Buljubasic, & Mekic, 2020). Indeed, the results obtained by Beneish are statistically significant and robust, and the fact that he conducted a sensitivity analysis is another strength of his work.

Following this model, we first calculate five financial indexes[5] for each company and each year according to the following formulas:

- $DSRI = (Net\ Receivables_t / Sales_t) / (Net\ Receivables_{t-1} / Sales_{t-1})$
- $AQI = [1 - (Current\ Assets_t + PP\&E_t + Securities_t) / Total\ Assets_t] / [1 - ((Current\ Assets_{t-1} + PP\&E_{t-1} + Securities_{t-1}) / Total\ Assets_{t-1})]$
- $SGI = Sales_t / Sales_{t-1}$
- $GMI = [(Sales_{t-1} - COGS_{t-1}) / Sales_{t-1}] / [(Sales_t - COGS_t) / Sales_t]$
- $TATA = (Income\ from\ Continuing\ Operations_t - Cash\ Flows\ from\ Operations_t) / Total\ Assets_t$

In a second step, we present the following weighting proposed by Beneish, which will allow us to determine a score for each company:

- $M = -6{,}065 + 0{,}823 * DSRI + 0{,}906 * GMI + 0{,}593 * AQI + 0{,}717 * SGI + 0{,}107 * DEPI$

According to Beneish, an M score greater than -2.22 indicates a high probability that a company is fraudulent. In this sense, we classify the firms in the sample into two groups: fraudulent firms and non-fraudulent firms. Thus, our dichotomous dependent variable takes the value 1 for the first group and 0 for the second group.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 reports descriptive statistics for binary variables. It shows that potential fraud exists in Tunisian companies listed for an average rate of 29%. In our sample we have 14 "manipulative" fraudulent companies and 34 "non-manipulative" companies.

In addition, as shown in the table below, of the 48 companies in our sample 46.25%, 22 companies, are audited by a firm in the international network (BIG4), 61.67% use a joint-audit (CO-COM) and 68.75% have the mandate renewed after the first mandate has expired. These results lead us to think that listed Tunisian companies give importance to the quality of the legal audit.

Table 1. Descriptive statistics for binary variables

Variable	Frequency				Percentage			
	FRAUD	BIG4	Co-COM	MANDAT	FRAUD	BIG4	Co-COM	MANDAT
0	170	129	92	75	70.38	53.75	38.33	31.25
1	70	111	148	165	29.17	46.25	61.67	68.75
Total	240				100			

It is useful to remember that the variables of interest in our study are all dichotomous variables. They take 0 in the case where the attribute is absent and 1 where it's present or at the occurrence of this variable, with the exception of the auditor experience variable. The latter is determined by the number of years of experience. In the case of intervention of two auditors, the sum of the years of experience is used.

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[5]*Days' Sales in Receivables Index (DSRI); Asset Quality Index (AQI); Sales Growth Index (SGI); Gross Margin Index (GMI); Total Accruals to Total Assets (TATA)*

Table 2. Descriptive statistics of metric variables

Variables	Average	Standard deviation	Minimum	Maximum
EXP	31.80417	15.64643	0	70
TAIL	18.48559	1.176118	15.85528	21.97372
ENDE	0.6508068	0.4506159	0.0574035	3.656528
ROA	0.0217494	0.1192516	-0.5360187	0.332352
LIQ	1.90686	1.635639	0.2619502	14.61616

As shown in the table 2 above, EXP varies in our sample between 0 and 70 years of experience. The minimum of 0 means that one or more auditors have been appointed to certify the accounts of the financial statements with experience not exceeding one year, or that they are newly registered with the OECT, and the maximum of 70 is an indicator of good experience of the auditor involved. We note that the average level of experience of the auditors in our sample is 31 years. Thus, the standard deviation of this variable is 15.64643.

For the control variables, we have in the first place, the variable TAIL, which is measured by the natural logarithm of the active total to avoid the problem of heterogeneity between observations it has a mean of 18.48559 and varies from a minimum of 15.85528 to a maximum of 21.97372. In the second place, the variable ENDE has a mean of 0.6508068 and a standard deviation of 0.4506159. As for the variable ROA, its mean is 2.17% and its standard deviation is 0.1192516. Finally, the variable LIQ has a mean of 1.90686 and a standard deviation of 1.635639.

The variables EXP, ENDE and LIQ have a high standard deviation, their coefficients of variation are greater than or equal to 50%, which means that their values are more dispersed around the mean. On the other hand, the variables ROA and TAIL have a low standard deviation, indicating that these variables are clustered around their mean.

Correlations Matrix

Pearson correlation coefficients of all independent variables introduced in the model indicate the degree of collinearity between the variables and range from 1 to -1. The objective of this test is to retain only the independent variables that have low coefficients that do not exceed the threshold, in absolute value, of 0.7[6].

The table below shows the results of this test.

Table 3. Pearson Correlation Matrix

	EXP	CO-COM	BIG4	MANDAT	TAIL	ENDE	ROA	LIQ
EXP	1.0000							
Co-COM	0.5483	1.0000						
BIG4	0.5447	0.4220	1.0000					
MANDAT	0.1297	0.0601	0.1206	1.0000				

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[6] Kervin (1992) predicts an r = 0.7 for a serious problem of collinearity between independent variables included in a regression model.

TAIL	0.4455	0.6803	0.3123	0.0629	1.0000			
ENDE	0.0602	0.2461	0.1719	-0.1413	0.0825	1.0000		
ROA	0.0805	-0.0052	0.0647	0.1045	0.1045	-0.6353	1.0000	
LIQ	-0.1943	-0.2998	-0.1988	-0.0766	-0.3025	-0.4963	0.4241	1.0000

From this table, we can see that there is no serious problem of collinearity. All coefficients are less than 0.7 (Kervin, 1992).

In the correlation analysis, we focus on coefficients with a threshold greater than 0.5 in absolute value. At first, our maximum correlation coefficient is 0.6803 between the variables Co-COM and TAIL. Indeed, the larger the company is, the more it uses two external auditors to certify its financial statements. This explains the high correlation between these two variables. Secondly, we have a strong negative correlation between the variable ENDE and ROA of value -0.6353. This indicates that the higher the firm's economic profitability, the less indebted it is (and vice versa). Thirdly, the correlation coefficient between EXP and Co-COM is strongly positive, it is 0.5483. We have retained for the EXP variable measure the sum of the years of experience of two auditors, so in the case of a joint-audit we will certainly have a high level of experience. This explains the importance of correlation between these two variables. Finally, the EXP and BIG4 variables have a strong positive correlation of 0.5447. This result is not surprising, since international audit firms are recognized by the competence of their members, which can be largely substituted by auditor's experience as an attribute of audit quality.

The Pearson correlation test alone may not be sufficient to be sure of the absence of a muli-colinearity problem, as this test is more useful in determining the meanings of the relationships between variables. We therefore need to carry out an additional and complementary test (VIF) that will allow us to validate all of the selected variables.
The values of variance inflation factors indicate whether the multi-colinearity problem could exist in our model.

In this case, we should make sure that the value 1/VIF is greater than 0.1 to indicate that the estimated results would be good.

Table 4.Variance Inflation Factors

Variable	VIF	1/VIF
Co-COM	2.37	0.422055
ENDE	2.13	0.469740
TAIL	2.05	0.487878
ROA	1.94	0.516198
EXP	1.78	0.560414
LIQ	1.60	0.623915
BIG4	1.54	0.647317
MANDAT	1.07	0.931939
Average VIF	1.81	

Overall, we can affirm that there is no problem of collinearity between the different independent variables. Indeed, according to this test, all the VIF values are below three. They

are between 1.07 and 2.37 with an average of 1.81, which means that the independent variables are poorly correlated with each other.

Logit Panel Regression
To test our model and giving that the dependent variable is dummy one, we use the logit panel regression.
First of all, we apply the classification test of the model in the table 5.

Table 5. Model Classification Test

Classified	D	-D	Total
+	16	9	**25**
-	54	161	**215**
Total	70	170	**240**
Classified + if predicted Pr(D) >= 0.5 True D defined as FRAUD != 0			
Sensitivity	*Pr (+/ D)*		22.86%
Specificity	*Pr (-/~D)*		94.71%
Positive predictive value	*Pr(D/ +)*		64%
Negative predictive value	*Pr(~D/ -)*		74.88%
Correctly classified			**73.75%**

According to the table above, we find that our model correctly classifies the companies included in the sample at a rate of 73.75%. This is a good classification rate[7] that leaves a percentage of 26.25% for the error. Thus, the result of this test indicates that the model correctly predicts 64% for the first group of companies that are manipulative and 74.88% for the second group of companies that are non-manipulative.

Table 6 summarizes the results of the logit panel regression. Based on this table, we present a statistically significant model (p=0.0003).

First, from the results presented in the table below, we note that the auditor's experience variable (EXP) has a positive but insignificant coefficient (p=0.578). This result suggests that fraud in the Tunisian context is not impacted by the level of experience of the auditors. This finding corroborates the study by Gaballa & Ninig (2011) which focuses on the Libyan context. The latter demonstrated that the quality of service rendered by an experienced auditor does not differ from that rendered by an inexperienced auditor. Our first hypothesis H1 is therefore invalidated.

Table 6. Logit Panel Regression Results

FRAUD	Coefficient	P >/z/
EXP	0.0072999	0.578
Co-COM	1.396296	0.004***
BIG4	-0.8725485	0.024**

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[7] A model is assumed to be robust when it correctly classifies at least half of the firms in the sample.

MANDAT	0.6639774	0.065*
TAIL	-0.6733856	0.001***
ENDE	-0.9495856	0.178*
ROA	-2.135625	0.244
LIQ	-0.3008208	0.059**
Number of observations		240
LR chi2 (8)		28.97
Prob > chi2		0.0003
Pseudo R2		0.1000

* Denotes a significant relationship:
 ***: 1% significance, ** 5% significance, * 10% significance

We can justify this unexpected result by the fact that audit missions in Tunisian companies are generally handled by non-experienced staff. Indeed, the signatory auditors only intervene to collect the work done by beginners, who may not be able to detect irregularities committed by managers.

As for the second determinant of audit quality, which is the presence of joint-audit, this variable (Co-COM) is significant at the 1% threshold in our study but presents a positive sign. This result is contrary to our prediction. We therefore reject the H2 hypothesis. However, Holm & Thinggaard (2013) have shown that companies using two audit firms have higher discretionary accruals than those audited by only one auditor. Also, Deng, Simunic, & Ye (2012) argue that joint audit may adversely affect the quality of the audit, as the two auditors involved in the audited company compromise the quality of their work and may create a bargaining situation affecting the quality of independence.

As for the variable BIG4, it is significant at the 5% threshold (0.024) with a negative coefficient (-0.872). This leads us to confirm our hypothesis H3, which states that membership of international networks, is negatively associated with fraud. We can, moreover, explain this result by the fact that auditors belonging to the largest international audit firms are more likely to protect their reputation by providing a quality service, since they are the best known in the auditor market and the quality of their service has a direct impact on their reputation. In addition, these firms belonging to the Big networks have both human and material skills that enable them to guarantee the quality of financial information and therefore reduce the risk of fraud. This result is consistent with those of Zgarni, Hlioui, & Zehri (2012) and Omri et al. (2009) in the Tunisian context. Thus, the study by Ben Youssef (2013), in the US context, states that companies that manipulate their data are audited by 'Not BIG' (the percentage is 72%).

Concerning the last variable of interest, we have predicted a positive association between MANDAT and the fraud variable. The result of the regression mentioned in the table above confirms our hypothesis H4, the sign of the coefficient is positive (0.663) and the coefficient of this variable is significant at the 10% threshold (0.065). These results are consistent with the findings of Chihi (2014) who states that the auditor's objectivity decreases with time and the renewal of the audit mandate is done to the detriment of the auditor's independence.

For the control variables, the table 6 shows that the TAIL is significant at the 1% threshold (0.001) and has a negative coefficient sign (-0.673). This result indicates that small firms are more exposed to fraud. This corroborates the results of Ben Youssef (2013), who justified this phenomenon by the fact that large firms, with a larger audience, are more likely to provide non-fraudulent financial reports.

On the other hand, we have predicted a positive relationship between fraud and leverage, but the results from the table above indicate a negative sign (-0.949) for ENDE and it is significant at the 10% threshold. This contradicts the results of previous literature (Smaili, Labelle, & Stolowy, 2009). We can explain this inconsistency in results by the fact that Tunisian firms tend to manage their results in the event of debt pressure.

On the other hand, ROA is statistically insignificant, showing a negative sign (-2.135). This result does not corroborate that of Brazel, Jones, & Zimbelman (2009). We think that this insignificance is due to the low return on assets of Tunisian firms.

As for the LIQ variable, it seems to have a statistically significant influence on the variable financial statement fraud, (p-value = 0.059). It thus presents a negative coefficient (-0.300), which indicates that low liquidity is probably followed by manipulative practices to conceal these liquidity problems. This result is expected since liquidity problems are a real pressure on the behavior of managers. This result is consistent with the studies of Beneish (1999) and Dechow, Ge, Larson, & Sloan (2011).

CONCLUSION

The aim of this study is to explore the impact of external audit quality on the risk of fraud in the financial statements of a sample of 48 non-financial firms listed on the BVMT concluded over the period 2014-2018. Based on the model of Beneish (1999), we examine, therefore, the effect of four attributes of audit quality, on the practice of managerial fraud, approached by financial indexes.

The empirical results show that the audit firm's membership in one of the Big networks is a major determinant in the reduction of fraud cases. Also, based on the results obtained, we support the principle of rotation of audit firms in auditing assignments in order to maintain the quality of the audit and thus to reassure the users of financial information that the financial statements are free of fraudulent manipulation. In addition, the results of our tests show that joint audit deteriorates audit quality and thus increases the risk of fraud. This variable has been the subject of several previous and recent studies and its real impact on audit quality remains ambiguous. On the other hand, the auditor's experience variable has no impact on fraud. We have justified this unexpected result by the auditor's signatory's recourse to employees, with little or no experience, to replace them in audit assignments.

On the other hand, this study points out that the probability of having fraudulent financial statements is important when the company has a small size and also when it has lack of liquidity.

Our results are interesting both theoretically and practically. Indeed, we were able to enrich the literature on the relationship between the quality of statutory audit and accounting fraud in an emerging country. At the empirical level, we used the econometrics of panel data, a valuable method to measure the impact of several actions alone or simultaneously. It has allowed us to analyze the behaviors of companies by taking into account the effects of legal audit quality.

Finally, this study may be useful to the managers of Tunisian companies insofar as they can improve their strategy of choosing better auditors in order to reduce the risk of fraud.

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