EXPLORING THE IMPACT OF MANDATORY AUDIT FIRM ROTATION ON AUDIT QUALITY: AN EMPIRICAL STUDY

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ABSTRACT

This study explores professional auditors' perceptions of the impact of mandatory audit firm rotation on audit quality via a survey- based approach with 239 auditors was drawn from a number of Big-sized and Non- Big-sized auditing firms in Egypt using one sample t-test. Lack of audit quality and subsequent audit failures result mainly from a lack of auditors' independence and professional skepticism which are considered to be a consequence of the extended audit firm-client relationship. The findings indicated that auditors perceived mandatory audit firm rotation to have a positive effect on auditor's independence and professional skepticism, a negative effect on client-specific knowledge. Industry specialization can offset the negative effect of mandatory audit firm rotation on client-specific knowledge. Even though the mandatory rotation of audit firms costs more, mandatory audit firm rotation increases the independence of auditors, professional skepticism, and audit quality which is relatively more than the costs.

Keywords: Mandatory Audit Firm Rotation, Audit Quality, Industry Specialization.

INTRODUCTION

Auditor's independence and audit quality are crucial for the effectiveness and success of the auditing profession. They are considered to be the cornerstones of the auditing profession (Coyle, 2010). External users of financial statements need objective, relevant, and reliable information about clients' performance, resources, and liabilities. The European Commission (2010) argued that external users seek independent assurance provided by audit firms in order to reduce the risk that financial information is misstated. If financial statements' users are to rely on the auditor's report, it is essential that the external auditors (or audit firms) are perceived to be independent of the client's entity, management, and all other influences.

While auditor's independence is clearly defined in the Principles of Professional Conduct, many corporate scandals and collapses were deemed to have occurred because of lacking auditor's independence (Said & Khasharmeh, 2014; Sayyar et al., 2014; M. Phil & Adebiyi, 2013). Moreover, the Auditing Practice Board (APB) sought to develop its standards to add value to the audit function. The board drew attention to the dangers that affect auditor's independence, particularly as a result of auditors becoming too familiar with their clients (Porter et al., 2014).

One of the arguments which could impair auditor's independence is audit firm tenure if the audit tenure lasts for many years (M.Phil & Adebiyi, 2013). The concern about audit firm tenure arises as a result of the notion that, if the audit firm and the client have been in close association for a long time this may weaken auditors' ability to provide audit services with full objectivity, non-biases and threaten their ability to perform audits independently. Moreover,

auditors might lose their professional skepticism during the audit engagement, which results in low audit quality (Hamilton et al., 2005).

In order to protect investors from the possibility of fraudulent accounting activities by corporations (Kaplan & Mauldin, 2008) and re-establish the public confidence in the credibility of audited financial statements (Tagesson et al., 2006), the Congress in the United States of America enacted the Sarbanes-Oxley Act (SOX) on July 30, 2002. The Act contains various provisions and mandates certain studies. These provisions apply to publicly held companies and their audit firms. One of which (contained in Section 203) simply mandated the rotation of auditors and determined a maximum period of five years in which an auditor is permitted to provide audit services for the same client. Another related requirement (contained in Section 207) required the General Accounting Office (GAO) to conduct a study and review the potential effects of requiring the mandatory rotation of registered public accounting firms (SOX, 2002).

Researchers' debates mainly focus on whether auditor's independence is impaired when the auditor tenure is long and how this impaired independence affects audit quality (Imhoff, 2003). Independence of auditors is doubted when they have audited the same client for long periods. This view has led to the suggestion that audit firm rotation should be mandatory to mitigate treats of auditor's independence generated by familiarity and self- interest in the context of long audit firm tenure (Harris & Whisenant, 2012; M.Phil & Adebiyi, 2013).

Moreover, all the debates surrounding this issue are motivated by the need to ensure that mandatory audit firm rotation (MAFR) impacts positively on high audit quality (Dandago & Zamro, 2013). In Egypt, it is widely observed that most firms retain the same audit firm for long periods with more confidence in the quality of big firms' audits (Big 4) (Wahdan et al., 2005). Additionally, among the problems faced by the Egyptian Auditing Environment is the impairment of auditor's independence due to the lack of existence of strong independent professional organizations for promoting the auditing profession, and due to other reasons, such as:

1. There is no effective code of professional ethics for accountants and auditors (Wahdan et al., 2005).
2. There is no effective control exists for imposing penalties on accountants and auditors who fail to comply with accounting and auditing standards (i.e. Low litigation rate).
3. The quality of auditing process is influenced by assigning or changing auditors, which may force auditors to comply with top management's willingness.

Thus, the motivation for the present research comes from a number of reasons. First, the strong interest of regulators and policy makers to acquire evidence from different environments regarding the effect of mandatory audit firm rotation (MAFR) on audit quality. Second, the need for research on the potential benefits and costs that may result from the application of such policy (DeFond & Francis, 2005).

It is important to understand how this regulation affects audit quality before regulators consider additional costs (Winn, 2014). Al-Thuneibat et al., (2011) noted that; "Auditing is a socially constructed phenomenon and therefore regulators and policy makers need evidence from various environments." The strong debate among regulators in those countries leads regulators and policy makers in developing countries to review back their audit legislations. Thus, the present research, addresses this issue in developing countries, the case of Egypt, as it does not have any regulation demanding mandatory audit firm rotation. Since, there is a controversy surrounding the impact of MAFR on audit quality. The research problem is derived from the researchers' different points of views regarding whether mandatory audit firm rotation improves

or deteriorates audit quality. Thus, the present research will add to the literature that supports or rejects the application of mandatory audit firm rotation.

LITERATURE REVIEW

The review of literature has shown that there are a number of key themes of arguments, both for and against mandatory audit firm rotation (MAFR). The most common arguments are concerned with the expected impact of mandatory rotation on auditor's independence, professional skepticism, client specific knowledge, and audit costs. These four considerations are discussed in the order below:

Auditor's Independence and Professional Skepticism

Tegasson et al., (2006) argued that auditor independence is considered a key factor when ensuring high audit quality. The more the public perceives the auditors to be independent from the control of others, the more they believe that the auditors are performing their task properly in accordance with ethical principles (Cameran et al., 2016).

Auditors are expected to provide unbiased opinion on the financial statements to the interested parties of those statements. They should be independent from the client they audit, so their audit opinion will not be influenced by any relationship between them and the client. The auditor independence is consisted of two main parts; independence in fact and in appearance. Both parts of independence must exist. Independence in fact means that the auditor opinion has not been affected by factors that can compromise integrity, professional skepticism, and objectivity of judgment. Thus, independence in fact reflects an auditor state of mind (Raiborn et al., 2006).

Auditor independence is one of the important elements of audit quality (Tepalagul & Lin, 2014) which consists of quality of integrity, objectivity, and impartiality (Said & Khasharmeh, 2014). A wide range of unprofessional relationship between auditors and their clients creates a familiarity threat, such a threat could compromise, or could be perceived to compromise auditors' objectivity and independence (IESBA- Code of Ethics for Professional Accountants, 2015). This familiarity could create a sympathetic relationship between the auditor and the client, restrict the value-added service of the auditor to the client, and increase the risk that the auditor is becoming too accepting the management's work which negatively affects audit quality (Acemoglu & Gietzmann, 1997; Barton, 2002; Stefaniak et al., 2009; M. Phil & Adebiyi, 2013; Tepalagul & Lin, 2014). Accordingly, one of the debated factors that can affect auditor's objectivity and independence is audit firm tenure. Indeed, several studies found a negative correlation between audit firm tenure and audit quality (Palmrose, 1989; Giroux et al., 1995; Dopuch et al., 2001; Al-Thuneibat, 2011). Shockley (1982) indicated that long audit firm tenure may deteriorate auditor's objectivity and independence. He found that long audit firm tenure can have several negative effects such as; lack of innovation, complacency, and less rigorous audit procedures, which are bad for audit quality.

Jones et al., (2012) suggested a higher quality toward the end of the audit engagement because the departing audit firm would feel a greater accountability for their work when another audit firm will replace them in the coming year. Likewise, Cameran et al., (2016) indicated that audit quality is highest in the last engagement period as the departing audit firm will have no incentive to reduce its independence because it will lose the client anyway and the incoming audit firm might discover any negligence of them.

DeAngelo (1981) assumed that existing audit firms have economic incentives not to reveal material misstatements in view of retaining their client. In addition, she argued that audit firms' incentive to preserve independence declines over time. However, Bates et al. (1982) indicated that the psychological dependence between the audit team and the client is even more threatening than the economic dependence on the client. Many companies appoint auditors, who are most likely to agree to management's views about whether accounting treatments are acceptable. Long audit firm tenure can lead to the fact that the auditor prefers the interest of the management instead of the interest of the shareholders (Arel et al., 2006; Dandago & Zamro, 2013). Moreover, when the company under audit has been a client of an audit firm for longer periods, the client can be viewed as a source of a perpetual income which may threaten the audit firm ability to act independently (Nagy, 2005; Arel et al., 2006). M.Phil & Adebiyi (2013) argued that MAFR might help to avoid this treat by limiting the formulation of long audit firm-client relationships that can compromise independence. Therefore, in a MAFR regime the audit firms may have greater incentives to resist management pressures (Dopuch et al., 2001; Ruiz-Barbadillo et al., 2009). Moreover, it is considered an effective way of preventing opinion shopping practices by limiting its opportunities (Lu & Sivaramakrishnan, 2009; Velte & Stiglbauer, 2012).

Results of prior research indicated that the majority of the audit failures involved longer audit firm tenure (Walker et al., 2001; George, 2004; Casterella & Johnston, 2013). George (2004) found that audit failures involving long-term relationships is significantly more damaging to investors than failures involving short-term relationships. Therefore, advocates of MAFR implied that MAFR would enhance perceived auditor's independence, reduce the incidence of audit failures through shortens the period of audit firm tenure and increase investors and other stakeholders' confidence in the credibility of financial statements (George, 2004; Jennings et al., 2006; Raiborn et al., 2006; Jackson et al., 2008; Ebimobowei & Keretu, 2011; Casterella & Johnston, 2013; DeFond & Zhang, 2014).

When a client voluntarily changes audit firms, the client can seek an auditor whose accounting and reporting views are more consonant with them (Nagy, 2005). Such voluntarily change would result in a lower level of auditor's professional skepticism. Chen et al. (2009) documented a positive relationship between auditor's professional skepticism and audit quality. Auditors who exercise higher degree of professional skepticism are more likely to discover material misstatements. Proponents of MAFR believed that after the auditor has spent many years with his client, his audit approach will get stale and predictable. This is due to lack of attention to details, redundancy and repetition from the earlier engagement (Arel et al., 2006; Dandago & Zamro, 2013). The auditors would rely on the previous working papers in order to plan the current audit process. There is also a possibility that the same audit team will be engaged in the following financial year that may rely on their own working papers from the previous years. As a result, this practice will lead auditors to rely on the previous judgments in giving an opinion about the clients' financial statements of the current year (Dandago & Zamro, 2013). Moreover, this long tenure leads to the tendency to anticipate results rather than evaluating important changes in clients' circumstances (AICPA, 1992). This could result in excessive reliance on a static audit program and performing less audit procedures (Johnson et al., 2002).

Accordingly, auditors should be aware of the need for skepticism. That is because, the increased trust of the management makes the auditor perform fewer audit procedures and does not act with professional skepticism anymore (Mihael et al., 2011). Therefore, auditors should be

careful to avoid over-relying on their prior experience and knowledge gained for the same client (Myers et al., 2004). Thus, proponents of audit firm rotation suggested that a new auditor would bring to tolerate greater skepticism and a fresh look that may be lacking in long audit firm tenure. They urged that MAFR increases professional skepticism and enhance audit quality for new audit engagements. The incoming audit firm is expected to bring a 'fresh look' to the client's financial statements and in turn the auditing task becomes more objective (Winn, 2014; Lu & Sivaramakrishnan, 2009; Harris & Whisenant, 2012) that may be lacking in long audit firm tenure. Tagesson et al., (2006) found that public listed companies can gain from MAFR, as it creates greater trust in the audited financial statements, which, in turn will reduce audit risk and lower the cost of capital.

In addition, the audit firm would not view the client as a source of perpetual income (Nagy, 2005). Consequently, it would decrease the possibilities of the client to influence the auditor (Vanstraelen, 2000). Auditors also will have greater incentives to resist management pressures, which results in promoting increased independence, skepticism, and objectivity (Dopuch et al., 2001; Ruiz-Barbadillo et al., 2009).

To summarize, the proponents of MAFR found that auditor's objectivity, independence, and professional skepticism worsen with longer audit firm tenure, which, in turn, hypothesized that auditor's independence, and professional skepticism will be enhanced after the introduction of mandatory audit firm rotation policy. Thus, the first and second hypothesis can be formulated as follows:

H1: "Mandatory Audit Firm Rotation has a positive impact on auditor's independence".

H2: "Mandatory Audit Firm Rotation has a positive impact on auditor's professional skepticism".

Client-Specific Knowledge (A Proxy for Auditor Experience)

Some studies showed results consistent with the notion that auditors need extra time and effort to develop their understanding of client's business, so the quality of financial reports may be lower in the early years of the audit engagement (Imeokparia, 2014;Tepalagul & Lin, 2014). Therefore, the main argument against MAFR is that, there is an increase in audit quality in the later years of an audit engagement, whereas there is a decrease in audit quality in the initial years of an audit engagement (Cameran et al., 2016). The AICPA's SEC Practice Section examined 406 cases of alleged audit failures and found that audit failures are nearly three times more likely when audit firms are conducting their first or second audit of the client (George, 2004). The decrease in audit quality in earlier years of audit engagement might be due to a lack of knowledge about the client because the incoming audit firms' understanding of the client's business operations and systems would be limited to only a few years (Carcello & Nagy, 2004; George, 2004; Dandago & Zamro, 2013; Ewelt- Knauer et al., 2013; Lennox et al., 2014).

Opponents of MAFR argued that audit firms gain valuable knowledge about their client overtime and that a newly appointed audit firms may be bad for audit quality (Vanstraelen, 2000). They also assumed that mandatory rotation of audit firms would increase the likelihood of audit failures (Carcello & Nagy, 2004). These failures might be due to lack of auditor's adequate experience with the client to notice either unusual events or changes in the client's environment (Kwon et al., 2014). Therefore, the incoming audit firm may increasingly rely on the client's estimates and representations in the initial years of audit engagement (Kwon et al., 2014).

Chi (2005) indicated that mandatory rotation can lead to loss of familiarity between the clients and audit firms that are important for an effective audit process. This loss of familiarity

potentially decreases audit effectiveness because auditors have to gain a greater experience in order to develop a greater ability to detect accounting irregularities. Arel et al., (2006) and Jackson et al., (2008) found that audit quality is higher when there is a longer audit firm tenure due to auditors' cumulative knowledge about the client. Thus, the third research hypothesis can be formulated as follows:

H3: "Mandatory Audit Firm Rotation has a negative impact on auditor- client specific knowledge".

Audit Costs

Limited researches suggested that MAFR may have more potential disadvantages than advantages (Jones et al., 2012). These issues are related to audit costs and audit quality (PCAOB, 2011; Kwon et al, 2014). Opponents of mandatory rotation indicated that audit costs and audit failures risk would increase due to the lack of knowledge and experience of the new audit firm in the initial years of the audit engagement (Kramer et al., 2011; Siregar et al., 2012) ,which drives the decrease in audit quality (Mohrmann, 2015).

Jackson et al., (2008) and Chen et al., (2008) argued that MAFR would increase start-up costs involved with introducing the new incoming audit firm with the client's procedures, which leads to a higher audit costs due to the additional work needed by the new audit firm to gain sufficient knowledge about the client. Mohrmann (2015) implied that if higher audit fees cannot be charged by the new audit firm because of fees and time budget pressures, the audit firm effort might be reduced (Jones et al., 2012). Therefore, requiring firms to be rotated will place higher costs on both the audit firms and the clients (Copley & Doucet, 1993; Jackson et al., 2008). These increased costs will be reflected in a higher audit fees A long audit firm tenure makes it possible for the continuing audit firm to do the audit more efficiently, which results in lower costs for the client (Vanstraelen, 2000). Furthermore, the audited clients argued that MAFR will be time consuming and expensive because of the need to familiarize the incoming audit firm with the entity's operations, processes, systems, and industry.

Researches indicated that audit firms tend to reduce their audit fees in the early years of engagement to attract clients (commonly referred to as low- balling) (Francies & Simon, 1987; Geiger & Raghunandan, 2002). The practice of low-balling requires the audit firm to seek for longer audit engagement with their clients so that they could recover back their loss in the early years. Cameran et al. (2016) found that the audit fees of the incoming audit firms are discounted by 16 percent, however, the actual audit hours are increasing in the first year of audit engagements. While, subsequent audit fees are abnormally higher and exceed the initial fee discount (Cameran et al., 2016), which is an indication of low-balling practice. Thus, MAFR can reduce the practice of low-balling

GAO (2003) estimated that companies would incur additional auditor selection costs equal to 17 percent of their first-year audit fees (GAO, 2003). Similarly, Rezaee et al., (2013) stated that, "while MAFR can promote more auditor independence and thus improve the auditing quality its implementation cost can be too high". Indeed, it was found that both the client and audit firms suffer great losses in case of audit failures, and that the cost of mandatory rotation implementation would be less than the costs of losing reputation and litigations filled against the audit firm due to audit failures that are the result of decreases in audit quality (Jackson et al., 2008).

Jackson et al., (2008) stated that, "Morgan Stanley estimates the market capitalization loss of the collapses of WorldCom, Tyco, Quest, Enron and Computer Associates to be $US460

billion." The auditor rotation costs $1.2 billion per year. Therefore, the costs of poor-quality audits are far greater than the potential costs of MAFR. Moreover, Imhoff (2003) expected that shareholders are more willing to incur additional costs of the audit if it guarantees them of an independent audit. Thus, higher audit costs could be acceptable and are economically justified if audit firm rotation can improve audit quality (Cameran et al., 2016). Chi et al. (2009) indicated that in countries where MAFR is adopted, it is an evidence that regulators considered that the benefits of MAFR to overweigh the costs resulting from its application. Accordingly, the fourth hypothesis can be formulated as follows:

H4: "Mandatory audit firm rotation increases audit costs".

RESEARCH METHODOLOGY

The researcher chose to use a questionnaire since it is a suitable instrument for gathering data and contacting respondents who might be difficult to access. Moreover, it is a useful instrument for gathering the perceptions of a potentially large numbers of respondents in a highly economical way enough to allow statistical analysis of the results.

The questionnaire is designed and distributed to collect the opinions of a sample of auditors with different years of experience in the audit field about the impact, if any, of mandatory audit firm rotation (MAFR) on audit quality (AQ). The selected sample includes auditors from different sized auditing firms (Big 4 - Non-Big 4).

The questionnaire is subdivided into two sections, each of which comprises a number of relevant questions. The first section is designed in a manner that enables the researcher to test the hypotheses. This section consisted of four main parts. The first part contained 8 sub-questions that represent the relationship between MAFR and auditor's independence. The second part contained 4 sub-questions that represent the relationship between MAFR and professional skepticism. The third part contained 6 sub-questions that present the relationship between MAFR and client-specific knowledge. The last part contained 5 sub-questions that represent the relationship between MAFR and audit costs. The second section of the questionnaire has been designed to know the perceptions of professional auditors regarding the agreement or rejection of the application of MAFR in the Egyptian Environment. It includes the, Exploratory Factor Analysis (EFA) for testing validity, reliability analysis using Conbach's alpha, and a one- sample t test for hypotheses testing.

After the questionnaires have been distributed and collected, the researcher begins descriptive statistics of the research variables then tests the hypotheses of the research. The reliability and validity of the questionnaire have been tested using Exploratory Factor Analysis (EFA) and Cronbach's Coefficient Alpha statistical test.

Research Sample

The study population includes all professional auditors working in all different-sized auditing firms (Big 4 & Non-Big 4) during the time of the research. There is no comprehensive list includes the accurate numbers and contact information of the professional auditors at the time of the research. Moreover, it is difficult to get the opinion of each one of those auditors. Accordingly, the study used a non-probability sample to select the participants of the research. The questionnaires were distributed to 450 professional auditors from different-sized auditing firms. Data were collected from February 2016 to August 2016. Of the questionnaires distributed, 246 were returned with a response rate of 54.6%. However, 7 surveys were dropped from the

research because of incomplete and inconsistent data. Therefore, the final sample includes 239 questionnaires. Table 1 presents the sample characteristics.

Table 1
THE SAMPLE CHARACTERISTICS

Category	No.	Percentage
Size of Audit Firm		
Big 4	142	59.50%
Non-Big 4	97	40.50%
Total	239	100%
Auditor Position		
Staff Member	72	30%
Senior Auditor	79	33.10%
Audit Manager	47	19.50%
Audit Partner	9	3.80%
Audit Office' Owner	32	13.60%
Total	239	100%

Table 1 above shows that the majority of respondents that are involved in the research are auditors from the Big(4) auditing firms representing 59.5%. It also shows that 33.1% of respondents are seniors, 30% are staff members, 19.5% are audit managers, 13.6% are audit office's owners, and 3.8% are audit partners.

Descriptive Analysis of the Research Variables

Table 2 shows the means and standard deviation for each of the variables used in the research. For item coding, the researcher used Ind., Skep., Know., and cost to refer to each sub-question of auditor's independence, auditor's professional skepticism, auditor client-specific knowledge, and audit costs variable respectively.

Table 2
DESCRIPTIVE ANALYSIS OF THE RESEARCH VARIABLES

Construct	Measurement items	N	Min	Max	Mean	Std.	Skewness	Kurtosis
Auditor's Independence	Ind1	239	1	5	1.81	0.887	1.299	1.942
	Ind2	239	1	5	2.13	1.039	0.644	-0.456
	Ind3	239	1	5	3.87	1.035	-0.884	0.270
	Ind4	239	1	5	4.21	0.810	-1.222	2.276
	Ind5	239	1	5	3.93	1.023	-0.887	0.284
	Ind6	239	1	5	4.05	0.963	-0.948	0.531
	Ind7	239	1	5	1.95	0.876	0.923	0.770
	Ind8	238	1	5	3.52	1.135	-0.515	-0.547
	Ind1_8	238	1.5	5	3.9617	0.59182	-0.459	0.158
Professional Skepticism	Skep1	238	1	5	2.38	1.129	0.582	-0.664
	Skep2	238	1	5	1.91	0.811	0.888	1.150
	Skep3	238	1	5	4.29	0.808	-1.341	2.318
	Skep4	238	1	5	4.15	0.947	-1.299	1.726
	Skep1_4	238	1	5	4.0378	0.67124	-0.816	0.158
Knowledge	Know1	236	1	5	4.43	0.761	-1.496	2.552
	Know2	238	2	5	4.37	0.762	-1.199	1.245
	Know3	236	1	5	3.86	0.964	-0.521	-0.529

	Know4	228	1	5	3.20	1.072	0.001	-0.730
	Know5	236	1	5	2.43	1.080	0.299	-0.896
	Know6	238	2	5	3.92	0.822	-0.439	-0.278
	Know1_6	223	2.3	5	3.8991	0.59562	-0.124	0.163
Audit Costs	Cost1	237	1	5	3.31	1.090	-0.221	-0.910
	Cost2	237	1	5	4.06	0.876	-0.801	0.266
	Cost3	237	1	5	3.81	0.918	-0.531	-0.010
	Cost4	237	1	5	3.60	1.071	-0.584	-0.267
	Cost5	237	1	5	3.54	1.006	-0.376	-0.105
	Cost1_5	237	1.2	5	3.6616	0.65955	-0.239	0.158
Audit Quality (for rotation)		183	3	10	7.74	1.382	-0.643	0.883
Audit Quality (for no rotation)		49	4	10	7.39	0.7275	-0.198	0.478

The analysis indicates that the means range from 1.81 to 4.43. The standard deviation ranges from 0.592 to 1.135 which means that there is an agreement among the respondents and the variances are low because the standard deviation of any individual question is less than half of the related mean. The maximum mean value is 4.43 indicating that the majority of respondents agree that long audit firm tenure increases the audit firm's knowledge about the client industry because the audit firms gain valuable knowledge about the client overtime. The minimum mean value is 1.81 indicating that the majority of respondents disagree that long audit firm tenure strengthens the personal relationship between the audit firm and the client. In addition, the majority of respondents prefer the application of mandatory audit firm rotation policy (mean=7.74).

As shown in Table 2, there is a violation of normality assumption once all measurement items' skewness and kurtosis scores are not zero. However, Kline (2015) mentioned that in social science it is common to violate the normality assumption; therefore, there is no series problem to apply the parametric analyses to test the hypotheses if the skewness and kurtosis of each item within the range ± 3 and Kurtosis within range ±10.

Exploratory Factor Analysis (EFA)

The researcher illustrates how to conduct the Exploratory Factor Analysis (EFA) in order to assign each item on its construct. This step should be done before testing the proposed hypotheses.

EFA Results of Auditor's Independence

Table 3
EFA RESULTS OF AUDITOR'S INDEPENDENCE VARIABLE

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			0.755
Bartlett's Test of Sphericity	Approx. Chi-Square		442.93
	Df		28
	Sig.		0
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3.004	37.549	37.549
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
2	1.346	16.828	54.377

Rotated Matrix	Component	
	1	2
Ind5	0.857	-
Ind6	0.766	-
Ind3	0.682	-
Ind4	0.642	-
Ind8	0.414	-
Ind1	-	0.864
Ind2	-	0.759
Ind7	-	0.64

Table 3 shows the EFA results of auditor's independence variable. Kaiser-Meyer-Olkin (KMO) determines if the responses given with the sample are adequate or not. As shown in this table, Kaiser- Meyer-Olkin (KMO) value is 0.755 (over 0.6) which is sufficient. Bartlett's test is an indication of strengthen of the relationship between the research variables. From the table, Bartlett's test is significant on a confidence level 95% (P<0.05).

The Eigenvalue reflects the number of extracted factors (components). According to eigenvalue threshold, the cumulative variance is 0.54377 (less than 0.6 is some instances may happen (Hair et al., 2010) and the eight constructs are divided into two components (the two components had an eigenvalue greater than 1). The rotated component matrix is the key output of the principal component analysis. It places each construct to where it belongs which is component 1, component 2… etc. Table 3 also shows the loadings of the eight constructs on the two components extracted. Looking at the table above, Ind. 5, Ind. 6, Ind. 3, Ind. 4, and Ind. 8 are loaded on component 1. Ind. 1, Ind. 2, and Ind. 7 are loaded on component 2.

EFA Results of Professional Skepticism

Table 4
EFA RESULTS OF PROFESSIONAL SKEPTICISM VARIABLE

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.642		
Bartlett's Test of Sphericity	Approx. Chi Square	213.896	
	Df	6	
	Sig.	0	
Component 2	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.142	53.54	53.54
Component Matrix[a]	Component		
	1		
Skep3	0.811		
Skep4	0.791		
Skep2	-0.691		
Skep1	-0.616		

Table 4 shows EFA results of professional skepticism variable. As can be shown in this table, KMO value is 0. 642 (over 0.6) which is sufficient, Bartlett's test is significant, according to eigenvalue threshold, the cumulative variance is0.5354 (less than 0.6, is some instances may happens (hair et al., 2010), the four constructs are loaded into one components (had eigenvalue greater than 1), and there is no component score coefficient matrix.

EFA Results of Auditor Client Knowledge

Table 5 EFA RESULTS OF AUDIT COSTS VARIABLE			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.717		
Bartlett's Test of Sphericity	Approx. Chi-Square	201.002	
	Df	10	
	Sig.	0	
Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	2.264	45.271	45.271
Rotated Matrix[a]	Component		
	1		
Cost3	0.764		
Cost2	0.733		
Cost4	0.711		
Cost1	0.688		
Cost5	0.404		

Table 5 shows EFA results for audit costs variable. As shown in this table, KMO value is 0.717 (over 0.6) which is sufficient, Bartlett's test is significant, according to eigenvalue threshold, the cumulative variance is 0.45271 (less than 0.6, is some instances may happens (hair et al., 2010), the fifth constructs are loaded into one components (had eigenvalue greater than 1, and there is no component coefficient matrix.

Reliability Analysis

Before testing the proposed hypotheses, reliability analysis is performed to ensure the reliability of the variables. Cronbach's Alpha is used to test the reliability of the questions of the questionnaire as; it is the most common measure of scale reliability. The higher the score, the more reliable the generated scale is. Table 6 shows the reliability results based on Cronbach's alpha coefficients.

Table 6 RELIABILITY RESULTS BASED ON CRONBACH'S ALPHA COEFFICIENTS			
Reliability Statistics			
Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Auditor Independence	0.755	0.758	8
Professional Skepticism	0.689	0.707	4
Client-Specific Knowledge	0.732	0.744	6
Audit Costs	0.680	0.685	5

With respect to the reliability test, all the constituent elements of the questionnaire can be reliable to test the hypotheses since they exceed the threshold 0.6 (Hair et al., 2010).

HYPOTHESES TESTING

The researcher separately examined the effects of mandatory audit firm rotation on auditor's independence, professional skepticism, client- specific knowledge, and audit costs to test the net of these possible effects on audit quality.

Testing the First Hypothesis

The first hypothesis states that "Mandatory Audit Firm Rotation has a positive impact on Auditor's Independence". Consistent with H1, auditors agree with the statement that MAFR results in enhancing auditor's independence and hence improve audit quality as indicated by the means and p-values in Table 7 (P value<0.01). This result is highly consistent with the findings of prior researches on the relationship between mandatory audit firm rotation and auditor independence (Depuch, 2001; Daniels & Booker, 2011; Ebimobowei & Keretu, 2011; Imeokparia, 2014; Said & Khasharmeh, 2014). They found that MAFR improves audit quality by enhancing auditor's independence. In addition, they argued that when audit firms are rotated in a regular basis, it will help to avoid situations in which audit firms are becoming too familiar with a specific client. Therefore, the first hypothesis is accepted.

Table 7
AUDITOR'S INDEPENDENCE HYPOTHESIS TESTING

One-Sample Test

	Test Value=3					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Ind1	20.789	238	0.000***	1.192	1.08	1.31
Ind2	12.948	238	0.000***	0.870	0.74	1.00
Ind3	12.999	238	0.000***	0.870	0.74	1.00
Ind4	23.161	238	0.000***	1.213	1.11	1.32
Ind5	14.104	238	0.000***	0.933	0.80	1.06
Ind6	16.801	238	0.000***	1.046	0.92	1.17
Ind7	18.467	238	0.000***	1.046	0.93	1.16
Ind8	7.081	237	0.000***	0.521	0.38	0.67
Ind1_8	25.068	237	0.000***	0.96166	0.8861	1.0372

Note: ***Significance level is 99.9%, P value<0.001, t value ± 3.21
** Significance level is 99%, P value<0.01, t value ± 2.58
* Significance level is 95%, P value<0.05, t value ± 1.96

Testing the Second Hypothesis

The second hypothesis states that "Mandatory Audit Firm Rotation has a positive impact on Auditor's Professional Skepticism". In support of H2, auditors' responses show that they believe mandatory audit firm rotation to positively affect auditors' professional skepticism, as indicated in Table 8 (P value<0.01). It is consistent with the results of (Depuch, 2001; Daniels & Booker, 2011; Ebimobowei & Keretu, 2011; Imeokparia, 2014; Said & Khasharmeh, 2014).

They found the introduction of mandatory audit firm rotation is considered as a useful mean of increasing auditors' professional skepticism. Therefore, the second hypothesis is accepted.

Table 8
PROFESSIONAL SKEPTICISM HYPOTHESIS TESTING

One-Sample Test						
	Test Value=3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Skep1	8.499	237	0.000***	0.622	0.48	0.77
Skep2	20.775	237	0.000***	1.092	0.99	1.20
Skep3	24.561	237	0.000***	1.286	1.18	1.39
Skep4	18.754	237	0.000***	1.151	1.03	1.27
Skep1_4	23.852	237	0.000***	1.03782	0.9521	1.1235

Note: ***Significance level is 99.9%, P value<0.001, t value ± 3.21
** Significance level is 99%, P value<0.01, t value ± 2.58
* Significance level is 95%, P value<0.05, t value ±1.96

Testing the Third Hypothesis

The third hypothesis states that "Mandatory Audit Firm Rotation has a Negative Impact on Client-Specific Knowledge". Consistent with H3, auditors agree that mandatory audit firm rotation reduces client- specific knowledge, as indicated in Table 9 (P value<0.01). They believe that audit quality is significantly affected by the loss of client-specific knowledge due to mandatory rotation of audit firms. Therefore, the third hypothesis is accepted.

Table 9
CLIENT SPECIFIC KNOWLEDGE HYPOTHESIS TESTING

One-Sample Test						
	Test Value=3					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Know1	28.931	235	0.000***	1.432	1.33	1.53
Know2	27.747	237	0.000***	1.370	1.27	1.47
Know3	13.708	235	0.000***	0.860	0.74	0.98
Know4	2.843	227	0.005**	0.202	0.06	0.34
Know5	8.079	235	0.000***	0.568	0.43	0.71
Know6	17.181	237	0.000***	0.916	0.81	1.02
Know1_6	22.542	222	0.000***	0.89910	0.8205	0.9777

Note: ***Significance level is 99.9%, P value 0.001, t value ± 3.21
** Significance level is 99%, P value<0.01, t value ± 2.58
* Significance level is 95%, P value<0.05, t value ± 1.96

The Fourth Hypothesis

The Fourth Hypothesis states that "*Mandatory Audit Firm Rotation increases Audit Costs*". Consistent with H4, auditors agree that mandatory audit firm rotation increases audit costs, as indicated in Table 10 ($p<0.01$). Therefore, the fourth hypothesis is accepted. Auditors believe that audit costs will have a negative effect on audit quality even if audit firm rotation is mandatory. Porter et al., (2008) argued that the costs associated with mandatory rotation of audit firms are significantly less than the costs associated with audit failures. Moreover, Okaro & Okafor (2013) found that investors have lost several billions of dollars as a result of clients that falsified their accounts. Thus, the costs of mandatory rotation of audit firms would be less than the costs of losing reputation and litigations filled against the audit firm due to audit failures (Jackson et al., 2008).

Table 10
AUDIT COSTS HYPOTHESIS TESTING

One-Sample Test						
	Test Value=3					
	T	Df	Sig.(2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Cost1	4.349	236	0.000	0.308	0.17	0.45
Cost2	18.608	236	0.000	1.059	0.95	1.17
Cost3	13.509	236	0.000	0.806	0.69	0.92
Cost4	8.609	236	0.000	0.599	0.46	0.74
Cost5	8.199	236	0.000	0.536	0.41	0.66
Cost1_5	15.443	236	0.000	0.66160	0.5772	0.7460

Note: ***Significance level is 99.9%, P value<0.001, t value 3.21
** Significance level is 99%, P value<0.01, t value 2.58
* Significance level is 95%, P value<0.05, t value ± 1.96

DISCUSSION OF THE FINDINGS

For the first hypothesis which tested whether mandatory audit firm rotation has a positive impact on auditor's independence. This hypothesis is accepted. This result is consistent with the findings of (Depuch, 2001; Daniels & Booker, 2011; Ebimobowei & Keretu, 2011; Imeokparia, 2014; Said & khasharmeh, 2014; Cameran et al., 2016). They indicated that the lower the degree of independence of the auditor is, the lower the quality of audit services will be. Davis et al., (2009), Coyle (2010), Lennox et al., (2014), Winn (2014), and Cameran et al., (2016) indicated that audit quality is highest in the last engagement period as the departing audit firm will have no incentives to reduce its independence because it will lose the client anyway and the incoming audit firm might discover any negligence of them. Additionally, auditors will be more concerned about their reputation (Ruiz-Barbadillo et al., 2009).

This result is contradicting to the results of Kaplan & Mauldin (2008) which found that mandatory audit firm rotation does not strengthen independence in appearance among non-professional investors. In addition, Ruiz-Barbadillo et al. (2009) found no evidence that mandatory audit firm rotation is associated with a higher likelihood of issuing going-concern opinions (a proxy for auditor independence). They indicated that auditors' incentives to protect

their reputation have a positive impact on the likelihood of issuing going-concern opinions. Danials & Booker (2011) found a mixed result. They found that loan officers perceive that mandatory audit firm rotation enhances the perceptions of auditor independence but does not enhance audit quality.

For the second hypothesis, which tested whether mandatory audit firm rotation has a positive impact on auditor's professional skepticism? This hypothesis is accepted. This result is consistent with the results of (Depuch, 2001; Daniels & Booker, 2011; Ebimobowei & Keretu, 2011; Imeokparia, 2014; Said & Khasharmeh, 2014). They found the introduction of mandatory audit firm rotation is considered as a useful mean of increasing auditors' professional skepticism. When a client voluntarily changes audit firms, the client can seek an auditor whose accounting and reporting views are more consonant with them (Nagy, 2005). Such voluntarily change would result in a lower level of auditor's professional skepticism. Chen et al., (2009) documented a positive relationship between auditor's professional skepticism and audit quality. Proponents of MAFR believed that after the auditor has spent many years with his client, his audit approach will get stale and predictable. This is due to lack of attention to details, redundancy and repetition from the earlier engagement (Arel et al., 2006; Dandago & Zamro, 2013). Proponents argued that MAFR can provide a powerful and an effective peer review effect, as the departing audit firms will be motivated to increase their effort at the end of the audit engagement (Ebimobowei & Keretu, 2011). That is because they know that their work will be reviewed by the new incoming audit firms that will take over the audit in the following year. Opponents argued that MAFR increases the likelihood of audit failures (Geiger & Raghunandan, 2002; Carcello & Nagy, 2004), because the incoming audit firm will place greater reliance on the management's estimates and representation in the first years of audit engagement, which results in lower audit quality (Barton, 2002; Myers et al., 2003).

For the third hypothesis which tested whether mandatory audit firm rotation has a negative impact on auditor client-specific knowledge. This hypothesis is accepted. Chi (2005) indicated that mandatory rotation of audit firms can lead to a loss of familiarity between the clients and audit firms that are important for an effective audit process. This loss of familiarity potentially decreases audit effectiveness. Arel et al. (2006) and Jackson et al. (2008) found that audit quality is higher when there is a longer audit firm tenure. Opponents of MAFR assumed that mandatory rotation of audit firms would increase the likelihood of audit failures (Carcello & Nagy, 2004). These failures might be due to lack of auditor's adequate experience with the client to notice either unusual events or changes in the client's environment (Kwon et al., 2014). Industry specialization can offset the negative effect of mandatory audit firm rotation on client specific knowledge. This view can be supported by the findings of Elder et al., (2015) as; they indicated that adoption of MAFR policy may be beneficial in markets where audit firm specialists exist.

For the fourth hypothesis which tested whether mandatory audit firm rotation increases audit costs. This result is accepted. Porter et al., (2008) and Okaro & Okafor (2013) found that investors have lost several billions of dollars as a result of clients that falsified their accounts. Thus, the costs of mandatory rotation of audit firms would be less than the costs of losing reputation and litigations filled against the audit firm due to audit failures (Jackson et al., 2008).

Finally, the research findings showed there is a positive relationship between mandatory audit firm rotation and audit quality. The researcher found that the mandatory audit firm rotation enhances auditor's independence and professional skepticism. However, the findings indicated that mandatory audit firm rotation has a negative impact on client-specific knowledge. Industry

specialization can offset the negative effect of mandatory audit firm rotation on client-specific knowledge. Auditors perceived that mandatory audit firm rotation increases audit costs. Even though the mandatory rotation of audit firms costs more, this policy increases the independence of auditors and audit quality which is relatively more than the costs.

CONCLUSION

The purpose of the present research is to explore the perceptions of professional auditors about the impact of mandatory audit firm rotation on audit quality and whether this policy should be introduced in the Egyptian environment. In order to achieve the main objective of the research and knowing the perceptions concerning the effect of mandatory audit firm rotation on audit quality, the researcher used questionnaires. Proponents of mandatory audit firm rotation focused on arguments supporting increased auditor's independence and professional skepticism in a mandatory audit firm rotation regime, while opponents suggested that mandatory audit firm rotation leads to a loss of auditor's knowledge about the client and increases audit costs. The present research separately examined the effects of mandatory audit firm rotation on auditor's independence, professional skepticism, client-specific knowledge, and audit costs and tests for the net of these possible effects on audit quality.

The research findings showed that auditors indicated that there is a positive relationship between mandatory audit firm rotation and audit quality. In addition, it is found that the introduction of mandatory audit firm rotation is considered as a useful mean of adding to the independence and professional skepticism of auditors. Accordingly, legislators are advised to take this policy into consideration. However, the findings indicated that there is a negative relationship between mandatory audit firm rotation and client-specific knowledge. Low (2004), Reichel & Wang (2010), Elder et al., (2015), and Hegazy et al., (2015) found that industry specialization improves the quality of audit services. Industry specialization refers to industry-specific knowledge accumulated from serving clients in the same industry. Thus, industry specialization can offset the negative impact of mandatory audit firm rotation on client- specific knowledge. This view can be supported by the findings of Elder et al., (2015) as; they indicated that adoption of MAFR policy may be beneficial in markets where audit firm specialists exist. In addition, Lim& Tan (2010) found that auditors who are specialized in a specific industry begin the audit of a new client with superior knowledge of the industry which leads to better understand the clients' business, operations, and risks and hence improves audit quality.

Finally, auditors perceived that mandatory audit firm rotation increases audit costs. Even though the mandatory rotation of audit firms costs more, this policy increases the independence of auditors and audit quality which is relatively more than the costs. The costs of mandatory rotation of audit firms would be less than the costs of losing reputation and litigations filled against the audit firm due to audit failures (Jackson et al., 2008). Consequently, external users of financial statements are more willing to incur additional costs of the audit if it guarantees them of an independent audit. The period of mandatory rotation should be determined with great care given the delicate trade-off between client-specific knowledge and independence issues. The researcher suggests that the rotation period should be five years (with a cooling-off period of more than 3 years) as the majority of auditors suggest that the five-year mandatory rotation requirement may in fact lead to effective audit.

SUGGESTIONS FOR FUTURE RESEARCH

This section offers some ideas for future research as follows:

1. The present research investigates the effect of mandatory audit firm rotation on audit quality using four based indicators which are auditor's independence, professional skepticism, audit firm-client specific knowledge, and audit costs. Hence, investigating this effect on other indicators of audit quality would be a good opportunity for further research.
2. The present research focused only on the perceptions of auditors. Thus, further research can investigate the perceptions of other interested bodies such as investors and legislators.
3. Last, but by no means least, conducting a comparative study about the impact of mandatory audit firm rotation and audit quality in a developed country and a developing one or even between two developing countries and determining the differences and the reasons behind that would be interesting.

THE RESEARCH LIMITATIONS

The following points represent the limitations of the present research:

1. The present research is sampled only professional auditors working in different sized auditing firms operating in Egypt and excluded auditors working in the Central Auditing Organization (CAO) as they have different regulations related to public sector companies' audit.
2. The present research findings are based on the perceptions of Egyptian auditors so the findings of the research cannot be generalized among all developing countries as each one has its own culture, economic, and political conditions, which could affect this relation differently.
3. The impact of the mandatory audit firm rotation will be measured on perceived not actual audit quality, since there is no available data as mandatory audit firm rotation still not adopted in Egypt.
4. Any factors other than those included in the present research that affect the relationships between the research variables will not be considered.

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