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The Effect of Audit Quality on Tax Avoidance and its Impact on Financial Flexibility

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The Effect of Audit Quality on Tax Avoidance and its Impact on Financial Flexibility

Abstract:

Previous studies were interested in improving financial flexibility. They investigated its determinants. Some of these determinants are audit quality and tax avoidance. The objectives of this current research are; investigating the effect of audit quality on tax avoidance, investigating the effect of tax avoidance on financial flexibility, investigating the direct effect of audit quality on financial flexibility, investigating the indirect effect of audit quality on financial flexibility through tax avoidance as a mediator. Using a sample of 77 non-financial listed firms, 385 annual observations, in the Egyptian Stock Exchange (EGX100) . The structure equation modeling statistical approach to fit the proposed conceptual model . The findings are; Increasing audit quality increases legally tax avoidance, increasing tax avoidance practices reduces financial flexibility, increasing audit quality decreases financial flexibility, Finally, there is an indirect effect of audit quality on financial flexibility through tax avoidance.

Keywords : Audit quality, tax avoidance, financial flexibility, free cash flow.

JEL classification : M41, M42.

Introduction:

Related parties concern with assessment firms' financial health*. There are some indicators to express financial health, one of these indicators is Financial Flexibility (FF), it is "the ability of firm to access and restructure its financing at a low cost". It is used to compare and analyze the financial health of firms, it reveals whether the firm is in good financial health or not, and whether the firm is able to attract investments with a high growth rate or not (Ambreen and Aftab, 2016). It helps solve problems related to underinvestment if firm cannot get more capital.

There are some measures to express Financial Flexibility (FF); one of the most familiar measures is Free Cash Flow (FCF). It provides a view of the ability of firm to generate cash. It is net cash of operating activities or residual surplus from activities of operating after deducting capital expenditures and after distributing profits to shareholders (George, 2005; Chung et al., 2005; Armstrong et al., 2015). Jensen (1986) was the first study that introduced FCF, as a measurement for financial flexibility, it is cash flow to provide required finance for successful economic projects. Also Nwuba et al.(2020) identified FCF as the liquidity available to the firm after providing the cost of expansion of firm's activity, or after paying all the expenses and work requirements necessary to keep the firm in its operational form. FCF has become a topic of interest to scholars and financial analysts, it is a ratio of firm efficiency, as it enhances the firm's ability to maximize the wealth of owners, and it is also a significant factor for investors seeking attractive investment opportunities.

* Firm's financial health is the ability to operate efficiently, profitably, survives, grow and react to the opportunities and threats.

According to agency theory, investors prefer to reinvest in projects that have high financial flexibility and generate profit since firms maximize their personal interests on the owners' equities. However, managers tend to abuse financial flexibility by directing it to investments with poor performance rather than distributing it as dividends. This behavior will push them to involve in excess aggressive earnings management (Jafari et al., 2014). So, some studies were interested in financial flexibility determinants, such as Audit Quality (AQ) and Tax Avoidance (TA). Since this research concerns with the effect of both AQ and TA on financial flexibility .

The rest of this paper consists of four sections. The first section presents research problem. The second section discusses literature review and hypotheses development. The third section discusses the research method and reports besides discussing the empirical results. The fourth section presents some concluding remarks.

1. Research Problem:

Discussing the role of both Audit Quality (AQ) and Tax Avoidance (TA) to control financial flexibility (FF), which is measured using Free Cash Flow (FCF), is divided as follow:

1.1 The role of Tax Avoidance to control financial flexibility:

Some recent studies refer to a conflict among firm's related parties; which they are management and shareholders. Part of this conflict can be solved by reducing tax burden, which is called "Tax Avoidance (TA)". According to these studies, firms concern with tax treatments, due to its impact on competitiveness and increasing shareholders' satisfaction. For this reason, some studies were interested in TA practices (Jehene and Moez, 2019). Gallemore and Labro (2015) referred that TA practices use loopholes in the provisions of the law of tax, and this behavior does not include any criminal element, not getting out of tax regulations. Hanlon and Heitzman (2010) mentioned that TA practices affect the tax obligations by using weaknesses in law of tax. Since, TA practices is an indicator of the benefits for the firm does not pay the tax burden, which encourages management to follow these practices to higher profit for shareholders (Lestari and Nedy, 2019).

Indeed, TA practices are more important to management and stakeholders. They are linked to achieve cash savings (Cao et al., 2021). Since, shareholders desire a high level of TA practices to increase cash flows after tax and thus increase returns or dividends (Kovermann and Velte, 2019), Moreover, TA practices has negative effects such as an excessive increase in financial flexibility, and thus affecting the firm's reputation and the cost of debt (Bailing and Rul,2018).

The role of TA to control financial flexibility, which is measured using FCF . Since TA practices create opportunities for managers to continue opportunistic behavior and hide bad news and mislead investors, which increases financial flexibility (Desai et al.,2007; Rul,2019). In addition, management considers TA practices as part of tax planning to affect economic activities and reduce the expected tax obligations, which affects the size, timing and degree of volatility of the firm's cash flows (Heitzman and Ogneva, 2016; Bailling and Rul, 2018). Moreover, the financial flexibility achieved by TA practices are used to reduce uncertainties; such as increasing the firm's cash surplus or paying off debts (Guenther et al., 2020). Finally, firms, with high ratios for profitability and financial leverage, have a higher

motivation to more TA practices, or use tax exemptions to benefit from strategic and competitive advantages (Mukundhan et al., 2019).

1.2 The role of Audit Quality to control financial flexibility:

Audit Quality (AQ) is an expression to maintain the professional value and reduce litigation against others (Moeinadin et al., 2013). IAASB (2014) defines it as "encompasses the key elements that create an environment which maximizes the likelihood that quality audits are performed on a consistent basis". AQ is one of the determinants that reflect with a high degree of assurance the credibility and fairness of the economic aspects of the firm. As clear from the above the added value generated through AQ and its reflection on the quality of financial reports' quality, and the discovery of significant misstatements and error accounting practices to satisfy the stakeholders' interests. The effect of AQ on financial flexibility is presented as follows:

1.2.1 The direct effect of Audit Quality on financial flexibility:

The direct effect of AQ on financial flexibility, which is measured using FCF, AQ limits opportunistic behavior of managers, which is reflected by achieving the optimum level of financial flexibility and minimizing agency problems. Since, high AQ ensures the accuracy of financial reports, reduce asymmetric of information, and reduce the opportunistic management's behaviors which are reflected on financial flexibility disclosure (Gerayli et al., 2011; Swastika, 2013).

1.2.2 The Indirect effect of Audit Quality on financial flexibility via Tax Avoidance:

Discussing the mediating role of TA practices on the association between AQ and FCF can be presented through two phases; the first phase discusses the effect of AQ on TA, then the second phase discusses the effect of TA practices on financial flexibility. It is worth nothing that the second phase was discussed earlier.

Related to the first phase, *there is an effect of AQ on TA*. Some studies confirmed that *AQ contributes and increases TA practices*, since firms, with high AQ, have a good environment to support TA practices by designing, marketing and implementing TA practices (Sikka, 2015). Moreover, firms obtain tax services from an external auditor are more able to achieve a higher level of TA practices than firms that do not receive those services, especially if the auditor has tax experience (McGuire et al., 2012). Finally, if the firms deal with one of the big 4, they can achieve more tax savings than other firms that do not deal with big 4, since, the big 4 auditing institutions have experience to get more tax saving. This means TA practices are increasing with big 4 auditing institutions in legally manner (Janssen et al., 2005).

On contrast, other studies confirmed that *AQ reduces TA practices*. Since, auditors reduce the ability of firms to avoid taxes, they have incentives to influence the activities of clients by discovering the earnings management practices followed by management to reduce income after tax through provisions (Hanlon, 2005; Dezoort et al., 2002). Moreover, the more professional and experienced participators of the audit team, the lower the TA practices (Rizqia and Lastiati, 2021). In addition, auditors work effectively to prevent clients from adopting tax minimization practices to reduce the litigation risks faced by auditors when significant misstatements and manipulation of financial statements and reports occurred to avoid taxes (Gupta et al., 2016). Finally, TA practices decreases by increasing AQ carried out by governance mechanisms, reducing earnings management. Since, AQ represents the ability

of the auditor to detect significant misstatements and report them, the higher AQ is happened through preparing an appropriate audit report on compliance with accounting and auditing standards (Defond and Zhang, 2014).

The indirect effect of AQ on financial flexibility through TA practices. Minimizing TA practices due to having effective auditing process provides a good atmosphere to decrease the conflicts between management and shareholders, and then reducing TA, which pushes management to take right decisions, which means rebalance financial flexibility.

In Egypt, Stock market plays a significant role in economic development by reducing information asymmetry between market participants consequently promoting production and investments (Demirgüç-Kunt, 2006) through three main routes as follows; Channeling funds from those who have surplus to those who have deficit thus ensuring the efficient allocation of resources, Enabling firms to access funds at low cost through financial intermediaries and Offering wide-variety of financial products with different levels of risk which meets various risk appetites for investors (Anis, 2021).

Based on presenting research problem, the main research question is what is the effect of both AQ and TA on financial flexibility?. This main question is divided into the following sub-questions; (1) What is the effect of AQ on TA practices?. (2) What is the effect of TA practices on financial flexibility?. (3) What is the direct effect of AQ on financial flexibility?. (4) What is the indirect effect of AQ on financial flexibility through TA practices as a mediator?.

The main objective of this research is investigating the effect of both AQ and TA on financial flexibility. This main objective is divided into the following sub-objectives; (1) Investigate the effect of AQ on TA practices. (2) Investigate the effect of TA practices on financial flexibility. (3) Investigate the direct effect of AQ on financial flexibility. (4) Investigate the indirect effect of AQ on financial flexibility through TA practices as a mediator. This research provides a new insight for shareholders and regulators in Egyptian exchange market, it concerns with increasing effective auditing process to decrease TA practices and information asymmetric, and enhance the financial reporting's quality. The research contribution is unique; it is one of the few empirical studies that investigate the influence of AQ and TA practices on financial flexibility in Egypt.

2. Literature Review and Hypotheses Developments:

2.1 Audit Quality (AQ) and Tax Avoidance (TA):

Studies that investigated the effect of AQ on TA can be divided into three groups. The first group revealed a positive association between AQ and TA; Janssen et al.(2005) demonstrated that AQ has a positive association with TA practices for sample of the firms listed on Belgian Stock Exchange during from 1993 to 2002, since they showed that firms that hired one of big 4 achieve more significant tax savings if they were compared to other firms that did not deal with big 4. Lisowsky (2010) found that auditors were working for big 4 firms have positive effect on tax activities, which increases TA. MCGuire et al. (2012) confirmed the last result, since they mentioned that firms obtain tax services from external auditors are more able to reach a higher level of TA. Sikka (2015) agreed with this result when he confirmed the big audit firms have played a major role in supporting TA practices.

The second group shows evidence that AQ has negative effect on TA. Dezoort et al.(2002) showed evidence that AQ influenced by the efficiency of audit committees

increases the number of significant misstatements detected, so they can be corrected immediately, thus reducing TA practices. Hanlon (2005) revealed that auditors indirectly reduce the ability of firms to avoid taxes; usually auditors have incentives to influence the activities of clients by discovering the earnings management practices followed by management to reduce income after taxes through provisions. Richardson et al. (2013) found that more audit committee independence, the lower level of TA. Moreover, large audit firms, especially big 4, tend to have good quality auditor competencies that can detect the possibility of profit manipulation by firms for tax purposes; this result used a sample of listed firms on the Australian Stock Exchange from 2006 to 2009. Gupta et al. (2016) agreed with this result, when those auditors work effectively to prevent clients from adopting tax minimization practices to reduce the litigation risks faced by auditors when significant misstatements and manipulation of financial statements and reports occurred to avoid taxes. Rizqia and Lastiati (2021) found that the more professional and experienced bodies the lower the TA practices are.

The third group reveals that insignificant association between AQ and TA. Boussaidi and Hamed (2015) founded insignificant effect of the audit firm's size on TA, this result used a sample of listed firms on the Tunisian stock exchange.

It is noted that, the difference in results is due to indicators that used to express AQ and the nature of countries, since the results used samples of developed countries could get different results from results that used samples of emerging countries. For example, insignificant association was for sample listed firms on emerging county, which was Tunisia.

In light of these arguments about the association between AQ and TA, the researchers formulate the first hypothesis is as follows:

H₁: There is a significant effect of Audit Quality on Tax Avoidance.

2.2 Tax Avoidance (TA) and financial flexibility (FF):

Studies that investigated the effect of Tax Avoidance (TA) on financial flexibility, which is measured using FCF, revealed a positive impact of TA practices on financial flexibility. Desai et al. (2007) showed that TA practices create opportunities for managers to continue opportunistic behavior, and hide bad news and mislead investors, which increases financial flexibility, and does not direct it to good investment opportunities. Heitzman and Ogneva (2016) indicated that TA practices have a positive effect on financial flexibility, and this is reflected on the firm's value, where tax planning affects the economic activities and events carried out by the firm, and discloses them to reduce the expected tax obligations, and this affects the size, timing and degree of cash flows' volatility. Bailling and Rul (2018) confirmed a positive effect of TA practices on financial flexibility for a sample of 4741 listed firms listed on the Chinese Stock Exchange (CSE) from 2009 to 2015. Moreover, Rul (2019) revealed that TA practices effect on the sensitivity of FCF for investment, and TA practices increase financial flexibility using a sample of 5065 listed firms on CSE. Mukundhan et al. (2019) showed that the presence of an untapped FCF in the firm, with high ratios for profitability and financial leverage, motivates the firm to more TA practices to get strategic and competitive advantages. Guenther et al. (2020) showed that the financial flexibility achieved from TA practices are used to reduce uncertainties; such as increasing the firm's cash surplus or paying off debts, this result was using a sample of US firms from 1988 to 2017. Nobakht and Nobakht (2021) showed that TA practices increase the value of the firm as a result of increasing financial flexibility; this result used a sample of listed firms on Tehran

Stock Exchange. [Abubakar et al. \(2021\)](#) confirmed a positive association between TA practices and financial flexibility for a sample of firms from 2014 to 2018.

Investigation revealed an agreement on positive effect of TA on financial flexibility, where applying to Egyptian stock market the second hypothesis is as follows:

H₂: There is a significant effect of Tax Avoidance on financial flexibility.

2.3 Audit Quality (AQ) and financial flexibility (FF):

Regarding the association between Audit Quality (AQ) and financial flexibility . [Lafond and Roychowdury \(2008\)](#) showed that high AQ helps to provide timely information about, especially if firms have inefficient performance by admitting losses in the right time, enabling shareholders to take strict procedures against managers. Moreover, high AQ prevents managers of misusing the financial flexibility. [Francis et al. \(2011\)](#), [Kim et al. \(2011\)](#), [Louis et al.\(2012\)](#) confirmed an association between AQ and financial flexibility. [Rusmin et al. \(2014\)](#) mentioned that auditors were working for big 4 limit the use of earnings management when high financial flexibility. [Kim et al. \(2015\)](#) mentioned that cash resources in firms are less likely to be misused in firms that have high AQ. [Nekhili et al. \(2016\)](#) stated that AQ reduces earnings management that are generated from a financial flexibility. [Susanto et al. \(2017\)](#) got a prove that the effect of AQ on association between financial flexibility and earnings management is negative. Since, AQ reduces earnings management problems arising from financial flexibility, this result used a sample of listed firms in Indonesia Stock Exchange. [Al-Jawahry and Abbas \(2020\)](#) mentioned that auditors who are achieving high AQ are more efficient to discover earnings management arising from financial flexibility, as auditors prefer to report irregularities and errors and not accept questionable accounting practices. [Hidayat and Mardijuwono \(2021\)](#) mentioned that the AQ influenced by big 4 audit firms helps to reduce asymmetric information. In addition, AQ assists shareholders in effective control over the aspects of financial flexibility.

As a conclusion, there is an agreement on a significant effect of AQ on financial flexibility, where applying to Egyptian stock market, the third hypothesis is:

H₃: There is a direct and significant effect of Audit Quality on financial flexibility.

Previous literature examined the direct association between each two variables. Though they didn't investigate the indirect association of AQ and financial flexibility through TA practices as a mediator. Thus, the research has objective to bridge this gap in the literature by investigating the indirect effect of AQ on financial flexibility through TA practices as a mediator. Based on this gap the fourth hypothesis is stated as follows:

H₄: There is an indirect effect of Audit Quality on financial flexibility via Tax avoidance as a mediator.

3. Research Method:

3.1 The main model:

The TA's mediating effect on the association between AQ and FCF, as a measure for financial flexibility, is represented in the following Figure:

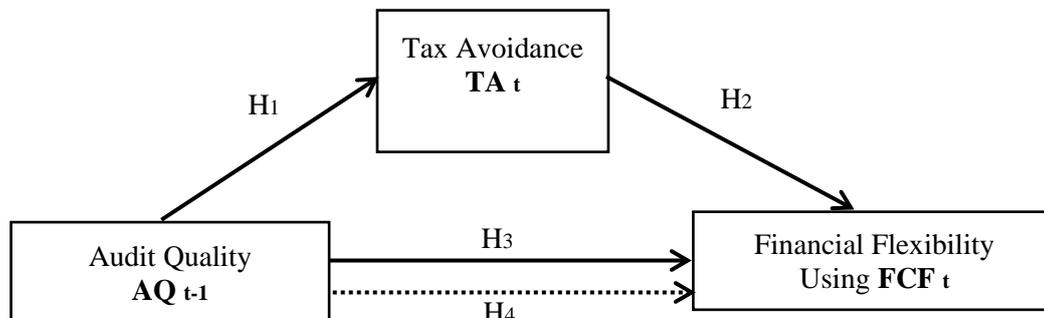


Figure 1: Research Model to test hypotheses

3.2 Research variables:

The following table shows the main research variables and their proxies

Table (1)
Variables measurement

Variables	Proxies			Meaning
	Name	Abb.	Measuring	
Independent Variable Audit Quality (AQ)	Audit tenure	AT	AT = Natural log. of auditors' period	More AT means increasing in AQ
	Audit fees	AF	AF = Natural log. of auditors' fees	More AF means increasing in AQ
Mediator Variable Tax Avoidance (TA)	Effective Tax Rate	ETR	ETR = annual tax expense ÷ income before tax	More ETR means less tax avoidance
Dependent Variable Financial Flexibility	Free Cash Flow	FCF	FCF = Cash flow from operation – Capital expenditure – Cash dividends	More FCF means more financial flexibility

The study has many proxies to express AQ, because of limited information about stock market, two proxies will be used to represent AQ, which are:

1. **Audit Tenure (AT):** [Chen et al. \(2004\)](#) confirmed the longer the audit tenure is, the better auditors' understanding of the firm's activities and increasing abilities to audit efficiently. [Almutairi et al. \(2009\)](#) mentioned that longer tenure enhanced the economic association between the auditor and audited firm, which considers auditor tenure as one of AQ proxies.
2. **Audit Fees (AF):** [Clinch et al.\(2012\)](#) mentioned that high audit fees indicate high audit efforts, then greater AQ. , which considers auditor fees as one of AQ proxies.

In addition, research use **big 4** institutions as an additional proxy. This proxy will be used in robustness test.

3.3 Data Description:

The study used annual reports in Mubasher.com. All financial institutions are excluded because this sector is affected by rules enacted by the Central bank of Egypt. The final sample consists of 77 listed firms in EGX 100 with 385 firm-yearly observations covering a period of 5 years from 2016 to 2020.

3.4 Descriptive statistics:

Table (2) represents the descriptive statistics for study variables:

Table (2)
Descriptive Statistics of the variables

Variables	N	Mean	Median	Min	Max	STDEV.	Kurtosis	Skewness
AT	385	0.879	0.954	0	1.342	0.378	-0.053	-0.827
AF	385	2.088	2.079	1.176	2.873	0.421	-0.647	0.027
ETR	385	0.122	0.071	-0.048	0.7	0.153	3.011	1.455
FCF	385	-0.106	-0.032	-1.683	1.599	0.914	-0.963	-0.044

Source: Data Processed 2023.

Form table (2), it can deduced that the deviations are normal. The research confirmed this result based on the values of Skewness, which are between -3 and $+3$, and Kurtosis, which are between -10 and $+10$ for all variables.

3.5 Data analysis:

Structural Equation Modeling (SEM) is used to process data through Smart PLS software. To test the model adequacy and validation . The subsequent sections are presented as follows:

3.5.1 Model goodness of fit:

To confirm that model is trusted, table (3) presents as follow:

Table (3)
Model goodness of fit

Test of model fit	Accepted level	Default model	Decision
SRMR	SRMR ≤ 0.08	0.08	The results of the model are easy to interpret
NFI	NFI ≥ 0.95	0.95	The models improve the fit.
Chi-square	P-value ≤ 0.05	0.05	The model is fit

Source: Data Processed 2023

Table (3) confirms that the model is fit and able to interpret.

3.5.2 Inner Model Assessment (Structural Model):

To judge models relevance, table (4) is presented as follows:

Table (4)
R-Square Value

Constructs	R-Square adjusted
ETR	0.132
FCF	0.159
Q ² Value	0.27

Source: Data Processed 2023

Based on table (4), the model used three variables influenced by others. TA practices is affected by AQ. FCF also influenced both TA practices and AQ. Q² expresses predictive

relevance, the higher Q^2 , the model is more fit. The value of Q^2 equals: $Q^2 = 1 - [(1 - R^2) \times (1 - R^2)]$. So, $Q^2 = 27\%$. Since, the structural model is fit.

3.5.3 Discriminant Validity:

To assure that the association between main variable proxies and latent variables, table (5) is presented as follows:

Table (5)
Values of discriminant validity (Cross Loading)

	CG	AQ	OVERINV.
AF	0.926	-0.355	-0.366
AT	0.513	-0.153	-0.163
ETR	-0.367	1	0.254
FCF	-0.38	0.254	1

Source: Data Processed 2023

Form table (5), all proxies make up each variable (in bold) meets the discriminant validity, it has the largest outer loading value for the variable that is represented only.

3.5.4 Outer Model Assessment (structure model):

The convergent validity tests are presented in table (6) as follows:

Table (6)
Outer weights

	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics (O/STDEV)	P. Value
AF <- AQ	0.868***	0.867	0.044	19.784	0
AT <- AQ	0.381***	0.377	0.069	5.536	0
ETR <- ETR	1***	1	0	0	0
FCF <- FCF	1***	1	0	0	0

Source: Data Processed 2020

Table (6) shows that all proxies are valid.

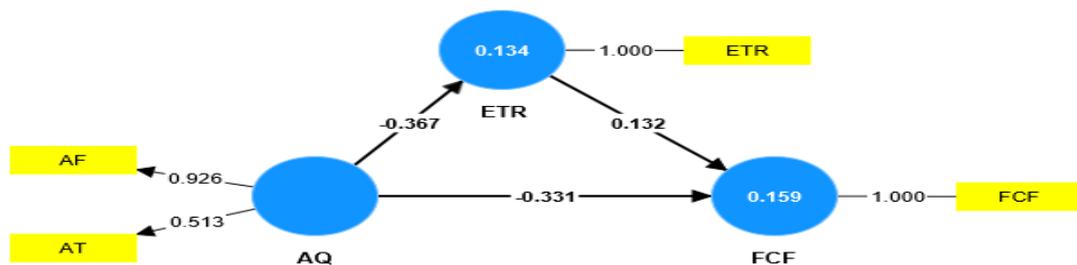


Figure (2): Structural Model (Outer Model)

3.6 Results:

Using bootstrapping of the PLS analyses, table (7) is presented as follows:

Table (7)
Path Coefficient

		Original Sample (O)	Sample Mean (M)	STDEV	T Statistics (O/STDEV)	P. Value
1	AQ -> ETR	-0.367***	-0.369	0.039	9.46	0
2	ETR -> FCF	0.132**	0.131	0.056	2.378	0.017
3	AQ -> FCF	-0.331***	-0.332	0.049	6.832	0
4	AQ -> ETR -> FCF	-0.048**	-0.049	0.022	2.179	0.029

Source: Data Processed 2023.

Results of table (7) are presented as follows:

- 1) The association between AQ and ETR is obtained from lines 1 indicates that there is a positive and significant effect of AQ on TA, at significant level 1%. So the **first hypothesis (H₁) is asserted**. The result supports [Janssen et al.\(2005\)](#), [Lisowsky \(2010\)](#) , [MCGuire et al. \(2012\)](#) and [Sikka \(2015\)](#).
- 2) The association between ETR and FCF is obtained from lines 2 indicates that there is a negative and significant effect of TA practices on FCF, at significant level 5%. So the **second hypothesis (H₂) is verified**. The result confirms [Desai et al. \(2007\)](#), [Heitzman and Ogneva \(2016\)](#) , [Bailling and Rul \(2018\)](#) , [Rul \(2019\)](#) , [Mukundhan et al. \(2019\)](#), [Guenther et al. \(2020\)](#) , [Nobakht and Nobakht \(2021\)](#) and [Abubakar et al. \(2021\)](#).
- 3) The association between AQ and FCF can be discussed through the following points:
 - The direct association between AQ and FCF is presented in lines 3 indicates that there is a direct, negative and significant effect of AQ on FCF, at significant level 1%. So the **third hypothesis (H₃) is justified**. Result affirms [Lafond and Roychowdury \(2008\)](#) , [Francis et al. \(2011\)](#), [Kim et al. \(2011\)](#), [Louis et al.\(2012\)](#), [Rusmin et al. \(2014\)](#), [Kim et al. \(2015\)](#), [Nekhili et al. \(2016\)](#), [Susanto et al. \(2017\)](#) , [Al-Jawahry and Abbas \(2020\)](#) and [Hidayat and Mardijuwono \(2021\)](#).
 - The indirect association between AQ and FCF is presented in lines 4 indicates that there is a mediation effect of TA practices on the association between AQ and financial flexibility, or there is a significant effect of the integration between AQ and TA practices on financial flexibility higher than the effect of each variable on financial flexibility, at significant level 5%. So the **fourth hypothesis (H₄) is approved**

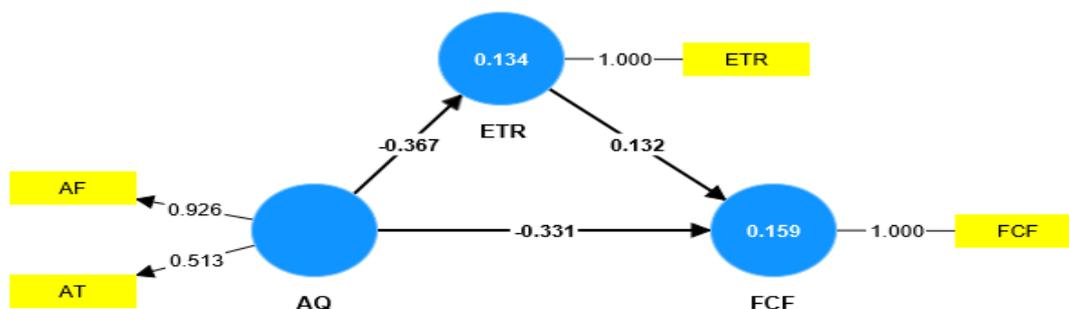


Figure (3): Measurement Model (Inner Model)

3.7 Robustness test (using Big 4 proxy):

In main model, researches used audit tenure (AT) and audit fees (AF) to express Audit quality (AQ). However, there are other proxies to express AQ not used in the main model, such as using Auditor size (Big 4)¹. So, the study uses Big 4 as a proxy to represent AQ instead of AT and AF to review the last results.

3.7.1 Inner Model Assessment (Structural Model):

To judge models relevance, table (8) is presented as follows:

Table (8)
R-Square Value

Constructs	R-Square adjusted
ETR	0.118
FCF	0.138
Q ² Value	0.24

Source: Data Processed 2023

Based on table (8), the structural models is fit

3.7.2 Outer Model Assessment (structure model):

The convergent validity tests are presented in the following figure:

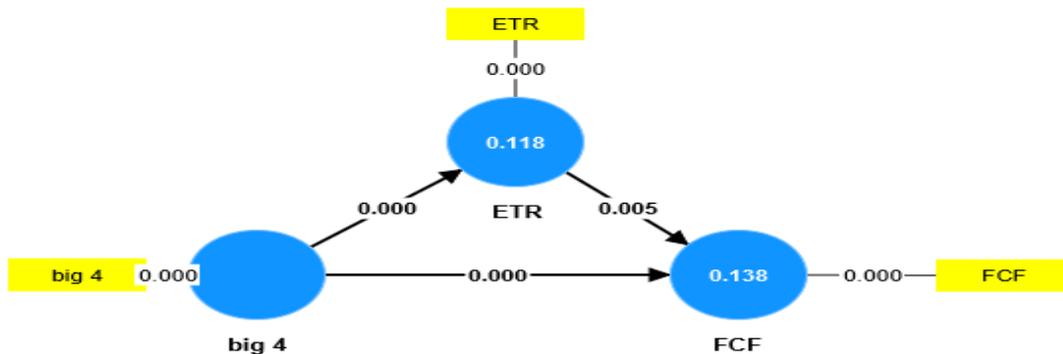


Figure (4): Structural Model (Big 4 model) (Outer Model)

3.7.3 Results:

Using bootstrapping of the PLS analyses, table (9) is presented as follows:

Table (9)
Path Coefficient (using Big 4)

		Original Sample (O)	Sample Mean (M)	STDEV	T Statistics (O/STDEV)	P. Value
1	AQ -> ETR	-0.692***	-0.696	0.094	7.384	0
2	ETR -> FCF	0.154***	0.154	0.055	2.815	0.005
3	AQ (Big 4) -> FCF	-0.580***	-0.580	0.104	5.556	0
4	AQ (Big 4) -> ETR -> FCF	-0.107**	-0.108	0.043	2.503	0.012

Source: Data Processed 2023

¹ Larger auditor's size reduces AQ opportunistically, since many literature reviews show that the auditor size is one of AQ proxies. In addition, depending on auditing one Big 4 increases investment efficiency. Since auditor size gets value one when the auditor is one of Big 4 auditors otherwise zero for non-big 4 auditors.

Results of table (9) have full agreement of the main model, which are presented as follow:

- 1) The association between big 4 and ETR is obtained from lines 1 indicates that there is a positive and significant effect of big 4 on TA, at significant level 1%.
- 2) The association between ETR and FCF is obtained from lines 2 indicates that there is a negative and significant effect of TA on FCF, at significant level 1%.
- 3) The association between big 4 and FCF can be discussed through the following points:
 - The direct association between big 4 and FCF is presented in lines 3 indicates that there is a direct, negative and significant effect of big 4 on FCF, at significant level 1%.
 - The indirect association between big 4 and FCF is presented in lines 4 indicates that there is a mediation effect of TA practices on the association between big 4 and financial flexibility, or there is a significant effect of the integration between big 4 and TA practices on financial flexibility higher than the effect of each variable on financial flexibility, at significant level 5%. So the **fourth hypothesis (H4) is confirmed**.

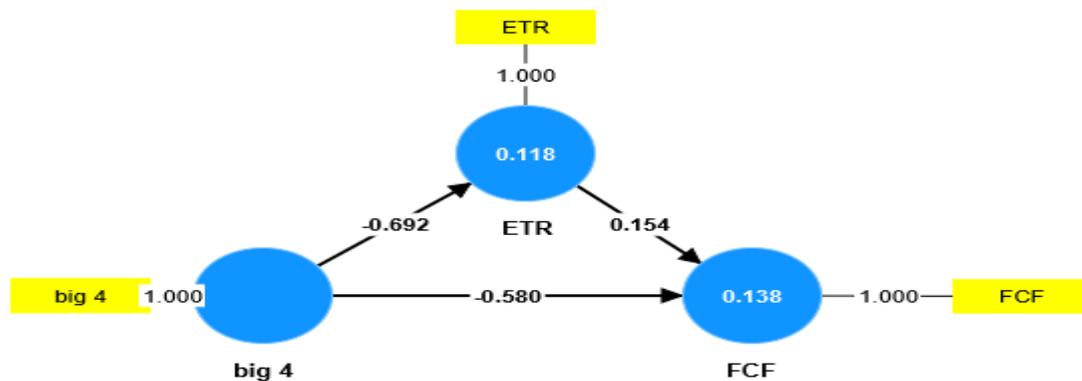


Figure (5): Measurement Model (Big 4 model) (Inner Model)

3.8 Discussion:

Regarding the discussion about financial flexibility (FF), the main objective of this research is investigating the effect of both AQ and TA on financial flexibility, which is measured by FCF, this main objective is divided into four sub-objectives; the first is investigating the influence of AQ on TA practices, the second is investigating the influence of TA on financial flexibility, the third is investigating the direct influence of AQ on financial flexibility, the fourth concerns with indirect association between AQ and financial flexibility, through TA practices as a mediator.

Regarding sub-objective (1), tables (7) and (9) provide evidence that higher AQ contributes to enhance legally TA practices through tax savings, and does not get out of tax regulations, since management that has longer auditor tenure or hire big auditor firms (big 4) with high audit fees reduces the chances to manipulate earnings to get tax savings in acceptable tax avoidance view and with legally manner, and vice-verses. The reasons for this result are; (1) Firms use having higher AQ to support TA practices by designing and implementing TA practices. (2) Firms obtain tax services from an external auditor are more able to achieve a higher level of TA than firms that do not receive those services, especially if the auditor has tax experience. (3) firms deal with one of the big 4, can achieve more tax

savings than other firms that do not deal with big 4, since, the big 4 auditing institutions have experience to get more tax saving.

Regarding sub-objective (2), tables (7) and (9) provide evidence that higher legally TA practices contribute to reduce financial flexibility. Since, increasing firm practices to avoid income tax, increasing tax savings and therefore TA practices, leads the ability of firm to restructure capital structure at a low cost to increase both firm value and financial flexibility, and vice versa. The reasons for this result are; (1) TA participates create opportunities for managers to hide bad news and mislead investors, which increases financial flexibility. (2) Management consider TA practices as a part of tax planning to affect economic activities and reduce the expected tax obligations, which affects the size, timing and degree of volatility of the firm's cash flows. (3) Firms, with high ratios for profitability and financial leverage, have a higher motivation to more TA practices, or use tax exemptions to benefit from strategic and competitive advantages.

Regarding sub-objective (3), tables (7) and (9) provide evidence that higher AQ contributes to reduce financial flexibility, since firms' management that has longer auditor tenure or hire big auditor firm (big 4) with high audit fees, does not have chances to enhance ability of firm to restructure capital structure at a low cost to increase both firm value and financial flexibility, and vice versa. Since, high AQ limits opportunistic behavior of managers, which is reflected by achieving the optimum level of financial flexibility and minimizing agency problems.

Regarding sub-objective (4), tables (7) and (9) provide evidence that there is a positive and indirect effect of AQ on financial flexibility through TA a mediator, since increasing legal TA practices through tax savings that provide a suitable environment to increase the effect of AQ on determining financial flexibility. Since, reducing illegal tax avoidance practices and promoting legal tax avoidance at the same time play a significant role with AQ proxies, such as having longer auditor tenure or hiring big auditor firm (big 4) with high audit fees, to effect on ability of firm to restructure capital structure at a low cost. This effect is stronger than the single effect of AQ on financial flexibility. In other words, there is a significant effect of integration between audit quality and tax avoidance on financial flexibility.

Finally, many studies concern with determinants of financial flexibility, which is measured using FCF. The study was interested in AQ and TA as financial flexibility determinants. It concluded that AQ and TA have significant effect on financial flexibility. In addition, there is a mediation role of TA in the association between AQ and financial flexibility.

4. Conclusion:

Literature reviews are interested in financial flexibility, which is measured using free cash flows (FCF). The research is interested in investigating some determinants of financial flexibility, such as AQ and TA. Besides, this research concerns with the mediation effect of TA practices on the association between AQ mechanisms and FCF, or in other words, investigating the integration between AQ and TA on financial flexibility. For 77 Egyptian listed firms in EGX 100 from 2016 to 2020, which include 385 annual observations.

Findings indicate: (1) firms' management that has longer auditor tenure or hire big auditor firm (big 4) with high audit fees increase tax avoidance to get tax saving; (2) increasing firm practices to avoid income tax leads to increasing the firm's financial

flexibility;(3) firms' management that has longer auditor tenure or hire big auditor firm (big 4) with high audit fees does not have chances to increase financial flexibility;(4) increasing TA practices provides a suitable environment to increase the effect of AQ on determining FCF. Since, legally TA practices play a significant role with AQ to effect on financial flexibility. In other words, there is a significant effect of integration between audit quality and tax avoidance on financial flexibility.

This research presents three contributions: 1) firms' managements use AQ mechanisms to reduce illegally TA and increase legally TA through tax savings; 2) firm's managements use TA practices to increase their financial flexibility; 3) increasing firm's AQ put limitations on firms' ability to increase its financial flexibility; 4) the effect of integration between AQ and TA on financial flexibility is higher than the effect of each determinant alone on financial flexibility.

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