

Auditor Selection, Client Firm Characteristics, and Corporate Governance: Evidence from an Emerging Market

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Abstract

This study investigates the relationship between auditor choice and ownership, transparency & disclosure (T&D), and other commonly used client firm characteristics in a sample of Istanbul Stock Exchange (ISE) firms for the periods 1999-2001 and 2003-2004. The argument that companies with different firm characteristics demand varying levels of audit quality constitutes the basis of our research. Accordingly, our objective is to determine the degree of association of the client firms' choice of external auditors (Big-4 versus second-tier or local) with their T&D scores and ownership characteristics (proxied by percentage of shares held by foreign investors and percentage open to public) while controlling for the following common determinants of auditor choice: membership in the finance sector, leverage, size, profitability, and the market-to-book ratio. We collect ownership data and other firm characteristics from the annual reports of the sample firms and the ISE web site, and measure T&D in collaboration with Standard & Poor's. In both sub-periods, we find that client firm size and market-to-book ratio are positively associated with the choice of a Big-Five auditor while public shareholdings have a negative effect, a result we think is peculiar to some emerging markets where the agency conflict resulting from family ownership is rampant. While foreign shareholdings and membership in the finance sector lose their explanatory power, profitability assumes a significant role in the latter sub period. The T&D rankings of ISE firms are measured for the first time in 2003 and using the T&D scores of 52 firms in 2003 and 2004 period, we find that the scores are positively related to the choice of a Big-4 auditor but the overall scores are only mildly

significant by themselves. However, the T&D scores assume greater significance when used as an interaction variable in the model. The findings are largely consistent with the findings of extant auditor choice literature in both developed markets and in the emerging market of the Athens Stock Exchange. The study contributes to the literature on auditor choice and the usefulness of firm-specific T&D scores by using an emerging market where corporate governance and T&D considerations have recently assumed great importance in alleviating the agency conflict related to concentrated family ownership. As such, the results will be useful to auditors, their clients and the regulators that have an oversight function over both.

1. INTRODUCTION

Recent financial reporting and auditing scandals and the demise of Arthur Andersen alongside Enron have led to a global realization of the importance of a truly independent attestation of corporate financial statements and internal control systems in sound corporate governance (CG) and hence in efficient allocation of capital. Transparency and disclosure (T&D) practices followed by firms are an important component and a leading indicator of CG quality and are directly affected by audit quality. Transparent and full-disclosure of information is especially vital for Turkey where external capital is necessary to sustain the high growth rate and the biggest agency problem centers on asymmetric information and expropriation by majority shareholders. High quality audits mitigate such agency problems since auditing increases the credibility of the accounting information used to verify compliance with debt covenants and other contracts between the firm and its stakeholders.

Alongside this demand for credibility by the users of financial statements, the increased competition in the audit market itself has led to a desire to understand the factors that influence auditor selection decision. Beattie and Fernley (1995) posit that auditor choice is motivated by three possible sources – audit environment, audit firm characteristics, and finally client characteristics. To date, most of the auditor selection research has predominantly been conducted in the US and other developed economies such as Australia (Craswell, 1988), New Zealand (Firth and Smith, 1992) and the UK (Beattie and Fernley, 1995). This study will be among the few exceptions (e.g. see Citron and Manalis, 2001, on auditor selection in Greece) which shed light on auditor selection in an emerging market. It is the first study to focus on the auditor selection process in Turkey, where the supply and demand for independent audits have changed dramatically as a result of the establishment of the Istanbul Stock Exchange (ISE) on

January 1, 1986, the liberalization of the Turkish audit market in 1989, and the recent accounting and reporting scandals of the early 2000s.²

The ISE deserves special attention in and of itself, as a fast growing emerging market. Its market capitalization increased from \$672 million in June 1986 to \$164 billion by the end of 2006, while the number of companies listed grew from 80 in 1986 to 324 by the end of 2006. The ISE has developed to become among the emerging markets with the highest trading volume and has reached a daily trading volume of \$919 million by December 2006. It has also been a very volatile stock market, being the best performing emerging market in 1999, with an annual return of 485% and 242% in Turkish lira (TL) and US dollar terms respectively and subsequently, being the worst performing emerging market in 2000 with -38% and -45% annual return in TL and USD terms respectively.³

The main purpose of this study is to empirically test the relationship between auditor selection and client firm characteristics for the firms listed in the ISE for the years 1999-2001 and compare the results to the post-Enron period of 2003-2005 during which corporate governance and transparency and disclosure acquired great import in ameliorating the special agency problems of concentrated family ownership common in the ISE and in many other emerging markets. The argument that varying levels of audit quality are demanded by companies with different firm characteristics and in different regulatory and risk environments constitutes the basis for our research.

The pre-2002 part of the study, where a larger sample composed of all firms trading in the ISE with no missing data is used, focuses on determining the degree of association between the firms' choice of external auditor and the following client firm characteristics: 1. agency conflicts, as proxied by the percentage of debt in capital structure; 2. foreign shareholdings status; 3. membership in the finance sector; 4.

² The Law of Independent Accountancy, Independent Accountant Financial Advisorship and Sworn- in Financial Advisorship was passed from the parliament in 1989 as Law No. 3586.

³ In 1999, the ISE was followed by the Russian and the Indonesian stock markets, with index returns of 203.8% and 88.2%, respectively.

percentage of shares open to the public; 5. size, as proxied by total assets and market capitalization; 6. profitability, proxied by return on assets; and 7. risk, proxied by market-to-book ratio. We find that client firm size, level of shareholdings by foreign shareholders, and membership in the finance sector are the firm-specific variables that are positively and significantly associated with the choice of a Big-Five versus the other two types of auditors. We also find an unexpected negative effect of float rate with the choice of a Big-Five auditor. In this part of the study, we also investigate whether the Big-Five, second tier, and local audit firms are perceived as distinct groups in terms of credibility in the eyes of client firms. To the extent that a significant relationship exists between client firm characteristics and varying levels of audit quality in the ISE, the process of auditor selection is a universal phenomenon. The findings would help audit firms make better market targeting decisions. Likewise, firms could signal their quality by their choice of a particular type of auditor.

In the post-2002 part of the study, we investigate the relationship between auditor choice and transparency and disclosure (T&D) practices and compliance with the CG principles of the Capital Markets Board of Turkey in a sub-sample of the ISE firms. In auditor choice and auditor fees literature only a few studies have investigated the relationship between auditor type and transparency and none of these have used an objectively measured transparency and disclosure index or a CG principles compliance index to measure transparency. For example, recently Danielsen et. al. (2007) investigate the relationship between transparency and audit fees and use market microstructure variables such as the bid-ask spread to measure opaqueness. To measure T&D, we use a database of T&D scores for 52 large and liquid Turkish firms, previously created by S&P and Sabanci University CG Forum researchers. The creation of this database and the T&D scores are described in detail in S&P's newsletter dated 6/6/2005 and in Aksu and Kosedag (2005). We associate the auditor selection decision with the overall T&D scores, and the scores in the three sub-categories of T&D while controlling for other determinants of auditor choice found to be significant in the first part of the study. In this latter part of the study, we find that the same variables explain the probability of choosing a Big-Four auditor, except for foreign share ownership which is found to be insignificant. As expected, we also find a positive relationship between the T&D scores

and choice of a Big-Four auditor. However, our model is not able to distinguish between the second-tier and local auditors and there are no firms using a second-tier auditor in our smaller 2003-2004 sample.

The next section describes the institutional background of the Turkish audit market. Section 3 summarizes prior audit selection literature. Next, various client firm characteristics that may be associated with auditor selection are identified and testable hypotheses are derived. In section 5, the sample, research design, and methods of analysis are described. Finally, the regression results and their implications are discussed, followed by concluding remarks.

2. THE GLOBAL & THE TURKISH AUDIT MARKETS

The supply side of the global audit market is made up of three distinct categories of firms in terms of brand name reputation (DeFond, 1992): The Big-Eight, which have international reputations; second tier firms, which are intermediate size firms with regional reputations, and smaller local firms.

Over the past two decades, the Big-Eight firms gradually became the Big-Four after several major mergers beginning in the 1980s and the recent accounting and reporting scandals. These firms, historically, were Arthur Andersen, Arthur Young, Coopers and Lybrand, Deloitte-Haskins&Sells, Ernst&Winney, KPMG, Peat Marwick, PriceWaterhouse, and Touche Ross. By 1989, mergers had reduced the Big-Eight to the Big-Six. Arthur Young and Ernst & Winney became Ernst & Young. Deloitte Haskins & Sells merged with Touche Ross to form Deloitte & Touche. In 1997, Pricewaterhouse and Coopers & Lybrand merged and formed PriceWaterhouse-Coopers. After the Enron scandal in 2001, affiliate and member firms of Arthur Andersen merged with different Big -Five firms in different areas of the world. In Turkey, the Ernst & Young and Arthur Andersen merger was made effective in 2002. However, during the three year earlier sample period, the merger was not effective, so the distinction between these two firms is retained and, in the context of our earlier sample period, the group with brand-name reputation is actually the “Big-Five.” Nevertheless, “the Big-Eight”, “Big-Six”, “Big-Five” and “Big-Four” are all used to

refer to this group, depending on the time period discussed. These firms have a global network of affiliated firms that usually carry the same name. National member firms participate in an international head office, in which global technologies, procedures, and directives are developed. In addition to sharing methodology, the networks are also used for the co-ordination of international audit engagements. In the US, over 90 % of publicly traded companies audited by the Big-Five, while internationally, that percentage is closer to 50%. Table 1 presents the market share of the Big-Five firms in different countries as taken from Wallace (1998). The market share of the Big-Five in Turkey during the years 1999-2001 is presented in panel B of the table which indicates that the percentage of the Big-Five companies increased from 46.63% in 1999 to 53.06% in 2001.

TABLE 1 HERE

Second tier auditing firms also have a worldwide network and mechanisms and methodologies for providing high quality audits, although their work is not quite as extensive as the Big-Five (Hayes and Shilder, 2000). Similar to the Big-Five, these companies offer a wide variety of services in addition to audit assurance services, such as tax, bookkeeping, management advisory services, and corporate finance services.

In Turkey, there were two important developments which contributed to the establishment of the market for independent audits: The establishment of the Istanbul Stock Exchange (ISE) in 1986 and the promulgation of Law No. 3568 that liberalized the audit market in Turkey 1989. The ISE was established as a semi-autonomous organization controlled by the Capital Markets Board (CMB), which is fully authorized to regulate its activities and disclosure requirements, with the aim of developing an efficient information dissemination system. In order to create a transparent, safe and secure investment environment, the CMB made it compulsory for publicly held firms to be audited by independent external auditors. The disclosure and independent audit and review requirements imposed by the CMB on public companies increased the demand for external audits. Before the establishment of the ISE, the subsidiaries of international corporations or

the financial institutions that extend credit were the predominant parties soliciting independent audits. The suppliers of these independent audits were the international public companies, known as the Big-Eight at the time. The mandatory tax audits were carried out by government auditors under the authority of the Ministry of Finance. The Tax Procedures Law has encouraged the development and expansion of the Board of Inspectors, Account Experts, Board of Income Controllers and Tax Auditors within the Ministry of Finance.

After many attempts in the Republican era by interested parties, ranging from the Associations of the members of the profession to some Ministers and bureaucrats, to bring an Accountants Law before the Parliament, “The Law of Independent Accountancy, Independent Accountant Financial Advisorship and Sworn-in Financial Advisorship” was enacted in 1989. The Law establishes accounting and auditing as a profession and defines who will be rendering services in these fields as professionals. It primarily applies to the private sector and its objective is to provide effective and reliable accountancy and audit services in Turkey, and to establish both the qualifications that should be possessed to be a member of the profession and the organizational setup of the profession. The Law creates and defines three categories of accounting and auditing professionals:

- Independent Accountants (IA)
- Certified Public Accountants, (CPA)
- Sworn-in Certified Public Accountants. (SCPA)

IAs are not authorized to perform independent audits, while CPAs and SCPAs can perform independent audits. In addition, SCPAs are authorized to audit the tax filings of both public and private companies. The CMB is authorized to designate the audit firms that are allowed to audit public companies trading in the ISE. In that sense, audit selection is limited to the list of auditors approved by the CMB for public companies. The banks in Turkey are also subject to a similar audit selection limitation. The Bank Regulation and Monitoring Board (BDDK) has the authority to determine the audit firms that can audit both public and private banks.

After the liberalization of the Turkish audit market, the number of professionals and firms which can engage in independent audits has increased tremendously. The market is now available not only to the Big-Eight (now the Big-Four) firms, but also to second-tier international firms and local Turkish auditors. The entrance of the Big-Five to the Turkish audit market began with Arthur Andersen in 1975 and was followed by PriceWaterhouse-Coopers (1981), KPMG (1982), Ernst & Young (1983), and Deloitte and Touche Tohmatsu (1986).

3. PRIOR RESEARCH ON AUDITOR SELECTION

3. 1. Product Differentiation in the Market-Supply of Audit Quality

According to the traditional view, the quality of audits is homogenous across audit firms. Since audits are performed in accordance with Generally Accepted Auditing Standards (GAAS) and the auditors are qualified individuals, the audits performed by the Big-Eight, second-tier, or local firms will be equally good. All major professional accounting bodies support this view.

Contrary to this traditional point of view, starting with Simunic (1980), several researchers (e.g. Beatty, 1986; DeAngelo, 1981; Firth and Smith, 1992; DeFond, 1992) posit that audits are products that are differentiated on the basis of quality, and the Big-Eight firms are perceived to produce higher quality audits. Consequently, they function as a cartel and charge higher than competitively warranted fees (Palmrose, 1986). Under this hypothesis, these firms charge higher fees to reflect the higher quality of their audit services. While Palmrose (1986) finds a significant positive relationship between auditor size and audit fees, Simunic (1980) concludes that the Big-Eight tend to charge lower fees due to scale economies enjoyed by larger CPA firms.

Since the quality of the auditor's work is difficult to observe and measure directly, surrogate measures have been developed to evaluate audit quality in literature. An important variable is the *size* of the audit firms. DeAngelo (1981) develops a demand and supply rationale for audit quality. She defines audit quality as the joint probability of detecting and reporting material financial statement errors and finds that large accounting firms supply a higher level of audit quality. The argument relies on

the assumption that client-specific quasi-rents accrue to the incumbent auditors. Since larger firms have more clients and more client-specific quasi-rents to lose, they have a higher opportunity loss resulting from low quality audits. DeAngelo argues that these quasi-rents serve as “collateral” on independence, and thus auditor size is a good surrogate for unobservable audit quality.

Knapp (1991) investigates audit committee members’ assessment of audit quality and concludes that audit committee members perceive the Big-Eight audit firms to be significantly more likely to disclose material errors than are local audit firms. Krishnan and Schauer (2000) also examine the association between auditor size and audit quality in a sample of not-for-profit entities. They define audit quality as the entities’ compliance with the eight GAAP reporting requirements: proper disclosures about investments, valuations of fixed assets, depreciation of fixed assets, cash donations and pledges, donated materials and services, appropriate form of financial statements and audit reports, and proper presentation of the statement of functional expenses. They conclude that auditor size and audit quality are positively correlated and the extent of noncompliance with the standards decreases as one moves from the smaller audit companies to the Big-Six.

Klein et al. (1978) and Klein and Leffler (1981) develop a model which relates product quality to brand name reputation. That is, the brand-name development comes first, and audit firms then provide high quality services, assuring higher fees. To prevent the potential loss of the brand name, these firms refrain from conducting low quality audits. In the industry and in audit research, the Big-Eight firms are considered to be the brand-name firms that perform high quality audits (Dopuch and Simunic, 1980 and 1982; Palmrose, 1988; Simunic and Stein, 1987; DeFond, 1992). Dopuch and Simunic (1982) develop a different model but its implications are similar to De Angelo’s. They use the concept of “credibility”: greater credibility means that audited financial reports are more likely to be free of intentional misrepresentation. Higher quality audits reduce the uncertainty associated with financial reports prepared by management. Simunic and Stein (1987) argue that audit firms try to specialize in specific credibility levels to achieve monopoly rents.

Another surrogate used for audit quality in extant literature is *industry expertise* of the audit firm, usually measured as the industry market share of the audit firm. Shockley and Holt (1983) observe that the bank loan officers appear to use industry expertise to assess audit firm credibility. Audit firms with expertise may provide greater assurance that breaches in the financial statements will be detected, since the audit firm has a disproportionate amount of reputation at stake in the industry in which it specializes. DeFond (1992) classifies firms as “experts” (thus, high quality) if their market share in the client’s industry is ten percent or greater.

Simon and Daniel (1997) study the relationship between *audit-firm premium* and other measures of audit quality. They interpret the fact that the large Big-Six audit firms receive higher fees than the Non-Big-Six group as an indication of their higher quality audit services. The Big-Six firms are found to receive audit fees approximately 15 to 20 percent greater than those received by the Non-Big-Six. This fee premium has generally been interpreted as an indication of “product differentiation” (thus, real or perceived differences in audit quality). The authors find a positive relation between the fee premium and other quality measures and conclude that higher audit fees are a reflection of higher actual or perceived audit quality. Recently, Bar-Yosef and Sarath (2005) develop a theoretical model which predicts that higher fees charged by high quality audit firms also discourage low quality clients from seeking these firms’ services. Actual audit quality differences can also be explained by the accuracy of the bond rating decision. Allen (1994) investigates the relationship between auditor type and the usefulness of accounting information to predict municipal bond ratings. He compares the Big-Eight and the Non-Big-Eight auditors, and his empirical analysis supports that the accounting information audited by the Big-Eight are better able to accurately predict municipal bond ratings.

In summary, it can be concluded that product differentiation in the market for audit services results from a CPA firm’s reputation (its brand name, image), its size, industry specialization, technical expertise, geographical dispersion of audit offices, responsiveness to clients needs, and ability to provide additional non-auditing services.

In this study, brand-name reputation and size will be used as proxies for product differentiation in the Turkish audit market.

3.2. Demand for Audit Quality and Disclosure

The factors affecting the demand for financial statement audits have been studied in auditing literature for many years. Depending on the degree of conflicts between owners–managers and owners–debt-holders, client firms demand differing levels of audit quality (Jensen and Meckling, 1976). The extent of these agency conflicts determines the type of audit quality needed to make management credible to investors. Jensen and Meckling (1976) argue that the basic agency problem can be mitigated by making managers the owners of the firm. As managerial ownership increases in a firm, the need for higher quality audits will decrease since the self interest of the management will not diverge from that of outside stockholders. Using management share ownership as a proxy for agency costs, Simunic and Stein (1987) study the relationship between the percentage of non-management ownership of the company and the choice of auditor quality as proxied by brand-name reputation in firms making an initial public offering. They observe a significant positive relationship between the percentage of non-management ownership and the choice of a Big-Eight auditor. DeFond (1992) also finds that changes in managerial ownership are associated with changes in audit quality.

Another variable that serves as a proxy for agency costs is client firm leverage. Jensen and Meckling (1976) suggest that managers can transfer wealth away from debt holders since they favor the interests of stockholders. For this reason audited financial statements and restrictive debt covenants are needed as monitoring mechanisms. Auditing increases the credibility of the accounting information used to verify compliance with debt covenants. As the percentage of debt in the capital structure increases, the demand for monitoring also increases. Thus, it has been hypothesized that the presence of long-term debt contracts creates a demand for higher quality audits (Palmrose, 1984). Accordingly, DeFond (1992) and Firth and Smith (1992) find a positive relationship between the percentage of debt in the capital structure and

selection of higher brand name reputation auditors. Contrary to their findings, Simunic and Stein (1987) and Francis and Wilson (1988) observe that there is a negative association between the percentage of debt and choice of a Big-Eight firm. The reason might be that the Big-Eight firms may be refraining from auditing the high leveraged firms due to their higher audit risk.

DeFond (1992, Table 1) reviews the literature on the association between agency conflicts and audit quality. The most robust finding of the papers summarized in this study is that larger companies and firms making new securities issues are more likely to select larger audit firms with high brand name reputation as proxied by the Big-Eight firms.

The above papers on auditor selection have been conducted predominantly in the US and similar economies such as the UK and Australia. One exception is the research on the Greek audit market, conducted by Citron and Manalis (2001). They examine how auditor or client characteristics, or changes therein, drive auditor selection between the Big-Eight/Five, second tier, and local audit firms, after the radical reform in the Greek audit market in 1992. The client firm characteristics investigated for the years 1993 and 1997 are foreign shareholding status, listing status, membership in the finance sector, leverage, size, and profitability. As expected, the Big-Six have a higher proportion of clients with foreign shareholders than do other auditors (47 percent versus 12 percent in 1993 and 52 percent versus 13 percent in 1997), both differences significant at better than the 1 % level. In addition, the average percentage of foreign shareholding in the Big-Six's clients is significantly greater in both years than that in the clients of other auditors. On the other hand, the Big-Six firms have a higher proportion of finance sector clients, but this difference is not statistically significant in either year. The Big-Six's clients are larger, although the difference is statistically significant only in 1997. There are no significant differences between the leverage and return on assets levels of the two groups in either year.

In the post-scandals part of this study, we introduce a directly observable and objectively measured proxy for information asymmetry and agency conflicts: a transparency and disclosure (T&D) index and an index that measures compliance with

the newly promulgated CG principles in Turkey. The T&D index measures the transparency of financial disclosures of ISE firms presented in their annual reports and web sites. The firms that score higher are expected to have less informational opacity and hence less information asymmetry between the stakeholders. Since both credible audits and full, transparent disclosures are expected to reduce the riskiness of the firm, whether as substitutes or compliments, we expect to observe a positive relationship between high quality audits and Transparency & Disclosure scores.

4. THE VARIABLES AND THE HYPOTHESES

Previous research establishes a link between the demand for external auditing and client firm characteristics. This paper focuses on client firm characteristics such as membership in the finance sector, size, percentage of foreign shareholdings, percentage of shares open to public, return on assets, degree of agency conflict, as proxied by leverage, and the market-to-book ratio.

4.1. Dependent Variable: The Big-Five versus other types of audit firms

DeFond (1992) and Citron and Manalis (2000) categorize audit firms into three groups in terms of brand-name reputation: The Big-Eight, second-tier firms, and local firms. In this research, we follow the same categorization for auditor types. During the 1999-2001 sample period, the Arthur Andersen and Ernst & Young merger was not realized. The Big-Five companies included in the study and their Turkish partners are listed below:

- Arthur Andersen (Aktif AnalizSMMM)
- Ernst & Young (Önce SMMM A.Ş.)
- Deloitte & Touche Tohmatsu (DRT YMMA.Ş.)
- KPMG (Cevdet Suner Denetim YMM A.Ş.)
- PriceWaterhouseCoopers (Başaran Nas SMMMA.Ş.)

Some of the second-tier firms that have affiliates in Turkey are Grant Thornton and BDO Seidman. Local firms are other CPA firms which have no international relationships.

The first set of hypotheses (H1a to H1g) test whether there is a significant association between audit quality and client firm characteristics. Consistent with previous literature, we use a dichotomous measure for audit quality: the Big-Five and non-Big-Five. The next two sets of hypotheses (H2) and (H3) test whether the same variables explain the selection between second tier versus local and the Big-Five versus second tier firms.

4.2. Independent variables - Client firm characteristics

4.2.1. Foreign shareholdings

Companies seeking overseas finance or foreign partners are more likely to hire an international audit firm, since such audit firms are more familiar with foreign accounting systems such as the US GAAP or International Accounting Standards. In addition, such international audit firms will be more reliable and will be able to add credibility to the financial statements of their clients in the eyes of the users of this information (Citron and Manalis, 2001). Another dimension of a multinational firm's demand for international audit firms can be described as a sort of "mid-term" solution for the lack of global harmonization of accounting principles. Given that accounting standards vary among countries, the presence of global public accounting firms, which advertise a worldwide auditing approach, suggests that a standard of assurance, which might be comparable across geographical boundaries, exists.

Considering the fact that the percentage of foreign shareholdings has been increasing in ISE companies, especially during the last decade, the association between audit selection and foreign shareholding deserves to be examined.⁴ In light of the above, we expect that the level of foreign shareholdings is positively associated with the choice of a Big-Eight auditor. Accordingly, our first hypothesis, in the alternative form, (adopted from Citron and Manalis (2001) is as follows:

⁴ With the issuance of the Decree No.32 in 1989, which removed all restrictions on foreign investments, the net equity investments by foreign investors increased from \$17 million in 1989 to \$15.358 billion in December 1999.

H1a: There is a positive association between the percentage of foreign shareholdings in a company and the selection of a Big-Five auditor.

4.2.2. Percentage of shares held by public

In Turkey, the corporations that trade in the ISE are mainly family owned enterprises with an average public ownership of 10- 20 %. Most of the companies are controlled by big holdings under the control of rich influential families. When family businesses raise capital from outside investors (non-family members), the demand for auditing should increase. As Carey, Simmnett and Tanewski (2000) posit increasing diversity of ownership creates agency conflict because the majority owners (the family) have incentive to divert resources for their personal use. Such a diversion will have the effect of restricting resource flow to non-family owners. The capacity and incentives of non-family owners to initiate monitoring will depend, partially, on their level of ownership, and their representation on the Board of Directors. As the proportion of non-family ownership rises, as is the case in the ISE, a greater demand for monitoring, and thus for higher quality audits, will be created.

In light of the above arguments, our next alternative hypothesis is as follows:

H1b: There is a positive association between company's percentages of shares held by the public and selection of a Big-Five auditor.

4.2.3. Membership in the finance sector

Accounting procedures and their implementations are quite different in the finance sector than those of a service or manufacturing company. Banks and other financial institutions such as mutual savings banks, saving and loan associations, and credit unions constitute a unique industry. For instance, there is a special reporting standard for banks and financial institutions in International Accounting Standards (IAS 30). Furthermore, banks have several branches connected to one another through networks that necessitate special audit expertise and technical competence, which only the big audit companies serve.

In literature, Citron and Manalis (2001) find a significant and positive association between membership in the finance sector and selection of a Big-Five firm. Similarly, in Turkey, Önder (2000) document that the percentage of the Big-Five auditors in the finance sector is higher than the percentage in all ISE firms during the years 1998 and 1999.⁵ Accordingly, our null hypotheses related to finance sector membership is as follows:

H1c: There is a positive association between a company's membership in the finance sector and selection of a Big-Five auditor.

4.2.4. Leverage

In an agency framework, Chow (1982) reasons that the agency cost increase with the percentage of debt in the capital structure. This leads to a demand for a monitoring mechanism like that of an independent audit. Chow's study supports the effects of leverage on the demand for auditing. In literature, the relationship between agency costs, as proxied by leverage, and the demand for higher quality audits has been hypothesized and tested by researchers. (See for ex. Einchenseher and Shields, 1986; Palmrose, 1984; Simunic and Stein, 1987, DeFond, 1992; and Firth and Smith, 1992). While Einchenseher and Shields (1986), DeFond (1992), Firth and Smith (1992) find a positive relationship between leverage and demand for higher brand name reputation auditors. Johnson and Lys (1990) interpret the positive association as the large audit firms' ability to diversify away the risk associated with high leverage. However, Simunic and Stein (1987) and Fransic and Wilson (1988) find a negative relationship between leverage and brand name auditors. In support of the negative relation, Healy and Lys (1986) and Johnson and Lys (1990) find that firms with higher debt levels are more likely to switch to a lower quality auditor.

⁵ In Onder (2000), the percentage of finance sector companies that chose a Big-Five firm is 65% and 67 for 1998 and 1999, respectively. When all firms listed in ISE is considered, this ratio drops to 42% and 48% for the same period. However, she did not test whether this difference was significant or not.

Accordingly, there is an ambiguity in the findings of prior research on the effect of leverage on auditor selection. Although the cost of borrowing is very high in Turkey, most of the companies still prefer high leverage due to its tax benefits and hyperinflation makes it advantageous to be a net borrower. Since taxes are levied on historical cost financial statements and the use of inflation accounting is still not allowed⁶, high leverage, which allows firms to pay lower taxes on fictitious inflationary profits, is preferred to equity financing. On the demand side, risky client firms with highly leveraged, capital structures would look for a lenient auditor to get a clean opinion even though the firm might not be a going-concern. On the supply side however, leverage is a factor that increases the audit risk and in turn, affects the CPA firms' willingness to be the auditor of such a financially distressed client. Keeping in mind that higher quality, brand name auditors might refrain from accepting clients with higher audit risks; we expect leverage to be negatively correlated with the selection of higher-quality auditors.

Since finance sector companies inherently have a highly leveraged financial structure, our null hypothesis about this relation is limited to only non-finance sector companies:

H1d: There is no association between company leverage and selection of a Big Five auditor among non-finance sector companies.

4.2.5. Size

Healy and Lys (1986), Johnson and Lys (1986), Simunic and Stein (1987), Francis and Wilson (1988) Firth and Smith (1992), and Abbott and Parker (2000) hypothesize a positive association between client firm size and selection of higher quality audit firms Since they perceive client size as a crucial indicator of the extent of clients' agency costs. Citron and Manalis (2000) find that client size is positively related with selection of Big- Six audit firms at 10 percent significance level in Greece. Besides, larger clients may receive more attention from large audit firms (Berton, 1995). Similarly, larger clients may have received superior services from a myriad of

⁶ Inflation accounting will be mandatory for ISE companies after the year 2003.

professional advisors; hence, they may be less satisfied with small audit firms' services. Also the bigger clients may require additional professional services such as consultation, tax and legal services, etc. which are more likely to be supplied by larger audit firms.

Based on the above, it can be hypothesized that there is a positive association between client firms' size and selection of higher-quality auditor. Size will be proxied by natural log of total assets and natural log of market capitalization in this study.

H1e: There is a positive association between company size and selection of a Big Five auditor among non-finance sector companies.

4.2.6. Return on Assets (ROA)

Our profitability measure return on assets is measured as the ratio of net income to total assets and provides an idea of the overall return on investment earned by the firm. In other words, it measures how effectively management uses the assets under its control to generate income, regardless of how these assets are financed. Johnson and Lys (1990) identify ROA as a variable that may be related to auditor choice. Consistent with this argument, Abbott and Parker (2000) hypothesize that ROA is positively related to engagement of an industry specialist auditor, since a more profitable firm is more likely to pay the fee premium demanded by a specialist. They indeed find a positive, but not significant, correlation between ROA and industry specialist auditors. Citron and Manalis (2001), however, did not observe a significant difference between the ROA levels of two clients of the two groups of auditors- the Big-Six vs. the non-Big-Six- in the Greek market. They also find that the Big- Six clients are indeed more profitable compared to those of second tier audit firms, but surprisingly, the clients of local audit firms have higher (but insignificant) ROA than those of second tier audit firms. Accordingly, a positive association is expected between return on assets and selection of higher quality audit firms. The test of this hypothesis is again limited to non-finance sector companies.

H1f: There is a positive association between company return on assets ratio and selection of a Big Five auditor among non-finance sector companies.

4.2.7. Transparency and Disclosure (T&D)

In the post-Enron, post-Anderson part of our sample period, we use firm-specific T&D quality scores to determine its impact on auditor choice. Understandable, relevant, transparent, reliable, timely, and full disclosure of the results of economic activities and the structure and processes used in its organizational units entrusted to operate in shareholders' interests, gives the stakeholders a true and fair view of the firm and the quality of the CG standards it follows. In this sense, good T&D mechanisms are set in place to essentially protect the rights of the minority shareholders and other outside decision makers who do not have first hand knowledge about the firm and its prospects, from extraction of private benefits by insiders based on their superior information. This, in turn, is expected to minimize informational asymmetry and the probability of fraud, also enhancing its easier detection by the auditors, leading to lower cost of capital, higher liquidity, and hence higher firm value. A related informational advantage of good T&D practices is that it increases investor awareness and trust which will reduce the uncertainty of the returns to capital suppliers which, again, is expected to reduce the firm's cost of external capital and hence increase its value (see, for ex., Berglof and Pajuste, 2005). A third advantage is that compliance with good T&D practices mitigates the political costs of non-compliance and hence reduces the risk of higher taxes, litigation and too much regulation.⁷ As such, independent hi-quality audits and hi-quality CG and T&D practices may also be considered as complements or substitutes and the study is intended to shed some light on this issue as well.

⁷ Using simultaneous equations to control for the endogeneity between disclosure and litigation, Field et al. (2004) find that disclosure deters certain types of litigation.

Following an extensive accounting literature on corporate disclosure quality, we use the T&D rankings to represent the market participants' assessments of the completeness, clarity, transparency, and reliability of firms' disclosure policies. Auditors, as corporate insiders, have access to private information regarding the firm's transparency that is unavailable to outside investors.

Hence similar to firms' purchase of reputational capital from their auditor by paying high fees in an attempt to improve the market's perception of the firm's transparency (Danielsen¹, Robert A. Van Ness¹ and Richard S. Warr, 2007) they would choose high quality auditors to affect the market's perception.⁸ Furthermore, Palmrose, 1986 finds support for the hypothesis that larger auditors charge higher fees for better quality audits and this discourage low quality clients (Bar-Yosef and Sarath, 2005) Hence we expect high disclosure clients to employ high quality auditors.

We hypothesize that transparent firms would tend to use higher quality auditors as they have nothing to hide and they would want to signal their quality by their choice of hi-reputation auditors.

H1g: There is a positive association between the T&D scores and the selection of a Big Five auditor.

A list of the variables, their definitions, and the direction of the expected relationship with the selection of higher-quality audit firms is summarized in Table 2.

TABLE 2 HERE

4.3. Hypothesis Relating To Second-tier and Local Audit Firms

As stated above, second tier audit firms have a worldwide network, mechanism and methodology for providing high quality audits. Besides, these firms offer a wide variety of services in addition to auditing and they have some international and

⁸ [Beatty \(1989\)](#) finds that such a reputation effect occurs in the IPO market too.

multinational clients. They share the same methodology and technical resources throughout their worldwide networks.

The main aim of implementing the remaining two sets of hypotheses is to test whether the second tier international audit firms and their worldwide networks are distinguished from local audit firms and from the Big-Five in terms of the credibility and quality of their audit services in Turkey. First set of remaining hypotheses (H2a to H2g) test whether the second tier firms are perceived as a distinct group from the Big-Five while the second set (H3a to H3g) compares them with the local audit firms. It is expected that independent variables affect selection of a second tier firm the same way as in H1a - H1g.

H2a To H2g: There is no association between the independent variables described above (foreign ownership, percentage of shares held by public, membership of finance sector, company leverage, company size, company ROA) and selection of a second tier auditor versus a Big-Five auditor.

H3a to H3g: There is no association between the independent variables described above (foreign ownership, percentage of shares held by public, membership of finance sector, company leverage, company size, company ROA) and selection of a second tier auditor versus a local auditor.

5. RESEARCH DESIGN AND METHODOLOGY

Using the attributes, adjusted to fit the Turkish corporate culture, and methodology adopted from S&P, we first measure the transparency and disclosure quality of the sample firms in 2003 and 2004 by objectively searching for 106 mandatory and discretionary information items disclosed in company annual reports and websites. We basically count the ‘Yes’, ‘No’, ‘N/A’ answers (yes = 1 pt.) as a % of the maximum possible ‘yes’ answers in each category of TD:

$$TDS = \sum_j \sum_k \frac{S_{jk}}{TOTS} \quad (1)$$

where:

j = the attribute category subscript,

k = the info item (attribute) subscript, and

TOTS = the total maximum possible “yes” answers for each firm.

S_{jk} = the number of info items disclosed (answered as “yes”) by the firm in each category.

The hypotheses are tested by estimating three sets of “binomial logistic regression models” which describe the relationship between a dichotomous response variable and a set of explanatory variables.⁹

In the study, we repeat the tests several times to compare the three groups of audit firm. In the first test, our independent variable “selected audit firms” is classified into two groups: For the Big-Five, the variable assumes a value of “1” and for the non-Big- Five, it assumes a value of “0”. The independent variables, i.e., leverage, size, profitability, membership in the finance sector, percentage of shares held by public, and foreign shareholdings, represent the relevant financial characteristics of the client firms. The three regression equations are based on the following full-model:

$$\text{FIRM} = \alpha + \beta_1 \text{FORSHA} + \beta_2 \text{PUBSHA} + \beta_3 \text{FINSEC} + \beta_4 \text{LEVER} + \beta_5 \text{ASSET} + \beta_6 \text{ROA} + \beta_7 \text{MRKBOOK} + \beta_8 \text{TDSCORES}$$

where, for H1a to H1g:

FIRM =1, if auditor is Big Five

=0, otherwise

FORSHA: the percentage of shares held by foreign shareholders

PUBSHA: the percentage of shares held by public

FINSEC =1, if the client is a finance sector company

=0, otherwise

⁹ Logistic regression applies maximum likelihood estimation and it does not assume linearity of relationship between the independent variables and the dependent, does not require normally distributed variables, and does not assume homoscedasticity, and hence, in general, has less stringent assumptions.

LEVER: Leverage (debt/ debt + equity)

ASSET: Natural log of total assets of the client

ROA: the ratio of net income (or loss) to total assets

MRKBOOK: market-to-book equity ratio (company's close price for fiscal year-end multiplied by its common shares outstanding, divided by the book value of common equity)

TDScores: Firm-specific transparency and disclosure scores based on the S&P and CGForum of Turkey surveys of 2004 and 2005.

For H2a to H2g:

FIRM =1, if auditor is Big Five
=0, if auditor is second tier

For H3a to H3g:

FIRM =1, if auditor is second tier
=0, if auditor is local

All independent variables in Hypotheses H2 and H3 are defined and measured the same way as in H1. Pooled regressions are run for all sample years to understand the determinants of auditor selection decision in the ISE during the sample period.

6. DATA AND THE SAMPLE CHARACTERISTICS

The research period is the three-year period 1999, 2000, and 2001. Our sample consists of all the companies trading in the ISE that fulfill our data requirements. The identity of the firms' auditors and the financial statement data are obtained from the ISE database on the Internet.

Our sample of client firms is comprised of 569 companies: 178 firms in the year 1999, 195 in 2000, and 196 in 2001. Tables 3 and table 4 summarize the general composition of the client firms and the Turkish audit market.

TABLE 3 HERE

Approximately, 20 % of ISE companies have foreign shareholders with a mean foreign shareholding of 35.7%, 43.28%, and 44.07% in the years 1999, 2000 and 2001, respectively. This is in contrast to the findings for the Athens stock exchange where mean foreign shareholdings decreased from 33 % in 1993 to 29 % by 1997 (Citron and Manalis, 2000). The mean percentage of public shareholdings stay constant at around 32% indicating that ISE firms that are mostly family owned are reluctant to loose control of the management of their firms. Another reason might be that due to the bear market and the general outlook of the Turkish economy, companies might not have preferred equity financing. Around 18 % of the companies are in the finance sector.

Panel B of Table 3 shows the mean leverage, total assets, and ROA of the sample non-finance companies. The effects of the 1998 and 2001 crises in Turkish economy can be clearly seen from the mean leverage and profitability ratios of the non-finance companies. The mean leverage increased from 64.5% to 83% and the return on assets is negative and decreased from -1.9% in 1999 to -14.4% in 2001. In contrast, the mean leverage of companies listed in the Athens stock exchange is only 25% in 1997.

Table 4 sets out the distinctiveness of these three groups' clients for each sample year. The Big- Five auditors have a higher proportion of clients with foreign shareholders than do second-tier and local firms. (72.2 % of firms with foreign shareholders, hired Big-Five auditors; while the rest of the clients with foreign shareholders were shared by the other two auditor groups in 1999. A similar pattern is apparent for the rest of the sample period. Furthermore, mean value of the Big-Five clients' foreign shareholding percentage is greater than that of the clients of the other two auditor groups.

TABLE 4 HERE

Contrary to our expectations, the mean values of the clients' public shareholding percentage increase as we move from the Big-Five to local audit firms. The mean percentage of the local auditor clients is 37.27 percent while the ratio is 28.01 percent for the clients of the Big- Five. As expected, the percentage of the Big-Five clients in the finance sector is

greater than those of the other auditor groups. In 1999, 62.5 percent of finance sector companies hired a Big- Five auditor. This ratio is 76.9 percent and 75 percent in 2000 and 2001.

In panel B of table 4, we note that the Big-Five auditors' clients are larger, as measured by total assets, than the other auditors' clients. As we hypothesized, the Big-Five clients are also less leveraged than the other auditors' clients. For the sample years, the mean leverage of the Big-Five is 55.8%, 53.3%, and 71.3%, respectively. The mean leverage of local auditor clients is the highest among these three types of auditors.

7. EMPIRICAL RESULTS

To test the explanatory power of our independent variables on auditor choice over the earlier sample period of 1999-2001, we run logistic regressions on the pooled sample encompassing the three-year sample period. Our objective is to compare the choice of a) the Big- Five versus the non-Big- Five auditors, b) the Big- Five versus the second-tier auditors, and c) the second-tier with the local auditors. The results are presented in tables 5, 6, and 7 respectively.

7.1. The selection of a Big-Five versus a non-Big-Five Auditor (1999-2001)

As hypothesized, both the foreign shareholding and membership in the finance sector are significantly and positively associated with the selection of a Big- Five firm.

TABLE 5 HERE

Contrary to our expectation, public shareholding status is significant, but negatively associated with the selection of a higher brand name auditor. In addition, for non-finance companies, company size coefficient is positively associated with selection of a Big- Five auditor, while leverage and ROA are not significantly related to selection of a Big- Five auditor. All of the other four variables are significant at 1 percent level. The most robust finding of the test is that larger firms, firms with higher percentage of foreign shareholdings, and the firms in the finance sector are more likely to select a high brand-name auditor, consistent with prior literature.

7.2. Selection of a Big -Five versus a Second-tier auditor (1999-2001)

The previous test analyzes the difference between the Big-Five and the non-Big-Five auditors but does not specifically search for a distinction between the choice of a second-tier international auditor and a local auditor. In this part, we examine whether significant differences exist between the Big-Five and second-tier international firms in the eyes of decision makers by re-running the logistic regression with local firm clients excluded and with the same independent variables.

The results in Table 6 indicate that there are significant differences between the companies employing the two groups of auditors. Finance sector companies are more likely to select a Big-Five auditor rather than second-tier international firm (significant at 1% level). Furthermore, Big-Five clients are larger (significant at 1% level) and have a higher foreign shareholding percentage (significant at 1% level). Public shareholding status is not a significant factor in the selection of a Big-Five auditor versus a second-tier international auditor. As expected, the association between leverage and auditor selection is negative, but insignificant.

TABLE 6 HERE

7.3. Selection of a Second-Tier versus a Local Auditor (1999-2001)

In order to test whether the second-tier international firms are perceived as distinct from the local auditors, we run logistic regression with the same independent variables after omitting Big Five auditors. The results are shown in Table 7.

TABLE 7 HERE

Foreign shareholdings (significant at 10 % level) and membership in the finance sector (significant at 5 percent level) are positively and significantly associated with the selection of a second-tier firm. There are no differences between the clients of either type of auditors in terms of size, return on assets, and leverage. Contrary to our expectations, public shareholding status is significantly (at 5 percent level) and negatively associated with the selection of a second-tier auditor.

7.4. The Impact of TD Scores on Auditor Choice (2003-2004)

In the post-Enron sample period (2003-2004), we find that most of the variables that affected auditor choice in the earlier sample period remained significant and have the same sign. These are public share ownership, size, and market-to-book ratio. Profitability, as measured by ROA, has significant explanatory power in the latter sample period (p-value = 0.086). Leverage is still not significant and public share ownership again has an unexpected (-) coefficient. This latter finding might be peculiar to the most common agency problem encountered in the ISE where the managers, in serving the interests of majority family owners, may opt for the non-Big-Five that are more likely to allow managers to use discretionary, if not downright unethical, accounting methods that would expropriate wealth from minority shareholders and other stakeholders. We have seen examples of this kind of a managerial behavior in the case of bankrupt family banks during the early 2000s. On the other hand, foreign shareholding is no longer significant in auditor choice decision. In our smaller and more homogeneous sample in the latter period, most of the sample firms have ample amounts of foreign shareholders which may have caused this loss of significance.

Our new variable TD scores have the expected positive sign but is only weakly significant (p-value=0.137). We also use the TD scores as an interaction variable with the float rate to see if public shareholding would still have a (-) coefficient in the firms with high quality disclosure practices. As expected, we find that if the firms with high float rates are transparent, the probability that they will use a higher quality auditor increases significantly and ameliorates the significant negative impact of high float rates on the probability of choosing a high-quality auditor to a great extent.¹⁰

8. SUMMARY AND CONCLUSION

This paper investigates the relationship between auditor selection decision and client firm characteristics in two periods: 1999-2001 and 2003-2004. The argument that companies with different firm characteristics demand varying levels of audit quality constitutes the basis of our research. The study contributes to audit selection literature by empirically examining auditor selection in the ISE and using transparency and disclosure quality as a determinant of auditor choice in a country where expropriation of minority rights is the most

¹⁰ We have also tried the interaction variable TD scores*Market-to-book ratio since both are risk measures and hence may be complements in terms of their effect on auditor choice. We find that this interaction term is also significant and that in less risky firms where the market perception of the companies' future prospects are high, higher transparency scores lead to still higher probabilities of choice of high quality auditors.

important agency conflict. The paper also investigates the firm characteristics that determine the choice between the second-tier international and local firms.

We analyze auditor choice in 569 firm-years over the first part of the sample period and 96 firm-years over the second part. We find that client firm size, level of shareholdings by foreign shareholders, and membership in the finance sector are the firm-specific variables that are positively and significantly associated with the choice of a Big-Five versus the other two types of auditors. This finding is consistent with the findings of extant auditor choice literature in both developed markets and in the Athens Stock Exchange. Like Citron and Manalis (2001), we posit and find the positive relationship between foreign shareholding status and the selection of a Big-Five auditor is an indication of the role of the Big-Five in providing audit credibility in the eyes of international investors. However, contrary to our expectation that agency costs will be mitigated by widespread public ownership, we find a significant negative association between the level of public shareholdings and selection of a Big-Five auditor, in line with expropriation by majority shareholders. A common agency problem in family firms in emerging markets. However, we also find evidence contrary to this conjecture because we also find that more transparent firms that can not as easily expropriate the rights of the minority shareholders are more likely to employ the services of higher quality auditors.

We also find that, although the Big-Five clients are more profitable, the association is not a significant one in the earlier sample period while the association is very strong in the latter sample period. This might be a result of the downturn of the Turkish economy in 1998 and in 2001 that have negatively affected the profitability of all ISE companies.

These firm characteristics are also valid in the choice between the Big-Five and second-tier auditors, with the exception of public shareholdings. Thus, we conclude that the Big-Five is perceived as a distinct group in the auditor selection process. The comparison of second-tier versus local auditors reveals that the most significant distinguishing factor is the client firm's membership in the finance sector. Another overall conclusion we draw is that the second-tier international firms seem to be distinguished from the Big-Five, but not specifically from the local audit firms.

There are several noteworthy limitations of the study. Our tests only measure association and not causality. Hence due to endogeneity problems, we cannot uncover the

direction of the relationship between auditor quality and high transparency and disclosure quality on the one hand and other risk measures used on the other. Furthermore, we might have omitted some important variables that impact auditor choice. Third, the sample size in our latter sample period is too small which might be affecting the validity and power of our tests. This of course is necessitated by the availability of TD scores for only this small sample. It should also be noted that the findings of this first study on the selection process in the ISE might be specific to the sample period under study. Further research with a longer sample size and sample period, especially in the post-Enron period tested, will undoubtedly give a better idea about the auditor selection process in the ISE. Another interesting future research is to investigate the change in auditor selection and auditor switches over the years as important benchmark laws are passed and as the Enron scandal and its repercussions are globally resolved. It would especially be interesting to examine if changes in transparency and disclosure scores predict auditor switch decisions and vice versa.

REFERENCES

- Abbott, L.J. and Susan P. 2000. Auditor selection and audit committee characteristics. *Auditing : A Journal of Practice and Theory* (Fall): 47-67.
- Arthur C. Allen. 1994. The effect of large-firm audits on municipal bond rating decision. *Auditing: Journal Of Practice & Theory*, vol.13, no. 1. 115-124.
- Bar-Yosef and Sarath (2005)
- Beatty . 1989
- Beattie, V. and Fearnley, S. 1995. The importance of Audit firm characteristics and the drivers of auditor change in UK listed companies. *Accounting And Business Research*, 25 (100): 227-239.
- Berton, L. 1995. Squeeze play: Midsize accountants lose clients to firms both large and small. *Wall Street Journal* (November 14):A1.
- Carey P., Simnet R. and Tanewski G. 2000. Voluntary demand for internal and external auditing by family businesses. *Auditing: A Journal of Practice and Theory* V.19, 37-51.
- Chow, C. W. 1982. The demand for external auditing: Size,debt and ownership influences. *The Accounting Review* (April): 272-291.
- Citron D.B., Manalis G. 2001 The international firms as new entrants to the statutory audit market: an empirical analysis of auditor selection in Greece, 1993 to 1997. *The European Accounting Review* 10:3, 439-459.
- Danielsen, B, Ness, Robert A. and Warr, R. 2007. Auditor Fees, Market Microstructure, and Firm Transparency. *Journal of Business Finance & Accounting*, online early
- DeAngelo, L.E. 1981. Auditor size and audit quality. *Journal Of Accounting And Economics* (December): 183-199.
- DeFond, M.L. 1992. The associations between changes in client firm agency cost and auditor switching. *Auditing: A Journal Of Practice And Theory*, 11 (1): 16-31.

- Dopuch, N. and D. Simunic. 1980. The nature of competition in the auditing profession: a descriptive and normative view. *Regulation and the Accounting Profession* (Lifetime Learning). 77-94.
- Dopuch, N. and D. Simunic. 1982. The competition in auditing: an assessment. *Fourth Symposium on Auditing Research*, 401-405. Urbana: University of Illinois.
- Einchenseher, J.W., and D. Shields. 1989. Corporate capital structure and auditor fit. *Advances In Accounting* (Supplement 1): 39-56.
- Firth, M. and Smith, A. 1992. Selection of auditor firms by companies in new issue market. *Applied Economics*, 24: 247-255.
- Francis, R. J. and E. Wilson. 1988. Auditor Changes: A test of theories relating to agency cost and auditor differentiation. *The Accounting Review* (October): 663-682.
- Hayes R. and Arnold Shilder. 2000. Principles Of Auditing: An Integrated Approach, 1st edition, Glasgow: Mc Graw-Hill.
- Healy, P. and T. Lys. 1986. Auditor changes following Big-Eight takeovers of Non-Big-Eight Firms. *Journal of Accounting and Public Policy*, (Winter): 251-265.
- Jensen, M.C. and W. Meckling 1976. Theory of the firm: Managerial Behavior, Agency Cost and Ownership Structure. *Journal Of Financial Economics*. (October): 305-360.
- Johnson, W. B. and T. Lys. 1990. The market for audit services: Evidences from voluntary auditor changes. *Journal Of Accounting And Economics* (January): 281-308.
- Klein, B., R. Crawford and A. Alchian. 1978. Vertical integration, Appropriate rents, and the competitive contracting process. *Journal of Law and Economics* (October): 297-326.
- Klein, B., and K. Leffler. 1981. The role of market forces in assuring contractual performance. *Journal of Political Economy* (August): 614-641.
- Knapp, Michael C. 1991. Factors that Audit Committee Members use surrogates for audit quality. *Auditing: A Journal Of Practice & Theory*. Vol 10, No.1.

- Krishnan J. and P.C. Schauer. 2000. The differentiation of Quality among auditors: evidence from Non-Profit sector. *Auditing: A Journal of Practice and Theory*. (Fall): 9-25.
- Onder, T. 2002. Istanbul Menkul Kıymetler Borsasında işlem gören şirketlerin bağımsız denetiminde 5-Büyük denetim firmasının payı. *Erciyes Üniversitesi, İktisadi ve İdari Bilimler Fakültesi Dergisi*. 18. 1-16.
- Palmrose, Z. V. 1984. The demand for quality-differentiated audit services in an agency-cost setting: An Empirical Investigation. *Auditing Research Symposium* (University of Illinois) : 229-252.
- Palmrose, Z.V. 1986. Audit Fees And Auditor Size: Further Evidence. *Journal Of Accounting Research* (Spring): 97-110.
- Palmrose, Z.V. 1988. An analysis of auditor litigation and audit service quality. *The Accounting Review*. (January):55-73.
- Shockley, A. and R.N. Menon. 1983. A Behavioral Investigation Of Supplier Differentiation In The Market For Audit Services. *Journal Of Accounting Research*. 545-565
- Simon ,D. T., 1997. Additional Evidence On Large Audit-Firm Fee Premium As An Indication Of Audit Quality”. *Journal Of Applied Business Research*, (Fall): 21-30.
- Simunic, D. A. 1980. The Pricing of Audit Services: Theory And Evidence. *Journal Of Accounting Research* (Spring): 161-190.
- Simunic, D. A. and Stein M. 1987. Product differentiation in auditing: a study of auditor choice in the market for unseasoned new issues, Canadian Certified General Accountants’ Research Foundation.
- Wallace, W.A. 1998. Instructional Case: Is Auditor Selection Associated With Cost Of Capital. *Issues In Accounting Education*, (August) : 693- 715.

Table 1

Panel A: The market share of the Big-Five in various countries^a

Country	Sample size	% Of Firms
Finland	64	5 %
France	228	23,2 %
Germany	296	22,3 %
Japan	1037	54 %
Malaysia	50	72 %
Netherlands	84	69 %
Norway	48	60,4 %
Sweden	108	20,4 %
United Kingdom	644	57,1 %

Panel B: The market share of the Big-Five, second-tier and local auditing firms in the ISE (1999-2001)

Auditor types:	1999	%	2000	%	2001	%
Total number of client firms	178		195		196	
Big- Five clients	83	46.6%	103	52.8%	104	53.1%
Second-tier firm clients	40	22.5%	42	21.5%	50	25.5%
Local-firm clients	55	30.9%	50	25.6%	42	21.4%

Panel C: The market share of the Big-Four, second-tier and local auditing firms for firms with T&D scores in the ISE (2003-2004)

Auditor types:	2003	%	2003	%
Total number of client firms	48		48	
Big- Five clients	42	87.5%	42	87.5%
Local-firm clients	6	22.5%	6	22.5%

^aSource: Wanda A. Wallace, "Instructional case: Is auditor Selection Associated with Cost Of Capital" Issues In Accounting Education, Aug.1998, Vol. 13, Issue 3, pg. 695

Table 2

Descriptions of the variables and the expected effect on auditor choice

<i>Variable Name</i>	<i>Expected Sign</i>	<i>Description</i>
<i>Dependent Variable:</i>		
Audit firm selected		Client selection of types of audit firms: e.g. 1= if auditor is Big Five 0= otherwise
Foreign shareholding status	+	Percentage of shares held by foreign shareholders
Shares held by public	+	Percentage of shares held by public
Membership in finance sector	+	Indicator variable showing the client's finance sector membership status. (1=finance company, 0=non-finance sector company)
Leverage	-	The ratio showing debt level of the client firm (debt / debt + equity)
Size	+	Client firms' natural log of total assets and market value of equity
Return on Assets	+	Ratio showing profitability level measured as net income (loss) / total assets
T&D Scores	+	The transparency and disclosure rankings based on the survey carried out in collaboration with S&P (106 attributes)

Table 3A

Descriptive statistics of audit clients in the ISE during the 1999 – 2001 period

	1999	2000	2001
Panel A: all client firms (n=569)			
Total number of client firms	178	195	196
Number of client firms with foreign shareholdings	36	32	38
% of total client firms	20,10%	16,41%	19,39%
Mean foreign shareholdings in %	35,70%	43,28%	44,07%
Mean public shareholding in %	31,90%	31,54%	31,82%
Number of finance sector clients	32	39	36
% of total client firms	17,90%	20%	18,37%
Panel B: non-finance firms (n= 467)			
Leverage - Mean	0,645	0,598	0,828
Total Assets in million TRL			
-- Mean	48.325.816	61.406.497	130.173.670
Return on Assets - Mean	-0,019	0,021	-0,144

Table 3B

Descriptive statistics of audit clients in the ISE for those firms with T&D scores during the 2003 – 2004 period

	2003	2004
Panel A: all client firms (n=96)		
Total number of client firms	48	48
Number of client firms with foreign shareholdings	12	11
% of total client firms	25.00%	22.92%
Mean foreign shareholdings for firms with foreign shareholdings in %	50.83%	55.32%
Mean foreign shareholdings for all firms in %	12.71%	12.95%
Mean public shareholding in %	26.91%	28.96%
Number of finance sector clients	8	8
% of total client firms	16.67%	16.67%
Panel B: only non-finance firms (n= 80)		
Total number of client firms	40	40
Leverage - Mean	51.48%	47.58%
Total Assets in million TRL		
-- Mean	2,704,830,072	3,654,664,260
Return on Assets - Mean	6.34%	6.89%

Table 4A**Comparison of clients with Big-five auditors compared to those with second-tier and local auditors during 1999-2001**

	1999			2000			2001		
Panel A: all companies (n=569)									
	Big- five auditor clients	Second-tier auditor clients	Local auditor clients	Big- five auditor clients	Second-tier auditor clients	Local auditor clients	Big- five auditor clients	Second-tier auditor clients	Local auditor clients
Number of companies	83	40	55	103	42	50	104	50	42
Number with foreign shareholders	(72,2%) 26	(13,8%) 5	(13,8%) 5	(81,2%) 26	(15,6%) 5	(3,1%) 1	(73,6%) 28	(15,7%) 6	(10,5%) 4
% with foreign shareholders	31,32%	12,50%	9,09%	25,24%	11,90%	2%	26,92%	12%	9,52%
Foreign shareholders percentage:									
-- Mean	42,06%	22,44%	16,48%	46,21%	32,28%	22,30%	49,60%	29,50%	27,85%
Public shareholding percentage:									
-- Mean	28,01%	32,56%	37,27%	30,83%	30,96%	33,48%	30,17%	33,05%	34,43%
Number of finance sector clients	(62,5%) 20	(15,6%) 5	(19,4%) 7	(76,9%) 30	(17,9%) 7	(5,1%) 2	(75%) 27	(22,2%) 8	(2,7%) 1
Panel B: only non-finance companies (n= 467)									
Leverage - Mean	0,558	0,666	0,745	0,533	0,658	0,651	0,713	0,938	0,93
Total Assets in million TRL									
-- Mean	74.449.820	30.010.975	27.392.632	88.130.102	38.248.896	37.651.662	206.049.112	49.274.734	70.547.972
Return on Assets - Mean	0,046	-0,002	-0,12	0,071	0,007	-0,044	-0,056	-0,253	-0,2

Table 4B

Comparison of clients with Big-Four auditors compared to those with local auditors during 2003-2004

	2003		2004	
	Big- five auditor clients	Local auditor clients	Big- five auditor clients	Local auditor clients
Panel A: all companies (n=96)				
Number of companies	42	6	42	6
Number with foreign shareholders	(100%) 11	0	(100%) 11	0
% with foreign shareholders	26.19%	na	26.19%	Na
Foreign shareholders percentage:				
-- Mean (for those with foreign shareholders)	55.16%		55.32%	
-- Mean (for all firms)	14.52%	0%	14.84%	0%
Public shareholding percentage:				
-- Mean	25.75%	34.98%	27.82%	36.70%
Number of finance sector clients	(100%) 8	0	(100%) 8	0
Panel B: only non-finance companies (n= 80)				
Number of companies	34	6	34	6
Leverage - Mean	53.50%	40.37%	47.93%	45.59%
Total Assets in million TRL				
-- Mean	3,041,896,734	794,785,654	4,021,719,876	1,574,682,436
Return on Assets - Mean	6.82%	3.57%	7.69%	2.33%

Table 5

Logistic regression of selection of a Big- five by client firm characteristics (1999-2001)

Explanatory variable	<i>Expected sign</i>	<i>Coefficient</i>	<i>P-value</i>
FORSHA	+	4,289	0,000
PUBSHA	+	-1,662	0,001
FINSEC	+	1,648	0,000
LEVER (NON-FIN)	-	-0,407	0,227
ASSET (NON-FIN)	+	0,000	0,000
ROA (NON-FIN)	+	0,152	0,716
Constant		-0.435	0.081
n		569	

Notes:

FIRM	1 if auditor is big five; 0 otherwise (dependent var)
FORSHA	Percentage of shares held by foreign shareholders
PUBSHA	Percentage of publicly held shares
FINSEC	1 if client is a finance sector company; 0 otherwise
LEVER	Debt/ total assets
ASSET	Natural log of total assets
ROA	Ratio of EBIT to total assets
MRKTBK	Ratio of year end market value to book value

FIRM	1 if auditor is big five; 0 otherwise (dependent var)
FORSHA	Percentage of shares held by foreign shareholders
PUBSHA	Percentage of publicly held shares
FINSEC	1 if client is a finance sector company; 0 otherwise
LEVER	Debt/ total assets
ASSET	Natural log of total assets
ROA	Ratio of EBIT to total assets
MRKTBK	Ratio of year end market value to book value

Table 6

Logistic regression of selection of a big- five versus a second-tier auditor by client characteristics (1999-2001)

<i>Explanatory variable</i>	<i>Expected sign</i>	<i>Coefficient</i>	<i>P-value</i>
FORSHA	+	3,282	0,000
PUBSHA	+	-1,049	0,105
FINSEC	+	1,137	0,000
LEVER (NON-FIN)	-	-0,300	0,551
ASSET (NON-FIN)	+	0,000	0,000
ROA (NON-FIN)	+	0,313	0,669
Constant		0,650	0,004
		422	

n

Notes:

FIRM	1 if auditor is big five; 0 otherwise (dependent var)
FORSHA	Percentage of shares held by foreign shareholders
PUBSHA	Percentage of publicly held shares
FINSEC	1 if client is a finance sector company; 0 otherwise
LEVER	Debt/ total assets
ASSET	Natural log of total assets
ROA	Ratio of EBIT to total assets
MRKTBK	Ratio of year end market value to book value

Table 7

Logistic regression of selection of a second-tier international versus a local auditor by client characteristics (1999-2001)

Explanatory variable	Expected sign	Coefficient	P-value
FORSHA	+	2,806	0,074
PUBSHA	+	-1,366	0,045
FINSEC	+	1,200	0,007
LEVER (NON-FIN)	-	0,086	0,757
ASSET (NON-FIN)	+	0,000	0,631
ROA (NON-FIN)	+	0,164	0,645
Constant		0,157	0,529

n 279

Notes:

FIRM	1 if auditor is second-tier; 0 otherwise (dependent var)
FORSHA	percentage of shares held by foreign shareholders
PUBSHA	Percentage of publicly held shares
FINSEC	1 if client is a finance sector company; 0 otherwise
LEVER	Debt/ total assets
ASSET	Natural log of total assets
ROA	Ratio of EBIT to total assets
MRKTBK	Ratio of year end market value to book value

Table 8

Logistic regression of selection of a Big-Four vs. a local audit company
by client firm characteristics during the 2003-2004 period

Explanatory variable	<i>Expected sign</i>	<i>Coefficient</i>	<i>P-value</i>
FORSHA	+	9.2707	0.8960
PUBSHA	+	-3.8864	0.0710
FINSEC	+	25.0832	0.9548
LEVER (NON-FIN)	-	0.4426	0.9328
ASSET (NON-FIN)	+	4.6553	0.0944
ROA (NON-FIN)	+	4.6184	0.0860
MRKTBK		22.4646	0.0639
TD		2.6644	0.1369
TD*PUBSHA		3.4963	0.0941
Constant		14.9434	0.6685
n		94	

Notes:

FIRM	1 if auditor is big four; 0 otherwise (dependent var)
FORSHA	Percentage of shares held by foreign shareholders
PUBSHA	Percentage of publicly held shares
FINSEC	1 if client is a finance sector company; 0 otherwise
LEVER	Debt/ total assets
ASSET	Natural log of total assets
ROA	Ratio of EBIT to total assets
MRKTBK	Ratio of year end market value to book value
TD	Overall Transparency & Disclosure Score
TD*PUBSHR	Interaction term for T&D Score and Percentage of Publicly held Share