

The Impact of Auditor Industry Specialization on the Retention and Growth of Audit Clients	العنوان:
الفكر المحاسبي	المصدر:
جامعة عين شمس - كلية التجارة - قسم المحاسبة والمراجعة	الناشر:
Hegazy, Mohamed Ahmed	المؤلف الرئيسي:
El Deeb, Mohamed Samy (Co.Author)	مؤلفين آخرين:
مج20, ع1	المجلد/العدد:
نعم	محكمة:
2016	التاريخ الميلادي:
أبريل	الشهر:
1 - 36	الصفحات:
753921	رقم MD:
بحوث ومقالات	نوع المحتوى:
English	اللغة:
EcoLink	قواعد المعلومات:
شركات المحاسبة، المراجع، التدقيق، العملاء	مواضيع:
<a href="https://search.mandumah.com/Record/753921">https://search.mandumah.com/Record/753921</a>	رابط:

**THE Impact of Auditor Industry Specialization on the  
Retention and Growth of Audit Clients**

**Prof: Mohamed A. Hegazy**

**Dr. Mohamed Samy El-Deeb**

# **The Impact of Auditor Industry Specialization on the Retention and Growth of audit clients**

**Prof. Mohamed A. Hegazy**

**The School of Business, American University in Cairo**

**mahegazy@aucegypt.edu**

**Dr. Mohamed Samy El-Deeb**

**Faculty of Management Sciences**

**Modern Sciences and Arts University, Egypt**

**msamy@msa.eun.eg**

## **Abstract**

The effect of the economic financial crisis worldwide has increased the need for auditors to provide a high quality services to their clients. An important element considered by clients for selecting their auditors is whether the audit firm has specialization in particular industry. Audit firm industry specialization provides clients with value for money services to help management achieve efficiency and effectiveness in their operations. Other benefits for audit firms may include increased market share, audit tenure, better financial reporting and less earnings management, audit quality with less restatements of financial information, appropriate audit fees, less exposure to litigation risk, less enforceable action by supervisory bodies and ability to compete in highly competitive environment. Specialization was also seen as critical for the survival of the auditing profession.

This research analyzes the effects of audit firm industry specialization on the retention of the audit firm and growth in its business. Factors such as whether the firm is a big 4, with international affiliation, local firm, type of industry and growth were also studied for audit firm retention and growth. The sample studied includes the top 100 publicly held companies' annual reports in the Egyptian stock market during the period 2007-2011 which are analyzed to determine the audit firms' retention and growth. The results support that industry specialization has an important effect on the auditor's retention especially for industry where capital investment is significant such as building, construction, financial services, housing, and real estate. Big 4 audit firms retained their clients due to their industry specialization and brand name. The findings provided evidence that good knowledge of accounting & auditing standards resulted in audit firms with international affiliation competing with big 4 for clients' retention & growth in business. The

result also showed some evidence that the auditing profession in Egypt is dominated by the big 4 and the Central Audit Organization.

**Key words:** auditor industry specialization, auditor retention, audit quality.

## **1- Introduction**

The issuance of Sarbanes-Oxley Act (SOX) in the U.S after the most extraordinary accounting scandals in history of Enron and WorldCom collapses created a new setting to study and assess the effect of auditor industry specialization on audit quality and related issues. Section 404 of SOX required publicly listed companies to assess the effectiveness of their internal control systems, and external auditors to give their opinion on such assessment. To achieve such objectives, audit firms found their resources stretched to its limit to comply with section 404 and other sections in SOX requirements. At the same time, investors, audit committees and the Public Company Accounting Oversight Board (PCAOB) started to critically scrutinize the auditors and management activities. Recent studies showed auditors changing their organizational structures and strategies to meet governing bodies and clients' requirements and needs after post SOX environment (Rama and Read, 2006; Nagy and Cenker, 2007, Tricker, 2015, Beattie et al, 2015).

The reasons behind such changes in auditors' decisions were due to the followings: (a) the increased risks associated with auditing and the need to minimize it to an acceptable level, (b) the strong desire to maintain the audit firm reputation especially after the sudden collapse of Arthur Anderson, (c) the possible threats of additional legislation or government regulations and intervention in the audit profession with their implications on the cost of the audit and the human capital investments needed to meet such legislation and requirements (d) the increased number of auditors resignations during the post-SOX time period suggesting that the audit firms facing higher level, of risk, an overwhelming workload, and intense scrutiny forced them to re-assess their clients' portfolios (Cenker and Nagy, 2008), and (e) the new audit firms strategy to establish branding for their services as an important tool to compete in an ever changing global economy. All the above worldwide environment conditions created the road for detailed examination of the effects of industry specialization on audit quality, resignations and earning quality.

The development of the global business market especially in the early 1990 motivated audit firms to restructure their activities around broad industry sectors and started marketing their expertise around industry specialization. Auditing firms design and implement their organizational structure to recognize the importance of industry specialization and expertise to provide high quality audits and ensure their assurance practices comply with auditing standards. Until today, the big 4 as well as

other international audit firms continue to promote their industry's expertise. For example, the KPMG website at <http://www.kpmg.com> states: "Specialization by sector is fundamental to our approach. We believe that we cannot truly add value for our clients without a thorough understanding of their industry throughout the world. This is why we invest in continuously improving our knowledge of the industries we serve Other International accounting firms pushed forward for similar objectives such as the website of Crowe Horwath International, RSM and many others (see for example [www.crowehorwath.net](http://www.crowehorwath.net)). The change of strategies from a more general approach of providing auditing, taxation and consulting to a more specialized industry type services was due to increased competition in the market which required accounting firms to achieve competitive advantages (Maher et al. 1992, Gerakos, and Syverson, 2015, Raithel and Schwaiger, 2015).

Large auditing firms with their large number of employees including qualified and well experienced partners have specialized departments to provide audits to clients in the same industry. PricewaterhouseCoopers (PwC, 2010) emphasized in their marketing that "our audit approach, at the leading edge of best practice, is tailored to suit the size and nature of your organization and draws upon our extensive industry knowledge Other studies confirmed the importance, of industry specialization practices as the U.S general Office (GAO, 2008, p111) noted that "a firm with industry expertise may exploit its specialization by developing and marketing audit-related services which are specific to clients in the industry and provide a higher level of assurance". Most of the studies investigating industry specialization analyzed the benefits of industry specialization such as the quality of the audit, audit pricing, restatements of financial statements, enhancing financial reporting process, minimizing management aggressive accounting practices leading to lower quality financial statements (Gramling et al, 2001; Balsam et al, 2003; GAO, 2002 & 2003; Krishnan, 2003; Casteralla et al, 2004; Carcello and Nagy, 2004; Neal and Riley 2004; Nagy and Cenker, 2007; Ettredge et al, 2007; Romanus et al, 2008; Cenker and Nagy 2008; Huang and Scholz, 2012):

However, there is still not- a consensus as to how auditor industry specialization should be measured and various implications associated with such specialization on auditor and clients' activities. Most of the empirical studies analyzed industry expertise in Big 4 audit firms and whether industry expertise results in increase or decrease in audit fees in developed economies (Palmrose, 1986; Maher et al, 1992; Shu, 2000; Mayhew and Wilkins, 2003 and Wang et al, 2011). Evidence is lacking concerning the effects of industry expertise for both big and non-big 4 including local audit firms in emerging markets and developing countries. These markets and their respected countries are playing an important and significant role in shaping the

development of global accounting and auditing worldwide. Every international audit firm has representative or affiliated firms in every emerging market which directly affect the ranking, structure and strategies developed by these multinational firms which are competing in a very competitive markets. Also, few studies looked at the effect of industry specialization on auditors' retention and growth in firms' business (Mayhew and Wilkins, 2003; Nagy and Cenker, 2007; GAO, 2008; Minutti-Meza, 2010 and Wang et al, 2011).

Our research contributes to the existing literature in a number of ways. First, we document the importance of auditor industry specialization in auditing firms retaining their clients, achieving growth in their business measured by both the market and portfolio approaches. This suggests that recent shifts by publicly listed companies from non-big 4 to big 4 in the Egyptian capital market in the direction of greater industry specialization could result not only in improved financial reporting quality but also financial and quality benefits to the audit firms. Second, we investigate the reasons behind such shift and assess whether this is mainly due to industry specialization or other possible reasons related to the nature and structure of the Egyptian auditing profession. Third, the research sheds the light on the level of auditor specialization across various industries in the Egyptian market.

In other words, we examine the competition level of audit firms in the Egyptian market by analyzing auditors' market share and auditor dominance. Fourth, we also contribute to the literature by examining the effect of industry specialization on the growth in auditing firms' business measured by the increase in the number of clients and their portfolio within each industry sector and across industries. To the best of our knowledge, this study is considered among the first to provide empirical evidence on auditor retention, growth and auditor's dominance in an emerging economy such as Egypt. Fifth, we investigate the impact of specialized service on both the auditor retention and growth.

Specifically, do audit firms succeed in retaining their clients and achieving yearly growth by having industry specialization. within the structure of its operations? Are there any factors such as the size of the audit firm, its affiliation with International audit firms, government intervention in the appointment of auditors which resulted in the retention of the audit clients and achieving real growth in the firms ' clients' portfolio within each industry and across industries? Are there any clients ' characteristics such as the, type of the industry which resulted in the clients' decisions to retain their auditors or auditors increasing their business within a particular industry or across industries? Finally, we extend prior limited research that identify and analyze the possible reasons associated with switching auditors either from one of the big 4 to another local firm or local with international affiliation or

from local or one with international affiliation to one of the big 4 audit firm.

Although research to date has primarily focused on the specialization of the engagement auditor (Balsam et al, 2003; Dunn and Mayhew, 2004; Krishnan, 2003 and 2005), our findings demonstrate that following an auditor change, the specialization of the successor auditor is also an important factor in determining the direction the client would follow in relation to its financial reporting process after such critical decision. Answering the above research questions would contribute to the better understanding of the dynamics of professionalism in emerging markets and is important to the future of the global auditing profession (Wang et al, 2011).

The remainder of this paper is organized as follows. Section two reviews the literature about the audit and industry specialization concepts and their implications, on audit and clients' activities and the development of the research hypotheses. Section three provides details for sample selection and data collection. Section four discuss the empirical results and main findings. The final section presents conclusions, limitations and recommendations for future research.

## **2- The auditor and Industry Specialization Concepts.**

No single definition exists for the meaning of a specialist. Porter (1985, p. 14) viewed industry specialization as a differentiation strategy whose purpose is to provide the company with a sustainable competitive advantage over non-specialist: "In a differentiation strategy, a firm seeks to be unique along some dimensions that are widely valued by buyers. It seeks one or more attributes that many buyers in the industry perceive as important, and uniquely position itself to meet those needs. It is rewarded for its uniqueness with a premium price". The strategy literature looks at product differentiation as a way to avoid unnecessary increase in product or service price for the company to achieve a competitive advantage in the market. For example, if an accounting firm can differentiate its services from other accounting firms, and if clients value the differentiation, then such firms can potentially earn a fee premium on their differentiated services.

As Porter (1985, p.130) emphasized "A successful differentiator finds ways of creating value for buyers that yields a price premium in excess of the extra cost". At the same time, Neal and Riley (2004, p. 170) defined a specialist as a firm that "differentiated itself from its competitors in terms of market share within a particular industry". Drawing on porter's (1985) definition, Solomon et al (1999) defined industry specialists as auditors whose training and experience are largely concentrated in a particular industry. Research in industry specialization provided evidence that the auditors who have knowledge in a particular industry possess a detailed and comprehensive understanding of their clients' business, characteristics and market conditions (Maletta and Wright, 1996; Owhoso et al, 2002, Romanus et al, 2008). This will result in enhancing the auditors' ability to uncover fraud and

errors.

The research in the area of auditor specialization grew enormously in the last decade with lack of consistency for the methodologies applied for considering firms as industry audit specialists. The application of different approaches to measure industry specialization in firms did not help in the comparison and evaluation of the findings regarding auditor specialization and its benefits for better quality of audit, switching of auditor, restatements, and other issues pertaining to audit and financial reporting process. Neal and Riley (2004, p. 170) summarized prior research studies in auditor specialization in two main approaches:” (1) within industry differentiation across competing audit firms, the market share approach, and (2) within audit firm differentiation across industries, the portfolio share approach”. They defined the market share approach in an industry specialist “as an audit firm that has differentiated itself from its competitors in terms of market share within a particular industry”. The firm(s) with the largest market share, in terms of its important economic, strategic, and operational activities, has (have) acquired the largest knowledge base within that particular industry due to its significant investments in developing industry specific audit methodologies and technologies with the expected benefits being increased economies of scale and improved audit quality.

At the same time, Neal and Riley (2004, p. 170) defined the portfolio share approach as the one that “gives consideration to the relative distribution of audit services and related fees across the various industries for each audit firm considered individually”. They explained that such an approach suggests observing audit firms’ distribution of audit fees (or estimated fees) by industry as a reflection of industry specific knowledge. In other words, the audit firms with the largest portfolio shares (presented in realizing the most revenues) reflect industries where the audit firms have significant knowledge bases reflecting significant investments by such firms in developing industry audit technologies. The subjectivity involved in applying the portfolio approach where designation of specialists is affected by the size of the industry represents one of the weaknesses of this approach and may not reflect specific efforts made by the audit firm to specialize in that industry. Also, every one of the big 4 audit firms may be considered specialist in many of the largest industries and none identified as a specialist in the smallest industries.

Neal and Riley (2004, page 175) continued their discussion of auditor specialization approaches by indicating that in certain settings only the market share measure of specialization appears appropriate. This is true in actions made by the audit clients (e.g., the client’s decision to dismiss their auditor or to hire a specialist) because the client’s focus is primarily within-industry: “For example, if a bank wants to hire a specialist, then it is unlikely that their decision criteria would include consideration of audit firms ’ portfolios of high technology clients-their focus is limited to firms auditing banks”. A second setting where the exclusive use of the market share is appropriate occurs when researchers have data observations matched on size and industry. In this setting, Neal and Riley (2004, p. 176) emphasized that “there would be little specialization variation across matched pairs: of clients if the portfolio approach were used because this approach tends to lack variation within an industry”.



They confirmed that in most settings it may be necessary to capture the different attributes of specialization that are measured by both the market share and portfolio share metrics; “For example, in a study looking at audit quality (e.g., the type of opinion issued) both attributes of specialization may affect the quality of audit services provided. Auditors may perform above average quality work for clients in those industries where (1) they have differentiated themselves from their competitors (market share), and/or (2) they have devoted substantial resources to developing technologies and expertise (portfolio share)”. Therefore, they recommend that researchers may be best served if they can capture both attributes of auditor specialization “the market and portfolio share measures do not act as substitutes” (Neal and Riley, 2004, p. 175). These different measures of specialization instead may act as complements (i.e., and audit firm may be a specialist if it has both an average market share and portfolio share, even though neither measure by itself would consider it as specialist)

Turning to research studies investigating the implications of auditors’ expertise and industry specialization on the audit quality and other related issues, a number of experimental studies emphasized the relationship between industry specialization in audit firms and the provision of audit with high quality (Hegazy et al, 2015). Some researchers found evidence that there is a relationship between auditor expertise and the increase in audit quality and improving the accuracy of error detection (Maletta and Wright, 1996; Solomon et al, 1999; Owoso et al, 2002; Richardson et al, 2002; Romanus et al, 2008). Also, industry specialization in audit firms did enhance the quality of the auditor’s risk assessment and the choice of audit tests and the allocation of audit hours (Low, 2004; Taylor, 2000; Hegazy et al, 2015).

However, there are studies which provided evidence rejecting the positive relationship between audit industry specialization and audit quality. In a recent study, Meza (2010) examined the relationship between auditor industry specialization and audit quality using a research designed to mitigate the influence of a number of clients’ characteristics. The results of Meza study showed that no significant differences exist in audit quality between clients of specialist and nonspecialist auditors. Meza findings relied on examining a sample of Arthur Anderson clients that switched auditors in 2002 where he found no industry specialization effects after the auditor change. However, Meza (2010) observed that the industry-specialization effects are simulated by randomly assigning clients to auditors and that his findings do not imply that industry knowledge is not important for auditors. He pointed out that the used methodology may not fully parse out the effects of auditor industry expertise from client characteristics.

Turning to the relationship between audit specialization and government regulations, Carcelo and Nagy (2004) found that auditors with industry specialization help their clients to be less involved in SEC enforcement actions. They determined that the association between auditors with industry knowledge and their clients is weaker for large clients than for small clients emphasizing that clients’ characteristics may have implications on the effects of industry specialization on the quality of the audit. Other studies including the one undertaken by 'Dunn and Mayhew (2004) found that clients

with industry specialization auditors are considered by financial analysts as providing high level of disclosure quality compared with clients with non-specialist auditors. For example, Krishnan (2005) investigated the relationship between industry specialization and how companies' earnings quickly reflect bad news regarding future cash flows. The results of his study confirmed that companies who engage industry specialist auditors reflect bad news more promptly than clients who engage non-specialists.

Other studies that applied industry market share proxies for industry specialization have shown that the clients who were audited by specialized industry audit firms have better financial reporting quality, presenting on average from 0.3 to 2.0%, lower absolute discretionary accruals compared to clients who were audited by non-industry specialized audit firms (Reichelt and Wang 2010; Krishnan 2003 and Balsam et al. 2003). Also, Lawrence et al (2012) confirmed the evidence previously found in the literature that there is a strong association between auditor size and audit quality which are attributed to differences in client's characteristics including client size, performance, industry and growth (Kothari et al 2005), Hribar et al (2009); Lawrence et al (2012), Rubin and Thomas (2010).

Other researches which analyzed industry specialization and financial statements concentrated either on testing the effects, on operating-based accounts such as accruals (Balsam et al. 2003; Krishnan, 2003) or relies on errors seeded within operating related accounts (Hammersley 2006; Owhoso et al, 2002; Solomon et al, 1999). Romanus et al (2008) examined the impact of auditor industry specialization on a sample of restatement and non-restatement firms (i.e. 456 firms during the period 1998 and 2003) and found that auditor industry specialization is negatively associated with, the likelihood of accounting restatement. They found that auditor industry specialization reduces the likelihood of issuing: restatements, affecting core operating accounts (i.e., revenue, cost of goods sold, operating expenses) or the operating accounts.

Such findings confirmed existing evidence in the audit literature that industry specialization adds value in auditing practices by improving the quality of the financial reporting process, particularly related to the core operations of their clients: "Restatements in core operating accounts are likely to have a more profound effect on the perception of the firm's permanent earnings as compared with noncore accounts because the estimation of permanent earnings is a critical part of valuation and investment analyses" (Romanus et al 2008, p.390). Other studies (Palmrose and Scholz, 2004 and Balsam et al, 2003) found similar results. The results of Romanus et al (2008) study and Lazer et al study (2004) showed that clients changing from a non-specialist to a specialist auditor, increases the likelihood of restatement and changing from a specialist to non-specialist reduces the likelihood of restatement. They confirmed that auditor industry specialization enhances auditors' ability to detect and minimize earnings management and unintentional accounting errors before financial statements are issued.

Similarly, Huang and Scholz (2012) using a sample of companies that announced

restatements during the period 2003-2007, found that companies which restated their statements do hire smaller tier auditor after severe restatements as auditors tend not to accept assignments with riskier clients (Lee et al, 2004; Shu 2000). All the above findings confirm that auditors tend to resign from engagements when the client poses a higher risk of litigation to them, poor financial performance of the client, major disagreement over important accounting treatment and most of all high risk to auditor's reputation (Shu 2000; Krishnan and Krishnan 1997; Palmrose and Scholz 2004; Landsman et al, 2009; Schmidt 2012). In addition, Casterella et al (2004) using a sample of 651 publicly listed companies examined audit pricing by big 6 auditors of these listed companies and the joint effects of industry specialization and client bargaining power on audit fees. They found evidence of higher fees for big 6 industry specialists relative to non-specialists in the U.S Audit market for companies in the lower half of the sample selected for investigation based on size (assets < \$123 million). Casterella et al (2004) indicated that companies in the upper half of the sample selected do not pay a specialist premium, and audit fees actually decrease as a company becomes increasing large relative to its auditor's industry clientele. In other words, Casterella et al's (2004) findings suggest that audit fees are higher when clients are small and have little bargaining power, but audit fees are lower when clients have greater bargaining power and this is especially true when companies are large in absolute size and large relative to their auditor's industry clientele.

Similar findings were found in Wang et al (2011) study. Wang et al (2011) findings are consistent also with the finding that bargaining power of large clients may neutralize fee premiums for big 4 industry specialists in the U.S (Casterella et al 2004). Wang et al (2011, p. 109) explained the underlying reason as "for large companies, non-Big 4 Chinese audit firms are willing to pass along a portion of their cost savings from production economies to these clients or they are simply cutting corners in order to retain these clients and market share "

To sum up, most of the research studies discussed above suggest that industry specialized auditors help to improve the quality of the financial reporting and its related audit characteristics by allowing auditors with industry knowledge to play an important role in the financial reporting process and providing a high quality audit. In the current study, we extend such research by examining the influence of industry specialization on the likelihood of auditors' retention rate as well as growth in audit firm business. We also investigate, using interviews and the analysis of the conditions surrounding the dominance and change of auditors in the Egyptian capital market, the reasons behind such dominance and change of auditors in publicly listed companies.

### **3- Industry Specialization and the retention of audit firms**

Industry specialization provides auditors important knowledge when they are dealing with their clients. One of the advantages of companies hiring one of the Big 4 audit firms is their level of expertise in specific industries. Big 4 audit firms with their increased levels of industry specialization can benefit from increased market share, retention of the firm, growth in its portfolio of clients in various industries, profits, high audit quality, reduced litigation risk and ability to achieve high audit fees.

Industry specialization in audit firms may benefit these firms when they negotiate the component of their assignments with clients' management (Gibbins et al, 2010). Normally, audit firms acquire a reputation as industry specialists and experts in specific fields by investing to develop industry-specific knowledge, and skills over and above their normal expertise, but leaving the basic, audit production process unchanged. In this case, the cost associated with industry specialization would be in the form of human capital and technology investment in industry-specific knowledge, and audit firms would tend to acquire more audit clients with possible higher audit fees to compensate for such costs and earn a return on these investments.

Industry specialization helps audit firms achieve production economies of scale, becoming more efficient in its operations and lowering cost of performing the audits. Thus, the growth in auditing firm business is expected to increase in specialized industry auditing firms measured by absolute size of the firms' market share or portfolio share.. Moreover, the dramatic changes in the audit market in recent years suggest that the timeliness of an investigation of trends in auditor concentration needs extension and more research. Large audit firms have claimed that specialization is a goal of increasing importance. Also, concerns of litigation forced auditors to diversify their risks by diversifying their clients. The benefits of industry specialization are likely to increase with the complexity of the industry and also the risk facing the auditor.

**The previous discussions give rise to the following research hypotheses:**

H1: Auditor industry specialization are more likely to result in auditor's retention by their clients.

H2: The auditor industry's specialization is more likely to result in auditors ' acquiring more clients in the same industry.

#### **4- Industry Specialization and the growth in audit clients**

On the other hand, industry knowledge could be gained through the number of years an audit team has audited clients in the industry, by providing training to individual auditors, by auditing private clients in the same industry, by providing consulting services, and by hiring experts from within the industry or from other audit firms. Empirical studies compared trends in market share over time for auditors categorized as industry leaders or specialists based on market share to trends for auditors with small shares. They found evidence that specialists continued to increase their shares during their test period, while auditors with smaller share experienced declines in market share. Fan and Wong (2005) provided evidence that firms may enhance governance by choosing high-quality auditors, where the choice of industry specialist auditors may signal to the investors about the firm's high standard of Corporate Governance. These results provide evidence that auditors with specialized industry expertise may achieve growth in their business by acquiring new clients not only in a particular industry but throughout various industry sectors. This is achieved when audit firms succeed in achieving growth in a particular industry while continuing to develop their expertise in other industries. The above discussions give rise to the following hypotheses:

H3: Auditor industry specialization are more likely to result in auditors' acquiring more clients in various industry sectors at the same time.

H4: The Auditors' industry Specialization provides a mean to monopolize (dominate) the top industries.

## **5- Research Methodology.**

Specialization was perceived and measured through two major approaches, the market-share approach and the portfolio approach (Neal and Riley, 2004). In the current research, the market-share approach will be used in order to measure the auditor specialization. The indicator for the market-share will be the client retention by the auditor. The research focuses on client retention because the indication that an auditor is willing to associate with a client is considered important information for market participants. At the same time, the measures used to assess whether an auditor was retained during the period of investigation was achieved by examining the audited financial statements of the company during the period 2006-2011 and checking whether the same auditor(s) certified the financial statements for the whole period. Any change of auditor(s) or addition of another auditor was considered affecting the retention and an analysis was undertaken to identify the reasons behind such change or addition.

At the same time, the analysis of the growth sustained by each auditing firm was carried using the portfolio approach by assessing whether a particular auditing firm saw a growth in its portfolio of clients not only within a specific industry but across industries. The proxy of audit firm growth is the calculation of the number of clients audited within each industry compared with the total number of clients in that industry over the period of investigation. The above proxy for auditing firms' growth was used by Neal and Riley (2004) and Romanus et al, (2008). The market share and portfolio share measures are computed using the top 100 listed companies audited by all types of auditing firms registered with the Egyptian Financial Supervisory Authority (EFSA) during the period 2006-2011. The initial sample for the study consists of the top 100 publicly held companies in the Egyptian stock market during the period 2006-2011 (Table 1). Annual reports of these publicly held companies were collected for analysis and study. The auditor's report, the financial statements and the board of directors reports with attached additional information provided by the management of the company were acquired from the Egyptian Stock Market. We excluded industries that had ten listed companies or fewer for calculating the audit firm's market share. After removing companies with missing data (primarily for the auditor's report and the financial statements), the final sample includes 109 companies. The number of companies exceeded the Egyptian Stock Market listing of the top 100 due to the movement occurring during the period of study (2006 - 2011) among the listed companies with new companies being listed and others delisted. A matter which affected the total number investigated throughout the period of study.

Table (1) shows that the top five industries in our sample are Building and material and construction (20.1%), Financial Services & Banks (19.3%), Housing and real estate (13%), Food and Beverages (8.3%) and Textiles and Clothing (8.3%). The

remaining 32 industries contain 49% of the sample. We used the auditors' reports of the companies to determine the period of retention of the auditors for each listed company within the period of study. We analyzed the board of directors' reports and the accompanying additional information to find if there was any discussion of the reasons behind the change of auditors and the type of the new auditor(s). We also scanned the name of the auditor(s) providing audit services to publicly held companies differentiating between the Central Audit Authority, the big 4 audit firms, non-big 4 audit firms with international affiliation and other local audit firms. The researchers made personal contact with the appropriate public relation representative of the company whenever there is missing information needed in the collected companies' report and clarifications concerning the nature and size of the audit firm appointed by the client company.

**Table 1 — Top 5 Industries in the study period**

<b>Industry</b>	<b>Number of companies</b>
1-Building and material and construction	22
2- Financial services & banks	21
3- Food and beverages	9
4- Housing and real estate	14
5- Textiles and clothing	7

## **6- Results and Discussion**

Table (2) provides details about the breakdown of the listed companies being investigated in the current research based on the type of industry. The table also shows details concerning the number of listed companies audited by each type of audit firm; the Central Audit Organization, the big 4, audit firms with international affiliation and the local firms. The details provided in the table confirm that the Big 4 and the Central Audit Organization both having adequate resources to hire qualified auditors and having strong information systems dominated the provision of audit services to most industries including the top five; Buildings and Construction, Financial Services and Banks, Food and Beverages, Housing and Real Estate and Textiles and Clothing. In the buildings and construction, the big 4 and CAO audited 15 companies out of 22 listed in the top 100 in the Egyptian Stock market. In the financial services and banks the big 4 and audit firms with international affiliation exclusively audited most listed companies in this sector confirming the industry specialization possessed by such ..audit firms in this sector. The experience, expertise and qualifications of the employees reflecting acquired industry specialization by the big 4 as well as audit firms with international affiliation were considered the main factors behind such dominance in providing audit services in this industry sector. Moreover, the complexity and continuous development in the banking and financial

sector throughout the world including the changes made in various banking and financial sector laws and Basel requirements made the provision of the audit services in this highly specialized industry performed only by the big 4 and other firms with international affiliation.

Also, the Central Audit Organization did not audit any of the listed banks and financial companies but audited the other non-listed largest public sector banks namely Al Ahly, Misr and Cairo Banks as well as the only bank specialized in export development in Egypt confirming the need for industry specialized audit firms for such industry sector. Turning to the food and beverages industry, we can see a more scattered division among audit firms for the audit of listed companies in this sector. While the Central Audit Organization and the national firms have equal share of the audit for listed companies with 6 companies in total are audited by such firms, only two companies are audited by the big 4 and audit firms with international affiliation.

**Table 2 - Total Number of companies the firm audit in every Industry (classified by each type of firm)**

Industry	Number of companies	Central Audit Authority	Big 4	CPA with International Affiliation	Local firms
1 -Building and material and construction	22	5	10	4	3
2-chemicals	6	5	1	1	0
3-Communication	3	1	3	0	0
4- Electrical equipment and engineering	4	0	1	1	2
5-Entertainment, (TOURISM).	3	0	2	1	0
6- Financial services & banks	21	0	16	4	1
7- Food and beverages	9	3	1	1	4
8- pharmaceuticals	2	0	0	0	2
9-Holding companies	3	0	6	0	0
10- Housing and rear estate	14	4	5	6	2
11-TT	1	0	1	6	0
12-media	1	1	0	1	0

<b>Industry</b>	<b>Number of companies</b>	<b>Central Audit Authority</b>	<b>Big 4</b>	<b>CPA with International Affiliation</b>	<b>Local firms</b>
13- Mills and storage	5	3	0	0	2
14- Mining and gas	2	2	0	0	0
15- Textiles and clothing	7	1	3	4	4
16-Utilities	6	2	2	2	0
<b>TOTAL</b>	109	27	51	25	20

The reason behind such differences in the provision of the audit services between these types of audit firms are (a) most of the food and beverages listed companies have a major government ownership where the Central Audit Organization by law is the auditor, (b) management of these listed government companies do not prefer to acquire high quality audit in order to have more flexibility in the distribution of the dividends to the board of directors and employees, and (c) most of these companies acquire their audit services through tenders resulting in selecting the audit firms with the lowest audit fees without any consideration for the reputation of the audit firms and the quality of services it provides.

Finally, in textile and clothing we can see similar results to Food and Beverage with most of these companies making annual and retained losses or small profitability figures affecting the ability of the management of these companies to acquire the big 4 or audit firms with international affiliation with their related high audit fees. It is very obvious from studying table (1) that available data can show that market share for each of the auditing firms is 41.4% for the big 4 audit firms, 21.9% for the Central Audit Organization, 20.32% for the auditing firm with international affiliation, and 16.26% for local firms. The researchers can conclude that the two auditing firms with the highest market share percentage are the big 4 and the Central Audit Organization which audited nearly 63% of the firms within the industries included in the sample selected.

Table (3) provides details about the number of companies audited by individual audit firm whether the Central Audit Organization, the big 4, audit firms with international affiliation and local firms. Table (3) shows that KPMG is dominating the Egyptian market for listed companies with 35-audit client representing 32.1% of the whole market. The Central Audit Organization come in the second place with 27 clients representing 24.7%. The other three big 4 audit firms audit only 16 clients representing 14.6%. Mazars and RSM are the leaders in auditors with international affiliation with the number of clients 18 representing 16.5% of the total number of clients within these industries. KPMG has a huge number of partners and staff of 40 and over 1200 respectively.



This explains their high percentage of audit of listed clients compared with the other firms. Moreover, the Central Audit Organization is appointed by any company where the percentage of ownership of the government or one of its entities is more than 20%. This resulted in many listed companies having by law the Central Audit Organization as their only or joint auditor. However, the Central Audit Organization (CAO) has specialized divisions within its structure of audit activities based on industry sectors. A matter which provides advantage for CAO to acquire clients in specific industries. As to the results of Mazars and RSM they have been in the market for quite some time and their main partners have strong relationships with many of businessmen as they have the same age as well as they are members in most of the business associations. One of the interesting facts to be derived from table (3) that other local auditing firms have 10 firms out of 109 companies with percentage of 9.2% of the total number of companies indicating that with some efforts of development or even merger among those firms there is a high probability of increasing their market share compared to the big 4 and CAO.

Table (3) also, provide important evidence that local firms even with their large number in the audit market did not have an important share of listed companies during the period under study. This is due to these auditing firms having no sufficient resources to undertake development in their audit methodologies and technologies pertaining to industry specialization. Moreover, the majority of these local firms do not have sufficient, qualified and experienced staff who can deliver the specialized industry audit services to clients listed in the Egyptian stock exchange within the various industry sectors.

**Table 3 -Number of companies each firm audits in every industry**

Industry	Number or companies	Central Audit Authority	Big 4				CPA WIT FILIAT HAF ES						Local Firms					
			KP MG	PW C	D & T	E & Y	Crow e Horw ath Hegaz e & Co	Grant Thom son Helal & Co	Maza rs Most afa Shaw ky	RSM Magdy Hashish	zaro uq	Khal ed BDO Khat ed & Co	She rl t Da bo s	Fay ez Foa d	Yous ry Khal af	Abd ul a ama ny	Wah ed abde l ghaf ar	Othe rs
1- Building and material and constructio n	22	5	8	0	1	1	1	0	2	1	0	0	0	0	0	0	0	3
2- chemicals	6	5	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
3- Communic ation	3	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
4- Electrical equipment and engineering	4	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
5-	3	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

	<b>Big 4</b>						<b>CPA WIT FILIAT H AF ES</b>						<b>Local Firms</b>					
Entertainment (TOURISM)																		
6- Financial services & banks	21	0	12	1	1	1	0	0	1	0	2	1	0	0	0	0	1	1
7- Food and beverages	9	3	1	0	0	0	0	1	0	0	0	0	0	0	0	2	1	1
8- pharmaceuticals	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9- Holding companies	3	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
10-Housing and real estate	14	4	4	0	0	1	0	0	2	2	1	1	0	1	1	0	0	0
11-IT	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-media	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
13-Mills and storage	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
14-Mininu	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

		<b>Big 4</b>					<b>CPA WIT FILIAT H AF ES</b>						<b>Local Firms</b>					
and gas																		
15-Textiles and clothing	7	1	2	0	1	0	0	0	4	0	0	0	1	0	0	1	2	2
16-Utilities	6	2	0	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0
<b>Total</b>	<b>109</b>	<b>27</b>	<b>35</b>	<b>2</b>	<b>5</b>	<b>9</b>	<b>2</b>	<b>1</b>	<b>14</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>10</b>

**Table 4 - The audit firm share from the market of each industry in terms of % from the total number of companies in each industry for the year 2011**

Industry	Number of companies	Central Audit Authority	BIN				CFA with International Affiliation						Local firms					
			KP MG	PWC	D&T	E&Y	Crowe Horwath Megn & Co	Grant Thornton Helal & Co	Mazars Mostafa Sharcky 4-Co	RSM Magdy Hashish &Co	Zarouq	BDO Khalid & Co	Wahed abdel ghafar	Sheri 1 Dabos	Fayez Foad	Yousry khalaf	Abdul a any	other
1- Building and material and construction	22	22	36	0	4	4	4	0	8	4	0	0	0	0	0	0	0	13
2- chemicals	6	83	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	0
3- Communication	3	33	33	0	33	33	0	0	0	0	0	0	0	0	0	0	0	0
4- Electrical equipment and engineering	4	0	25	0	0	0	0	0	25	0	0	0	0	0	0	0	0	50

Industry	Number of companies	Central Audit Authority	BIN				CFA with International Affiliation						Local firms					
			KP MG	PW C	D& T	E& Y	Crow e Horw ath Mega n & Co	Gran t Thor nto n Helal & Co	Maza rs Most afa Share ky 4- Co	RSM Mag dy Hash ish &Co	Zar ou q	BDO Khal ed & Co	Wah ed abde l ghaf ar	She ri 1 Da bo s	Fay ez Foa d	Yous ry khal af	Abd ul a ana ny	oth er
5- 5- Entertainment (TOURIS M)	3	0	66	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0
6- Financial services & banks	21	0	57	5	5	10	0	0	5	0	9	4	5	0	0	0	0	5
7-Food and beverages	9	.33	11	0	0	0	0	11	0	0	0	0	11	0	0	0	22	22
8- pharmaceu ticals	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
9- Holding companies	3	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0
10 - Housing	14	29	29	0	0	7	0	0	14	14	7	7	0	0	7	7	0	11

Industry	Number of companies	Central Audit Authority	BIN				CFA with International Affiliation						Local firms					
			KP MG	PW C	D& T	E& Y	Crowe Horwath Megann & Co	Grant Thornton Helal & Co	Mazars Mostafa Sharcky 4-Co	RSM Magdy Hashish & Co	Zarouq	BDO Khalid & Co	Wahed abdel ghafar	Sheri 1 Dabos	Fayez Foad	Yousry khalaf	Abdul anany	other
and real estate																		
II-IT	1	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-media	1	100	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0
13- Mills and storage	5	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
14-Mining and gas	1	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Tesiiles and clothing	1	14	28	0	14	0	0	0	56	0	0	0	29	15	0	0	15	tl
16-Utilities	6	32	0	16	16	0	16	0	16	16	0	0	0	0	0	10	0	0

Table (4) is illustrating the market share of the auditing firms in terms of percentage from the total number of companies in each industry for the year 2011. This table is important; as it will help, the researchers validate the researches of the paper.

**Table 5 - Average number of years each type of auditors retains clients in each industry over the period 2006-2011.**

Industry	Central Audit Authority	Big 4	CPA International Affiliation	with	Local Firms
1-Building and material and construction	6	6	4		0
2-chemicals	6	5	5		0
3-Communication	6	6	0		0
4- Electrical equipment and engineering	0	5	6		0
5-Entertainment (TOURISM)	0	5	1		0
6- Financial services & banks	0	5	3		0
7- Food and beverages	6	6	1		1
8- pharmaceuticals	0	0	0		0
9-Holding companies	0	6	0		0
10- Housing and real estate	6	5	3		2
11-IT	0	0	0		0
12- media	6	0	6		0
13- Mills and storage	6	0	0		0
14- Mining and gas	6	0	0		0
15- Textiles and clothing	6	3	3		5
16- Utilities	6	4	3		0

Tables (4) & (5) provide evidence in relation to hypothesis (1) “auditor industry specialization is more likely to result in auditor’s retention by their clients”. Findings show that the big 4 audit firms are able to retain their clients due to their industry specialization and for general firm reputation compared with local audit firms. It is illustrated in terms of the percentage from the market that the firm audits “Table 4”



and as the average number of years that the firm spends with each client “Table 5”. Table (4) shows a high percentage of audit clients maintained by most of the big 4 compared to CPA firms with international affiliation and other local firms. Non Big 4 firms partially succeeded in maintaining their audit clients due to their ability to provide high quality audit to compete with the big 4 audit firms. Moreover, table (5) shows that the average number of years each type of auditors retain clients supported our first hypothesis as the Central Audit Organization as well as the big 4 retain their clients in most of the years audited compared with audit firms with international affiliation and the other local firms. The Central Audit organization and the big 4 possess and maintain a significant level of industry specialization compared to the other type of audit firms.

Table (5) provides some evidence that local firms have a unique status for the audit of textile and clothing companies with an average of 5 years. This may be due to the type of family owned business in many of these companies requiring more personal relationships with the auditors rather than branding and reputation of the big 4 or audit firms with international affiliation. The analysis of table (4) also shows that the office of Baker Tilly has a large number of textile and clothing companies with Mazars audit firm, this is due to the split occurring few years ago which resulted in a senior partner leaving Mazars and establishing Baker Tilly in Egypt and acquiring many of Mazars’ clients in the textile and clothing industry.

**Table 6 - Total % of the audit firms Share from the market of each industry in terms of % from the total number of companies in each industry\***

<b>INDUSTRY</b>	<b>NUMBER OF COMPANIES</b>	<b>CENTRAL AUDIT AUTHORITY %</b>	<b>BIG 4 %</b>	<b>CPA WITH INT AFFILIATION %</b>	<b>LOCAL FIRMS %</b>
1-Building and material and construction	22	22	45	16	17
2-chemicals	6	83	16	16	0
3-Communication	3	33	100	0	0
4- Electrical equipment and engineering	4	0	25	25	50
5-Entertainment (TOURISM)	3	0	66	34	0
6- Financial	21	0	77	18	5

<b>INDUSTRY</b>	<b>NUMBER OF COMPANIES</b>	<b>CENTRAL AUDIT AUTHORITY %</b>	<b>BIG 4 %</b>	<b>CPA WITH INT AFFILIATION %</b>	<b>LOCAL FIRMS %</b>
services & banks					
7- Food and beverages	9	33	11	11	45
8- pharmaceuticals	2	0	0	0	100
9-Holding companies	3	0	100	0	0
10- Housing and real estate	14	29	36	42	14
11-IT	1	0	100	0	0
12- media	1	100	0	100	0
13- Mills and storage	5	60	0	0	40
14- Mining and gas	2	100	0	0	0
15- Textiles and clothing	7	14	42	56	59
16- Utilities	6	33	33	34	0

Table (6) also provides additional evidence showing that both the Central Audit Organization and the big 4 have the highest percentage of clients' retention in most of the industries compared with other audit firms over the period of study. This is very evident in industries such as Buildings and materials, Chemicals, Communication and Financial services. Comparing the results shown in tables 5 & 6 it is evident that the more years the auditor or the audit firm spend in an industry, the more his percentage or market share in such industry.

These findings provide evidence which supports researchers' expectations that the existence of industry specialization in audit firms operating in the emerging Egyptian capital market have unique features different from the audit firms in the other developed markets. Specifically, the audit market in Egypt is not competitive and still few audit firms are able to dominate the audit market. This is not similar to results presented by Wang et al (2011) who found that the audit market in China is competitive and a single auditor is not likely to dominate an industry. The size of the

audit firm, the international affiliation with multinational audit firms, government regulations ...etc. may have an important and significant effect on the auditor retention and business growth for local Egyptian audit firms. This is especially true for small clients or non-big 4. Again, specialization and experience of the Central Audit Organization and the big 4 are to be considered the main factors for the retention of the auditors by the client.

**Table 7 — The total percentage Increase or Decrease for each type of auditors In each, type of Industry over the period 2000-2011.**

INDUSTRY	THE CENTRAL AUTHORITY			THE BIG 4			THE BIG 6 WITH RVT. AFFILIATION			THE LOCAL FIRMS		
	Firm	To	% A	Firm	To	% A	Firm	To	% A	Firm	To	% A
1-Building and material and construction	3	0	(100%)	10	3	70%	3	2	33%	3	3	0
2-chemicals	2	2	-	1	0	100%	1	0	100%	0	0	0
3-Communication	0	1	100%	3	2	33%	0	0	0	0	0	0
4- Electrical equipment and engineering	0	0	0	0	1	100%	0	0	0	2	2	0
5- Entertainment (TOURISM)	0	0	0	2	1	50%	0	0	0	0	0	0
6- financial services & banks	0	0	0	8	3	63%	1	0	(100%)	0	0	0
7- Food and beverages	2	1	(100%)	0	0	0	0	1	100%	4	4	0
8- pharmaceuticals	0	0	0	0	0	0	0	0	0	2	2	0
9-Holding companies	0	0	0	3	5	150%	0	0	0	0	0	0
10- Housing and real estate	2	3	(33%)	3	3	0	0	5	500%	0	2	200%
11-IT	0	0	0	0	0	0	0	0	0	0	0	0

INDUSTRY	THE CENTRAL AUTHORITY			THE BIG 4			THE BIG 6 WITH RVT. AFFILIATION			THE LOCAL FIRMS		
	Firm	To	% A	Firm	To	% A	Firm	To	% A	Firm	To	% A
12- media	1	1	-	0	0	0	1	1	0	0	0	0
13- Mills and storage	2	0	(100%)	0	0	0	0	0	0	0	0	0
14- Mining and gas	1	1	-	0	0	0	0	0	0	2	0	100%
15- Textiles and clothing	1	1	-	2	0	200%	2	1	(5 0%)	1	0	150%
16- Utilities	1	0	(100%)	0	2	200%	0	3	300%	0	0	0
Total	15	10	(33%)	31	20	35%	8	13	6 7%	1	0	500%

Furthermore, Table (7) provides evidence to support hypothesis (2). It can be found that, despite the large market share of both the Central Audit Organization and the big 4, however, their ability to acquire new clients or growth rate is decreasing. In other words, the Central Audit organization and the big 4 firms are losing clients in specific industries, while growing in others. But as an overall picture, their market share is shrinking. On the contrary, the audit firm with international affiliation in Egypt along with local firms, despite their non-specialty in some industries, however, their market share is facing real growth with quite satisfactory rates over the Big 4 and the Central Audit Organization.

These results are not conclusive in nature, and there are several reasons which can help to explain them. First, the delisting of a client company from the Egyptian Stock market may be one of the reasons for the decrease in the number of clients through the study period and not the resignation or dismissal of the auditor by the clients' management. Second, the application and the practical implementation of both the Egyptian Accounting Standards (EAS) as well as the Egyptian Standards on auditing (ESA) during the late nineties helped many audit firms (local as well as those with international affiliation) improve their audit work and quality. Such development gave them a competitive advantage over the big 4 due to their reasonable audit fees and the existence of close relationship of their partners with the management of many of the family owned businesses. This affected the ability of the big 4 to maintain their share of clients in the Egyptian market during such period. Third, local and audit firms with international affiliation offered their audit services at a lower fees compared with big 4, a matter which affected the ability of the big 4 to maintain their share of the clients within each industry. Fourth, the growth sustained by the Egyptian Stock Market during the period 2006-2011 resulted in new companies joining the stock market with their existing auditors who are not necessary from the big 4 or audit firms with international affiliation, thus increasing these audit firms'

share in the market.

Specialization in industries did not justify monopolization. Fifth, more privatization of the listed companies with new investors buying such companies resulted in important movement within the Egyptian stock market including the addition to the list of registered companies and delisting of others. Finally, the cancellation of the tax exemption associated with listed companies in 2005 with the issue of the new tax law resulted in significant changes and movement in the list of registered companies. Also, the capital structure of companies affected the ability of some companies to comply with the requirements of the stock market for listed companies.

Regarding hypothesis 3, table (7) provides mixed evidence that there are no differences between the big 4, the Central Audit Organization and auditing firms with international affiliation in relation to the increase/decrease in the number of audit clients for each type of audit firm during the period 2006-2011. Such evidence shows that during the period of investigation, auditing firms with international affiliation maintained most of their clients and in some industry sectors such as Housing and Real Estate, Utilities they saw a significant increase. At the same time, the Central Audit Organization did not see any significant movement in their portfolio of clients during the period under study because most of the increase in the listed companies in the Egyptian stock market came from the private sector. At the same time, the big 4 saw some decline in their clients in communication, entertainment, financial services and banks and textiles and clothing. However, the big 4 saw some increase in the number of clients in Holding companies only. To conclude, the mixed results do not provide sufficient evidence to support the acceptance of hypothesis 3. Moreover, no evidence is provided for hypothesis 4 related with audit firms with industry specialization dominating the industry markets or sectors.

To respond to the research question in hypothesis 4; whether industry specialization provides a mean to monopolize the audit of the top industries, the researchers noticed that this is not true. For example, in table (3) and table (7), it can be seen that the top industry in Egypt which is the Building and Construction containing 22 companies, the results in table 7 indicate that there are about 8 auditors in such industry which is the maximum number of auditors ever found in an industry recorded in the Egyptian capital market. The same applies for the Financial Sector, despite it contains about 21 banks and other financial service companies.

**Table 8- Number of Specialized Auditors in Each Industry from each type of auditors.**

<b>INDUSTRY</b>	<b>CENTRAL AUDIT AUTHORITY</b>	<b>BI G 4</b>	<b>CPA WITH INTERNATIONAL AFFILIATION</b>	<b>LOCAL FIRMS</b>	<b>TOTAL NUMBER OF SPECIALIZED AUDITORS</b>	<b>% OF SPECIALIZED FIRMS FROM TOTAL NUMBER OF FIRMS (16 FIRMS)</b>
1-Building and material and construction	1	3	3	0	7	44%
15-Textiles and clothing	1	1	1	2	5	19%
3-Communication	1	3	0	0	4	25%
6- Financial services & banks	0	4	0	0	4	25%
2-chemicals	1	1	1	0	3	19%
10- Housing and real estate	1	1	1	0	3	19%
4-Electrical equipment and engineering	0	1	1	0	2	12.5%
9-Holding companies	0	2	0	0	2	12.5%
12- media	1	0	1	0	2	12.5%
16- Utilities	1	1	0	0	2	12.5%

<b>INDUSTRY</b>	<b>CENTRAL AUDIT AUTHORITY</b>	<b>BI G 4</b>	<b>CPA WITH INTERNATIONAL AFFILIATION</b>	<b>LOCAL FIRMS</b>	<b>TOTAL NUMBER OF SPECIALIZED AUDITORS</b>	<b>% OF SPECIALIZED FIRMS FROM TOTAL NUMBER OF FIRMS (16 FIRMS)</b>
5- Entertainment (TOURISM)	0	1	0	0	1	6%
7-Food and beverages	1	0	0	0	1	6%
11- IT	0	1	0	0	1	6%
13- Mills and storage	1	0	0	0	1	6%
14- Mining and gas	1	0	0	0	1	6%
8- pharmaceuticals	0	0	0	0	0	0%

Table (8) provides some analysis about the number of the audit firms with industry specialization in each industry and their percentages. The table showed the details about the specialized audit firms compared with the total number of auditing firms which provide their services to all listed companies in various industries in the Egyptian stock market.

A number of important observations can be identified from the examination of the content of table (8). First, for the textiles industry, half of the specialized auditors are considered from the local firms. This could be attributed to the fact that most of the textiles companies originated as family owned structures. These types of businesses prefer local small audit firms for their low fees and the long lasting relationship with their auditors who understand the structure and culture of companies and always maintain the confidentiality of the information about the principal owners and his siblings. Second, the pharmaceuticals industry contains no specialized auditing firms (i.e., the big 4 or auditing firms with international affiliation) due to the fact that none of the pharmaceutical companies were represented in the index. A possible

justification is that they couldn't meet the new capital structure requirements determined by the Egyptian Stock Market.

However, we cannot generalize from these findings that there are no specialized auditors in this area for non-listed companies. Third, Mills and Storage companies have a unique feature, which is that they are almost totally owned by the Egyptian government either through direct ownership by government bodies or some public sector companies.. All of these listed companies audited by the Central Audit Organization as per the requirement of the law in this respect. The same applies in the- mining and gas sector where companies are also owned by the state and face the same law requirement of being audited by the Central Audit Authority.

## **6- Conclusion**

This research study investigates the. implications of audit industry specialization on auditor's retention and growth in their business within an emerging economy "Egypt". The study used data from annual reports of the top 100 publicly held companies in the Egyptian stock markets during the period 2006-2011. We examine variables that explain audit firm tenure or retention as well as audit firm business growth for Egyptian local audit firms with a focus on auditor industry specialization. The researchers looked for answers to a number of research questions and related hypotheses: RQ1: Are there any relationship between auditor industry specialization and the auditor retention by clients' companies in the emerging market of Egypt? RQ2: Are there any relationship between auditor industry specialization and the growth in the auditor business represented by the number of clients in the emerging market of Egypt? And RQ3: What are the reasons behind the change of auditors in publicly traded companies in the Egyptian stock market and whether auditor industry specialization has an effect on such change whether it is a dismissal or resignation (audit firm dominance)? These research questions were translated into 4 Hypotheses which were empirically tested.

The findings of the research contribute to the extensive body of literature for industry specialization and their implications for the accounting and auditing profession. First, our results demonstrate that industry specialization has an important effect on the auditor's retention especially for industry where capital investment is significant such as Building and Construction, Financial Services and Housing and Real Estate. A matter having positive effects on the quality of audit provided. Big 4 audit firms are able to retain their clients due to their industry specialization and their brand name compared with local firms. Also audit firms with international affiliation continued to compete with big 4 in retaining their clients and increasing their portfolio within each industry through their development of knowledge in accounting and auditing standards, lower audit fees and close relationship between partners and management of their family owned audit clients.

The results also provide evidence that the auditing profession is dominated by big 4 and the Central Audit Organization compared with audit firm with international affiliation and local firms. Auditors' retention would certainly help auditors better understand the client's system of operations including significant controls which may



help to prevent and detect misstatements in the financial statements. Also, auditors' retention due to benefits realized from industry specialization and high quality of audit would certainly result, as stated by Romanus et al (2008), in reducing the likelihood of restatement thus mitigating the negative capital market repercussions associated with these events (GAO, 2002; Palmrose et al, 2004). Such improvement in financial statements quality as a result of auditors' retention also affects the efficiency and effectiveness of the capital market system in emerging economies to the extent that it can increase investor confidence in corporate financial reporting and the role the auditing profession plays, in the financial reporting process.

The results and findings of our study enhance understanding of the audit market in Egypt, and help Egyptian standard setters in their efforts to enhance a robust and efficient audit market. Our findings are consistent with a growing body of evidence that indicates that major auditing firms push toward industry specialization can provide explicit capital market benefits by increasing the quality of the audit and, correspondingly, increasing the quality of corporate financial reporting. Our findings suggest that differentiated audit quality is valued by managers and controlling shareholders in the Egyptian stock market. Also, the results have implications for Egyptian regulatory bodies in their efforts to continue to ensure companies' full compliance with the requirements of accounting and auditing standards. Finally, Egyptian auditors will benefit more by continuing to develop and maintain strong industry expertise throughout most of their services not necessary audit and assurance services but also multi-layer services after their industry reorganization.

The study contributes to the supply-side auditor specialization research in many aspects. First, the study examined the relation between auditor industry specialization and auditor retention and the growth which can be achieved in the market. Also, an examination of the reasons behind auditor dismissal or replacement and the auditor industry specialization and why such specialization did not prevent their dismissal or replacement. Second, the study confirms the prior research evidence that auditor industry specialization is positively associated with audit quality (Balsam et al; Krishnan, 2003; Carcello and Nagy, 2004; and Francis et al, 2006).

The research study has a number of limitations. First, since hand-collecting data for the Egyptian audit market had a long and tedious process, we limited our sample to the top 100 publicly traded companies. This excluded the remaining companies trading in the Egyptian stock markets. Future research studies may extend investigations to all audit firms for publicly traded companies. Second, similar to prior studies, this paper has examined only few measures for industry specialization. Future studies can check the robustness of our findings using other measures of industry expertise developed in the literature. Third, our empirical research did not investigate the level within an audit firm where industry expertise can be assessed; whether it should be assessed at the partners, audit managers, audit supervisors and auditors at large or all of them at the same time. Finally, since both audit firms and publicly traded companies in the Egyptian stock market have unique characteristics such as GAO auditing joint companies, strong government and regional as well as geographical influences in the selection of audit firms, the findings may not be

applied to other audit markets except in similar emerging economies. The possible application of the analysis undertaken in this paper to other national settings requires potential research extensions of the current research paper.

Future research should investigate further the extent to which management characteristics influence the decision to hire an auditor with more or less industry expertise (See Aier et al, 2005). Our research explores various aspects of the effects of auditor industry specialization on auditors' retention and firms' growth, but a variety of additional issues remain to be investigated in this area. One potential issue for future research is to examine the extent to which local office industry specialization affects auditors' retention and growth given the special characteristics of such firms and the nature of their clients' portfolio. Another issue to investigate is the relationship between industry specialists and non-specialists with respect to audit firms "gaining non audit services which are in line with auditing standards.

Finally, the research provides evidence that when big 4 auditors resign or are replaced by risky or unsatisfied clients, other big 4 firms are willing to take them on as clients (Landsman et al, 2009). Incoming auditors may be willing to take on riskier clients if the risk can be at least partially mitigated by requiring prior period restatements (Lazer et al, 2004). Future research could examine whether this finding is more pronounced when the successor auditor is an industry specialist whose client-acceptance decision was at least partially compelled by the need to develop industry-specialized client portfolios (Nagy and Cenker, 2006).

## References

1. Aier, J. K., Comrix, J., Gunlock, M. T., & Lee, D. (2005). The financial expertise of CFOs and accounting restatements. *Accounting Horizons*, 19(3), 123-135.
2. Balsam, S., Krishnan, J. and Yang, J. (2003). "Auditor industry specialization and earnings quality". *Auditing: A Journal of Practice and Theory*, 22(2), pp.71-97.
3. Beattie, V., Fearnley, S., and Hines, T. (2015). Auditor-Client Interactions in the Changed UK Regulatory Environment—A Revised Grounded Theory Model. *International Journal of Auditing*, 19(1), 15-36.
4. Carcello, J. and Nagy, A. (2004). "Client size, auditor specialization, and fraudulent financial reporting". *Managerial Auditing Journal*, 19(5), pp.651-668.
5. Casterella, J. Francis, J. Lewis, B. and Walker, P. (2004). "Auditor industry Specialization, client bargaining power, and audit pricing". *Auditing: A Journal of Practice & Theory*, 23(1), pp. 123-140.
6. Cenker, W. J. and Nagy, A. L. (2008). "Auditor Resignations and Auditor Industry Specialization". *Accounting Horizons*, 22(3), pp.279- 295.
7. Dunn, K. and Mayhew, B. (2004). "Audit firm industry specialization and client disclosure quality". *Review of Accounting Studies*, 9(1), pp.35-58.
8. Ettredge, M. Heintz, J. Li, C. and Scholz, S. (2007). Auditor realignments accompanying implementation of SOX 404 reporting requirements. Working

- paper, University of Kansas.
9. Fan, J. P., & Wong, T. J. (2005). Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of accounting research*, 43(1), 35-72.
  10. Francis, J. Stokes, D. and Anderson, D. (2006). Is earnings quality higher when auditors are city-specific industry leaders? Working paper, University of Missouri.
  11. Gerakos, J., & Syverson, C. (2015). Competition in the audit market: Policy implications. *Journal of Accounting Research*.
  12. Gibbins, M., McCracken, S., & Salterio, S. E. (2010). The auditor's strategy selection for negotiation with management: Flexibility of initial accounting position and nature of the relationship. *Accounting, Organizations and Society*, 35(6), 579-595.
  13. Government Accountability Office (GAO). (2002). Financial statement Restatements: trends, Market Impacts, Regulatory Responses, and Remaining Challenges. Washington, DC, GAO.
  14. Government Accountability Office (GAO). (2008). Audit of public companies. Continued concentration in audit market for large public companies does not call for immediate action. Washington, DC, GAO.
  15. Government Accounting Office (GAO) (2003). Public accounting firms: Mandated study on consolidation and competition. GAO Report 03-864. Washington, D.C, GAO.
  16. Gramling, A. Johnson, V. and Khurana, K. (2001). Audit firm industry specialization and financial reporting quality. Working paper, Georgia State University.
  17. Hammersley, J. (2006). "Pattern identification and industry specialist auditors". *The Accounting Review*, 81(2), pp.309-336.
  18. Hegazy, M. Hegazy, I and Kamar ElDawla, N. (2015). "Audit Quality Control Measures: A Practical Investigation". Paper accepted for presentation and publication in the 38<sup>th</sup> annual Congress of the European Accounting Association proceedings, Glasgow, April, 28-30.
  19. Hegazy, M. Sabagh, A. and Hamdy, R. (2015). "The Effect of Audit Firm Specialization on Earnings Management and Quality of Audit Work". *Journal of Accounting and Finance*, North American Business Press, 15 (4), pp.143-164.
  20. Hribar, P. Kravet, T. and Wilson, R. (2009): A New Measure of Accounting Quality. Working Paper. University of Iowa and University of Texas at Dallas.
  21. Huang, Y. and Scholz, S. (2012). "Evidence on the Association between Financial Restatements and Auditor Resignations". *Accounting Horizons*, 26(3), pp. 439-464. ,
  22. Kothari, S. Leone, A. and Wasley, C. (2005). "Performance matched discretionary accrual measures". *Journal of Accounting & Economics*, 39(1), pp.163-197.
  23. Krishnan, G.V. (2003). "Does big 6 auditor industry expertise constrain earnings management?". *Accounting Horizons*, 17 (supplement), pp.1-16.

24. Krishnan, G.V. (2005). "The association between big 6 auditor industry expertise and the asymmetric timeliness of earnings". *Journal of Accounting, Auditing & Finance*, 20(3), pp.209-228.
25. Krishnan, J. and Krishnan, J. (1997). "Litigation risk and auditor resignations". *The Accounting Review*, 72(4), pp. 539-560.
26. Landsman, W. Nelson, K. and Rountree, B. (2009). "Auditor switches in the pre- and post-Enron eras: risk or realignment". *The Accounting Review*, 84(2), pp.531-558.
27. Lawrence, A. J., Parker, S., & Peters, G. F. (2012). Internal audit assistance and external audit timeliness. *Auditing: A Journal of Practice & Theory*, 31(4), 3-20.
28. Lawrence, A. Minutti-Meza, M. and Zhang, P. (2010). "Can Big 4 versus Non-Big 4 differences in audit quality proxies be attributed to client characteristics?". *The Accounting Review* (forthcoming).
29. Lazer, R. Livnat, J. and Tan, C. (2004). Restatements and accruals after auditor changes. Working paper, New York University.
30. Lee, H. Mande, V. and Ortman, R. (2004). "The effect of audit committee and board of directors independence on auditor resignation". *Auditing: A Journal of Practice and Theory*, 23 (September), pp. 131- 146.
31. Low, K. Y. (2004). "The effect of industry specialization on audit risk assessments and audit planning decisions". *The Accounting Review*, 77 (supplement), pp.201-209.
32. Maher, M. Tiessen, R. Colson, R. and Broman. (1992). "Competition and audit fees". *The Accounting Review*, 67, pp. 199-211.
33. Maletta, M. and Wright, A. (1996). "Audit evidence' planning: An examination of Industry error characteristics". *Auditing: A Journal of Practice and Theory*, 15(1), pp.71-86.
34. Mayhew, B. W. and Wilkins, M. S. (2003). Audit firm industry specialization as a differentiation strategy: Evidence from fees charged to firms going public. *Auditing: A Journal of Practice & Theory*, 22(2), 33-52.
35. Minutti-Meza, M. (2010). "Does Auditor Industry Specialization Improve Audit quality? Evidence from Comparable Clients". Working paper, Rotman School of Management, University of Toronto, pp. 1-63.
36. Nagy, A and Cenker, W. (2007). "Accounting firms maneuver in the new audit environment-A note". *Managerial Auditing Journal*, 22, pp.218-225.
37. Nagy, A. and Cenker, W. (2006). Auditor resignations and auditor industry specialization. Working paper, John Carrol University.
38. Neal, T. and Riley Jr, R. (2004). "Auditor industry specialist research design". *Auditing: A Journal of Practice and Theory*, 23(2), pp. 169- 177.
39. Owoso, V. Messier, W. and Lynch, J. (2002). "Error detection by industry specialized teams during the sequential audit review". *Journal of Accounting Research*, 40(3), pp. 883-900.
40. Palmrose, Z-V (1986). "Audit fees and auditor size:- further evidence". *Journal of Accounting Research*, 24(Spring), pp.97-110.
41. Palmrose, Z-V. and Scholz, S. (2004). "The circumstances and legal

- consequences of non-GAAP reporting: Evidence from Restatements”<sup>7</sup>. *Contemporary Accounting Research*, 21(1), pp.139-180.
42. Palmrose, Z-V. Richardson, V. and Scholz, S. (2004). “Determinants of market reactions to restatement announcements”. *Journal of Accounting and Economics*. 37(1), pp.5 9-89.
  43. Porter, M. (1985). *Competitive Advantage: creating and Sustaining Superior Performance*. New York, NY: The Free Press.
  44. PricewaterhouseCoopers (PWC). 2010. Audit and assurance services. <http://www.pwc.com/gx/en/audit-services/index.ihtml>
  45. Raithel, S. and Schwaiger, M. (2015). The effects of corporate reputation perceptions of the general public on: shareholder value. *Strategic Management Journal*, 36(6), 945-956.
  46. Rama, D. and read, W. (2006). “Resignations by the big 4 and the market for audit services”. *Accounting Horizons*, 20 (June), pp.97-109.
  47. Reichelt, K. and Wang, D. (2010). “National and Office-Specific Measures of Auditor Industry Expertise and Effects on Audit Quality”. *Journal of Accounting Research*, 48(3), pp. 647-686.
  48. Richardson, S. Tuna, I. and Wu, M. (2002). Predicting earnings management: The case of earnings restatements. Working paper, University of Pennsylvania.
  49. Romanus, R. Maher, J. and Fleming, D. (2008). “Auditor Industry Specialization, Auditor Changes, and Accounting Restatements”. *Accounting Horizons*, 22(4), pp.389-413.
  50. Rubin, D. and Thomas, N. (2010). “Combining propensity score matching with additional adjustments for prognostic covariates”. *Journal of the American Statistical Association*, 95, pp.573-585.
  51. Schmidt, J. (2012). “Perceived auditor independence and! audit litigation: the role of non-audit services fees. The’ *Accounting Review*, 87(3), pp. 1033-1065.
  52. Shu, S. (2000). “Auditor resignations: clientele effects and liegal liability”. *Journal of Accounting and Economics*, 29(2), pp.173-205.
  53. Solomon, L. Shields, M. and Whittington, O. (1999). “What do industry specialist auditors know? *Journal of Accounting Research*, 37(1), pp. 191-208.
  54. Taylor, M. (2000). The effects of industry specialization on auditor’s inherent risk assessments and confidence judgments. *Contemporary Accounting Research*, 17(4), pp. 693-712.
  55. Tricker, R. I. (2015). *Corporate governance: Principles, policies, and practices*. Oxford University Press, USA.
  56. Wang, K. Sewon, O. Iqbal, Z. and Smith, L. (2011). “Auditor Market Share and Industry Specialization of Non-Big 4 Firms”. *Journal of Accounting and Finance*, 11(2), pp. 107-127.