AUDIT MARKET CONCENTRATION AND AUDITOR CHOICE IN THE UK

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OVERALL SUMMARY AND CONCLUSIONS

1.1 Introduction

This thesis examines UK listed company audit market concentration and the determinants of auditor choice (change and new auditor selection) in light of recent changes in the auditing environment. It is divided into two main parts. The first part of the thesis provides evidence on the structure of the market for public listed company audit during the period 1998 to 2003. It updates concentration statistics for the UK audit market and also examines how the cost of audit work changed during the period, especially pre and post Andersen's demise. In addition, the relative importance of joiners, leavers and switchers on audit market concentration is also examined.

In the second part, the thesis provides a review of the literature, formulates testable hypotheses, discusses research methods and details empirical findings concerning the determinants of auditor change and new auditor selection.

This final chapter is organised as follows; section 10.2 presents a general overview of the study, summary of results and conclusions. Implications are discussed in section 10.3. Section 10.4 describes the limitations of the study and, finally, 10.5 offers suggestions for future research.

1.2 Overview, summary of results and conclusions

The study of audit market concentration begins in chapter 2 where the literature of industrial organisation and concentration studies is examined briefly. From the literature, it is acknowledged that there exist two views on the relation between market structure and performance. The first is the Structure-Conduct-Performance view which asserts that higher concentration decreases market competition and disadvantages consumers. The second view, voiced by the new industrial economists argues that increased concentration when combined with cost efficiencies does not necessarily lead to higher prices. In fact, they argue that there is substantial feedback between structure, conduct and performance.

Prior studies reveal that the audit market is highly concentrated and it is the B5/4 firms that dominate the market. The reasons for increased concentration include voluntary realignment, changes in the set of service buyers, and changes in the set of service suppliers.

Chapter 3 explains in detail the methods used to assess market concentration. The three market concentration measures were calculated using four different size proxies, namely audit fees, number of clients, total sales and total assets. The ratios of audit fees to total sales and audit fees to assets were used to measure audit expensiveness. The concentration study of this thesis replicates and extends prior studies in several ways. First, recent audit market concentration statistics are computed using three measures – concentration ratios, the Herfindahl index and the Gini coefficient. Unlike the first two statistics, the Gini coefficient is relatively new to the audit market concentration literature. Second, following the Enron debacle that sparked fresh discussion and regulation of auditing, it provides evidence relating to the new audit environment. Third the thesis also examines whether audit fee rates (audit expensiveness) changed during the period. The chapter identifies six research questions related to audit concentration and outlines the data collection process. After excluding investment trust companies, the sample consists of 1607, 1498, 1479, 1539, 1497 and 1386 UK listed companies for the years 1998 to 2003, respectively.

Chapter 4 presents the data analysis and results of the audit market concentration study. To answer the research questions identified in chapter 3, this study looked first at the overall audit market and then at former Andersen clients in particular. The research questions and related findings are as follows:

1. *What was the level of audit market concentration post PricewaterhouseCoopers merger and Andersen's demise (i.e. 1998 to 2003) and has it changed significantly?*

   The UK audit market has now clearly surpassed the tight oligopoly threshold. Although the B5/4's market share based on number of clients decreased from 76% in 1998 to 68% in 2003, their market share based on audit fee increased slightly from 95% in 1998 to 96% in 2003. Thus, despite auditing significantly fewer clients in 2003, the B5/4 managed to increase their fee dominance.

2. *Have audit fee rates changed significantly during the period?*

   There is evidence that the level of audit fee and audit fee rate (audit fee scaled by total assets) increased markedly following Andersen's acquisition by Deloitte & Touche in the UK. *Ceteris paribus*, this suggests that more audit effort is being expended. This finding can be attributed to the desire by companies and audit firms to restore confidence about audit quality after the damage caused by Andersen's alleged misconduct.

3. *What was the relative importance of joiners, leavers and switchers in explaining the overall change in audit market concentration?*

   Results show that the decline in B5/4 'number of clients' market share was mainly due to their lower share of the newly-listed companies audit market. During the period 1998-2003, B5/4 audited 52% of companies joining the London Stock Exchange compared with 75% of companies leaving the market through delisting, mergers or demise. On the other hand, the slight increase in B5/4 audit fee market share was due to the net impact of leavers concentrating the B5/4 share and joiners diluting it. Voluntary switches to/from the B5/4 had a relatively small impact on B5/4 market share for both measures.

4. How did the Andersen demise affect market concentration?

Deloitte & Touche's acquisition of the Andersen UK business contributed to a further increase in 'audit fee' market concentration. The increase is particularly apparent in the 4-firm concentration ratio (CR4) and in the overall Hirschman-Herfindahl Index measure.

5. Following Andersen's demise, who now dominates the market at industry level?

Deloitte & Touche gained significant market share in terms of both audit fees and number of audits through its acquisition of Andersen in the UK. However, PwC continues to hold the largest market share. At the industry level, the B5/4 also dominate the market with PwC holding the largest market share in 18 industries. The highest non-B5/4 market share in any industry was just 8%.

6. Who audits former Andersen clients and did their audit fee change significantly?

Deloitte & Touche retained 93 (74%) former Andersen clients, 21 (17%) moved to another B5/4 auditor and 11 (9%) chose non-B5/4 firms. While former Andersen clients paid higher audit fees, in aggregate, the increase was less than for the market as a whole.

The second part of the thesis considers two issues: i) what motivates a company to change auditor; and ii) the factors that affect the new auditor selection decision. It begins by providing a literature review of auditor choice in chapter 5. The review notes that the incidence of auditor change events is relatively small, possibly due to the high costs associated with auditor change. However, it is argued that the auditor-client realignment is an important issue facing the profession and regulators and one that arguably has considerable economic impact.

Chapter 5 also identifies some mechanisms proposed by regulators to enhance auditor independence, particularly after Andersen's collapse. Amongst them is having sound corporate governance. Despite its importance, this chapter reveals that only a limited number of studies on the auditor choice decision (particularly in the UK) have considered the role of corporate governance characteristics such as the independence of the audit committee and board of directors.

Chapter 6 develops testable hypotheses. To enhance our understanding and to permit empirical testing, auditor choice is viewed as a two-stage event – auditor change and new auditor selection. This then leads to the separate examination of the change and new auditor selection decisions.

Explanation of the various models, methods used for testing and justification for, and measurement details of, the variables appears in chapter 7. The variables include characteristics relating to the auditee client, the audit and the audit firm and, as appropriate, logistic and ordinary least squares regression techniques were employed.

The samples for the studies in the second part of the thesis were derived from the dataset used in the auditor concentration study in part one. Over the six year period, 464 companies that voluntarily changed auditors were identified. After excluding companies from the financial sector and those with missing data, 177 companies were eligible to be included in the study of auditor change determinants. For each of these auditor change companies, a matched company was identified based on year, industry and size factors, leading to a total sample of 354 companies.

The results of the auditor choice studies are presented in chapters 8 and 9. The main aim of the auditor change study was to identify factors that influence a company's decision to change. Analysis was also undertaken to investigate whether the results were sensitive to the specifications of the research model and choice of proxy variables. The main focus in the investigation of new auditor selection concerns the factors that lead a company to select an auditor of different quality. Two proxies for audit quality were adopted – brand name auditor and specialist auditor. The brand name models generally had greater explanatory power than the specialist selection models, perhaps due to the smaller samples sizes available to estimate the latter models.

The research questions and related findings are as follows:

7. *What factors influence a company's decision to change auditor?*

   Three corporate governance variables were significantly associated with the propensity to change auditor: audit committee independence, board of directors (BOD) independence and chairman/CEO duality. The significant result for audit committee independence lends support to the contention that non-executive directors (NEDs) on the audit committee view management attempts to change auditor suspiciously. As they do not have access to day-to-day business information and are driven by the need to protect their reputation, this result is as hypothesised. However, the result for BOD independence was counterintuitive. In particular, the positive coefficient suggests that the more independent the BOD, the more likely the company is to change auditor. One possible explanation of this anomalous result is collinearity with the audit committee variable. The presence of a dominant personality on the board (proxied by chairman/CEO duality) also increases the likelihood of auditor change. This is consistent with the argument that a chairman with dual roles may have greater stature and power over the BOD and audit committee, and thus may influence the auditor change process.

Reduction in audit fee is another factor that influences companies to change auditor. On average, auditor change companies are found to pay 13% lower audit fees to the new auditor. This is consistent with lowballing practice, whereby the new auditors charge initial engagement fees below cost in order to obtain new business. The practice has been criticised on the grounds that it may reduce competition in the audit market and impair audit independence.

Concern over perceived lack of independence (proxied by the ratio of non-audit services (NAS) to audit fee) is also associated with the likelihood that a company changes auditor. Results show that the propensity to change auditor increases whenever perceived auditor independence is potentially compromised. This is supported by the finding that reported NAS falls subsequent to auditor change, consistent with a company changing its auditor to report lower NAS in its financial statements and thereby improve the perception of auditor independence.

Results also support the hypothesis that companies audited by the B5/4 are less likely to change auditor, consistent with the argument that the B5/4 firms provide high quality audit.

However, there was no evidence of an association between industry-specialist auditors and the likelihood of auditor change. This suggests that the recent claims of the importance of auditor expertise in a client's specific industry may have been overstated. Industry specialism seems to be of second order importance relative to auditor brand name in the decision to change auditor.

8. *Given that auditor change has occurred, what factors influence the selection of the new auditor?*

Two proxies for audit quality were used in the new auditor selection studies investigating the reasons why companies decide to select a new auditor of different quality to the incumbent auditor: auditor brand name and auditor specialism in the client's industry. Better explanatory power was obtained for the brand name models than the specialist models.

The models using auditor brand name showed that corporate governance variables, which were important in the auditor change models, were not significant determinants of the new auditor selection. Only the dual chairman/CEO variable was significant (albeit weak) and in the expected direction. The negative coefficient suggests that a company with one person filling both roles is less likely to choose a higher quality replacement auditor.

Larger or growing companies are more likely to change to a B5/4 auditor. This is consistent with the inability of smaller audit firms to cater for these companies' growing needs, when they may require an audit firm with a wider national or international network. The results also show that a company experiencing increased leverage is *less* likely to choose a B5/4 new auditor. This is contrary to the prediction of agency theory which suggests that the lending principal is likely to seek greater audit assurance in such circumstances. However, it could be taken to suggest that large audit firms have a tendency to avoid risky clients.

Higher audit fees were paid to new auditors by companies that changed from non-B5/4 to B5/4, consistent with prior evidence that B5/4 firms charge their clients an audit fee premium. Similarly, the results provide evidence that higher NAS fees were also paid to new B5/4 auditors. However, this is contrary to expectation and inconsistent with the finding from the auditor change models. One explanation could be that the B5/4 auditor had been acting in a consultancy role prior to appointment as auditor and the company, having been impressed by the audit firm, invited them to act also as auditor. It is also possible that this rise in reported NAS might be temporary.

Typically, far fewer variables were significant in the models with audit quality proxied by industry specialism. For the models based on audit fee market share, there is counterintuitive evidence that a company with a large number of subsidiaries is less likely to move to a specialist auditor from a non-specialist. New specialist auditors were more likely to be preferred when a company experienced an increase in current accruals or a reduction in leverage.

When specialist was defined as the firm with the largest number of clients, size, number of subsidiaries, change in current accruals, duality and management change were significant in some models. As expected, larger companies are more likely to choose a better quality replacement auditor.

9. How sensitive are the findings to alternative model specifications and variable measurement choices?

In the auditor change study, the choice of time variant models (ex-ante, contemporaneous or ex-post) made no significant difference to the overall result. The one exception concerns the 'growth' variable, where companies are found to change auditor *in anticipation of* future growth, rather than as a response to past growth. Further, the use of alternative proxy variables does not greatly influence the regression results. One important exception to this general observation concerns the brand name proxy. When brand name was defined as *tier12* (to include Grant Thornton and BDO) the significance level was improved in all models. This suggests that, to some degree, Grant Thornton and BDO are viewed as quality service providers perhaps closer in quality to B5/4 than to other smaller audit firms.

1.3 Implications of the study

The FRC (2006) in discussing the importance of audit to the UK economy states:

> 'Confidence in the reliability of financial information is essential to the healthy functioning of markets to the benefit of business, investors, creditors, employees and other stakeholders. Independent audit provides a cost effective way of increasing confidence in the financial information of corporate and other public interest entities. A well-functioning market for audit services is, therefore, essential to ensuring confidence in corporate reporting and governance, ultimately helping to protect and enhance the UK's economic strength in competitive international markets.'

However, the current high audit market concentration reflects a tight oligopoly over the market for listed company auditing. With the current structure of the audit market, a 'well-functioning market' is certainly at risk, especially if another B4 firm were to leave the market. Nonetheless, the present study shows that companies are less likely to change auditor if there are audited by Grant Thornton and BDO Stoy Hayward; in particular, stronger brand name results were obtained when these two firms were included in the high quality auditor group. This finding suggests that these two firms may already be perceived as providing good quality audits. It offers some hope that these firms may be able to close the gap with the B4 still further and become an acceptable auditor choice at least for some companies in the listed company market.

However, as pointed by the Oxera (2006), key barriers to non-B4 audit firms entering the market include lack of credible reputation, resources, expertise and effective capability to secure timely and reliable audit opinion. Without doubt, to facilitate further market penetration, these barriers must first be removed. First, a level playing field must make available. Regulators may be able to help by raising awareness of the capabilities of non-B4 firms. For example, the finding of the newly formed Audit Inspection Unit could be made available for public inspection as this can provide basis for public to judge the quality of audit provided by individual firms. Another potential option would be to promote joint audits between B4 and non-B4 firms, especially in industries where high concentration is currently observed.

Evidence from prior studies suggests that investors consider auditor change to be an important event. However, prior research has also shown that disclosure relating to the initiation of, and reasons for, auditor change in the UK is far from informative. This lack of information may prejudice stakeholders against a company that decides to change auditor, especially when the change is to a non-B4 firm. The situation could be improved by seeking a better mechanism to disclose reasons for changing auditor as currently exists in the US, for example. This would probably require regulatory enforcement as voluntary disclosure seems unlikely. Transparent and timely disclosure will help the market to respond appropriately toward any auditor change announcement. This would benefit companies that change auditor for positive reasons (for example, when the auditor's independence appears compromised) and has the potential to help widen the choice of auditors for companies.

The difficulties associated with generating evidence with clear-cut implications for market competition are widely recognised. Therefore, the policy implications of this thesis are inevitably tentative.

To academia, this study provides comprehensive evidence on whether the choice of different models, measurements and proxies could influence the results from the estimation of auditor choice models. Academia may also consider using standard terms to describe auditor choice types, perhaps adopting the terms employed in this thesis. The use of standard terms could facilitate the development of research in this area. The lack of significance on the specialist auditor variables (especially in the auditor change study) may indicate that industry specialism is less important in determining new auditor selection in the UK. However, it may also suggest that quantitative measures of specialism do not capture the underlying specialisation quality concept. It is, therefore, a challenge to academia to further explore this aspect of the audit quality dimension.

1.4 Limitations of the study

Several factors may limit the usefulness of the results obtained in this study. First, this thesis treats auditor resignation and dismissal as auditor change in general – no distinction is made. As discussed earlier, it is very difficult to differentiate genuine resignation from dismissal in the UK. However, it was acknowledged in section 5.5 that there are some differences in terms of the motive and determinants between these two types of auditor change. While genuine auditor resignations are likely to constitute a small number of cases (as reported by previous studies), there is a possibility that the results obtained from a more refined sample would yield stronger (or perhaps different) results.

Second, due to the availability of a limited number of auditor change cases, it is necessary to limit the number of independent variables. While we have sought to be comprehensive and the model specification tests did not indicate significant omissions, it is possible that important variables may have been omitted. For example, while this thesis includes independent audit committee/BOD, duality and managerial share ownership as proxies for aspects of good corporate governance, directors' experience and qualifications may also capture further elements of corporate governance. Omission of important potential factors can result in models that are underspecified and, consequently, results may be difficult to interpret.

Third some of the variables are likely to be subject to measurement error. For instance, this thesis uses proxies for audit quality relating to auditor industry specialism based on quantitative, rather than qualitative, measures. This measure of specialism is assumed rather than established. Likewise, this thesis measures the independence of audit committees and BODs based on the proportion of non-executive directors. Where the information is available, the use of a more refined measure (e.g. differentiating ‘grey’ directors: non-executive directors with personal or business relationships with the company such as bankers, major suppliers and consultants) may enhance the results.

Fourth, the implicit assumption of the current analysis is that causality runs from identified variables to the auditor change decision. It is possible that some independent variables and auditor change are simultaneously determined. For instance, while the receipt of a qualified audit opinion could affect the company’s decision to change auditor, the reverse is also possible. A potential consequence of this endogeneity is biased or inconsistent estimation of the relationship between dependent and independent variables in the single-equation model. The use of more sophisticated estimation methods may help to overcome this potential issue.

Fifth, logistic regression uses maximum likelihood estimation which relies on large-sample asymptotic normality to derive parameter estimates. Reliability of estimates declines when there are few cases for each observed combination of independent variables. Given the limited number of non-standard audit opinions observed, this may have an impact on the present study.

Thus, the results and implications of this study should be considered with these limitations in mind.

1.5 Suggestions for future research

This thesis provides a basis for future research on audit market concentration, auditor change and new auditor selection and may be extended in several ways. First, given the low number of auditor change events, replication of the study to include longer time periods would be useful to assess the generalisability of the results. Further, replication of the study in other audit markets would also be worthwhile, since different markets operate under different legislation and different business cultures.

Because no comprehensive theory of auditor change exists, one avenue for future research would be to attempt to develop a comprehensive theory of auditor change, to include voluntary and non-voluntary auditor change. While the inclusion of refined corporate governance variables may be worthwhile, the inclusion of social-psychological aspects of the auditor-client relationship may provide further valuable insights.

The statement of hypotheses (i.e. the nature of the relationship between the auditor change decision and the independent variable) is somewhat vague in many prior studies. Thus, further theoretical development is required to permit more precise hypotheses to be formulated. The empirical testing in this thesis of alternative model specifications and variable measurements can contribute to the iterative process of theory development and empirical testing.

Although this thesis examines the effect of audit quality on auditor change, it does not examine how this can provoke a market response. Clearly, there are two classes of auditor – B5/4 and non-B5/4. Given the marked B5/4 dominance in public listed company audits, study of individual B5/4 firms would provide further insight. A good first step would be to review and identify individual B5/4 firm characteristics. Likewise, a study that focuses on the non-public listed company segment would also be worthwhile.

Interesting findings of this thesis are the tendency of the B5/4 firms to be less involved in the audit market segment relating to newly-listed (joiner) companies and that B5/4 firms are also less likely to become auditor of companies with high leverage. Different types of clients, as characterised by difference sets of client attributes, seem to have different preferences among the auditors. While this may suggest that B5/4 auditor are seeking to avoid risky clients (potentially abusing their market power?), it also suggests the possibility that different auditors may strategically choose different operating structures to specialise in different types of clients. Thus, to shed some light on this issue, future research could usefully look for systematic differences in the risk profiles of B5/4, tier 2 and smaller firms.