The determinants of audit fees – evidence from the voluntary sector

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Abstract — Given the growing demand for accountability in the public sector, there is a need to begin to investigate audit pricing issues in this sector. This study makes three contributions. First, it develops and estimates, for the first time, a model of audit fee determinants for the charity sector. As in previous private sector company studies, size, organisational complexity and audit firm location are the major determinants. A positive association between audit fees and fees for non-audit services is also observed. Charity sector factors of empirical significance include the nature of the charity (i.e., grant-making or fund-raising), its area of activity and the importance of trading income. Separate models for grant-making and fund-raising charities reflect the relative complexity of the audit of fund-raising charities. Second, the lower auditor concentration in the charity sector market, compared to the private sector market, permits a more powerful test of whether large firms and/or auditor expertise are rewarded with a fee premium. In the more complex audit environment of fund-raising charities, the results show that Big Six audit firms receive higher audit fees (18.5%, on average) than non-Big Six firms. Also, non-Big Six audit firms with charity expertise are rewarded with a fee premium over other non-Big Six firms. Finally, the study demonstrates that the charity audit fee rate is significantly lower than that of private sector companies; in fact it is approximately half. A change in the reporting of charity audit fees is proposed to reflect any element of 'charitable giving' by the audit firm. **Keywords:** audit fees; auditor expertise; charity sector; fee premium; non-audit services.

1. Introduction

The market for audit services is recognised to be segmented into distinct sub-markets. To date, research has focused on the private sector market (which itself comprises distinct sub-markets). The principal issues that have been investigated are market structure (including the related issues of market concentration, auditor selection and auditor change) and audit pricing. Early audit pricing studies were motivated by concerns that the top tier audit firms (then the Big Eight) were earning excess economic rents due to the existence of an oligopolistic market structure. Later studies, conducted in a more competitive auditing environment, were motivated by concerns regarding lowballing, and the potential resultant weakening of auditor independence and reduction in audit quality. Most recently, attention has shifted to examine the impact of auditor industry specialisation (i.e., expertise) on audit fees (for example, Pearson and Trompeter, 1994; Craswell, Francis and Taylor, 1995; Cullinan, 1998); results to date have been contradictory.

In addition to the extensive literature on audit pricing in the private sector, there are also a few studies that investigate sub-markets within the public sector (e.g., Baber, 1983; Baber, Brooks and Ricks, 1987). The objective of these studies is to establish the generalisability of findings regarding audit fee determinants from the private sector to other audit markets, and also to identify additional factors reflecting the unique aspects of the accounting and auditing environment in the public sector. Moreover, the demand for accountability in this sector is increasing and so audit pricing studies of sub-markets within the sector are of importance in their own right. To our knowledge, however, no study has investigated audit pricing in the voluntary sector.

The voluntary sector is seen to be the 'major third force (in addition to the private and public sectors) in society without which much social provision would seize up' (SCVO 1997:4). In many countries, political and fiscal constraints on the welfare state are resulting in an increased flow of public resources into the sector, with local government contracting with the sector to provide services. The charity sector is the most significant component of the voluntary sector.[1] Approximately

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[1] There are considerable difficulties associated with defining the charity sector and measuring its size. Narrow operational definitions exclude museums, universities, private colleges and schools, local enterprise companies, hospital trusts, housing associations, friendly societies, trade unions, and places of worship, because they are insufficiently oriented towards the public benefit, are not sufficiently independent, or information is not readily available.

4% of the paid UK labour force is estimated to be employed in this sector, with registered charities in England and Wales having an income of £16bn in 1996 (Pianca and Blackwood, 1996:1). This represents approximately 3–4% of gross domestic product (GDP) (Wise, 1995:3). There are approximately 187,000 registered charities in England and Wales alone (Pharoah and Smerdon, 1998).[2]

Currently, public confidence in this sector is low, due to a number of highly publicised scandals and frauds and poor quality reporting (*Accountancy Age*, 1998; *The Herald*, 1999). There is clearly a need to demonstrate greater accountability if this sector is to achieve its full potential (NCVO, 1998). Moreover, accountability must be especially rigorous in this sector due to the weakness of the 'customer' (i.e., beneficiary). The recent creation of unofficial independent monitoring bodies, such as The Accreditation Bureau for Fundraising Organisations, seeks to restore the public's trust (*Accountancy Age*, 1998). The independent audit is a key means of providing accountability, but the requirement for an external audit depends on the exact nature of the charity and its location. Incorporated charities whose annual gross income is above £250,000, or whose balance sheet total exceeds £1.4m, are subject to a full statutory audit under the Companies Act 1985.

Unincorporated charities in England and Wales also require an audit if annual income or expenditure exceeds £250,000 (Charities Act 1993) but in Scotland the threshold is £100,000 (Law Reform Act 1990). Charities falling below these thresholds may nevertheless have provisions in their governing documents that require an independent audit. Generally, smaller charities may be required to undergo an independent examination of their financial statements or to appoint a reporting accountant.

Auditors of charities must comply with the Auditing Practices Board's Auditing Standards and take into account the additional considerations contained in the 1996 Practice Note 'The Audit of Charities' (APB, 1996). Rules on the appointment and remuneration of auditors are contained in the relevant legislation (e.g., The Companies Acts, the Charities Act 1993). However, for non-incorporated charities there are no members to ratify audit appointments and there is no formal requirement for an annual general meeting as a forum for appointment, so the choice of auditor is effectively left to trustees. Audit reports are normally addressed to the trustees or directors (if incorporated), although the charity's governing document or specific legislation may identify another or other parties to whom the auditor should report. For example, the British Museum is audited by the National Audit Office which reports to the Houses of Parliament, under the Museums and Galleries Act 1992, since the museum is predominantly funded by the government. Additionally, there is a general statutory duty under the 1993 Act (for England and Wales) for auditors to report certain matters such as misconduct or mismanagement by trustees directly to the Charities Commission, which is the regulatory body. In Scotland, auditors have a right (not a duty) to report such matters to the Lord Advocate. Oddly, charitable companies are not subject to this reporting duty under current Companies Act provisions.

All charities in the UK should adopt the accounting requirements of The Statement of Recommended Practice (SORP) Accounting by Charities, issued in 1995 by the Charities Commission. This is supplementary to the accounting requirements of the Companies Act 1985, Charities Act 1993 and Financial Reporting Standards. The SORP was issued in recognition of the need to improve the quality of charity reporting. The key feature of the SORP is the requirement for a Statement of Financial Activities (SOFA) in lieu of an Income and Expenditure Account, though the latter may still be required under legislation such as the Companies Act. The SOFA shows all incoming resources (capital and revenue), direct charitable expenditure separate from other expenditure such as fundraising and administration costs, and a reconciliation of movements in the charity's separately identified funds for the year.

Auditors in the charity sector must therefore familiarise themselves with the SORP requirements as well as the legislation and regulations particular to the constitution of their client charity, its governing documents and the additional auditing considerations outlined in the APB Practice Note. All of our sample charities fell within the audit thresholds and were subject to the SORP requirement to disclose audit fees in addition to fees 'for other financial services such as taxation advice, consultancy, financial advice and accountancy' (SORP, para. 162, p.37).

Audit market structure in the charity sector differs substantially from that found in the private sector. In the UK, the private sector exhibits a high and rising level of supplier concentration. Panel B of Table 1 (extracted from Pong, 1999: 461) shows that, in 1995, the Big Six audited 75% of UK listed companies and accounted for a market share of 92% based on audit fees. The equivalent figures for the charity sector (Panel A in Table 1 taken from Barings (1998)) show that the Big Six audited just 25% in number of the top 2,620 charities and accounted for a market share of 26% based on audit

[2] One need only look to North American economies to see the potential for growth in this sector. In Canada, for example, expenditure by registered charities represented 12% of GDP in 1993 (Bryden, 1996; Sharpe, 1994).

Table 1
Comparison of auditor market shares in the charity and listed company markets in the UK

Panel A: UK charities in 1997 (n=2620) [1]

Audit firm	*No clients audited*	*Market share %*	*Rank*	*Total audit fees (£m)*	*Market share %*	*Rank*
KPMG	167	6.4	1	1.32	6.4	3
Coopers & Lybrand	158	6.0	2	1.51	7.3	2
Deloitte & Touche	115	4.4	3	1.19	5.7	4
Ernst & Young	107	4.1	4	0.66	3.2	7
Binder Hamlyn	105	4.0	5	1.54	7.4	1
Price Waterhouse	95	3.6	6	0.78	3.8	5
Grant Thornton	68	2.6	7	0.58	2.8	8
Horwath Clark Whitehill	68	2.6	7	0.31	1.5	14
BDO Stoy Hayward	60	2.3	9	0.50	2.4	9
Kidsons Impey	58	2.2	10	0.39	1.9	12
Pannell Kerr Forster	57	2.2	11	0.40	1.9	10
Neville Russell	55	2.1	12	0.34	1.6	13
Buzzacott	50	1.9	13	0.40	1.9	10
National Audit Office	39	1.5	14	0.67	3.2	6
Arthur Andersen	4	0.2	na	na	na	na
Total[2]	2620	100.0		20.70	100.0	
Market share of top 4 ranked		20.9			22.6	
Market share of top 6 ranked		28.5			33.8	
Market share of BIG SIX		24.7			26.4	
Total number of audit firms[3]			620			

Panel B: UK listed companies in 1995 (n=1401) [4]

Audit firm	*No clients Market share %*	*Rank*	*Audit fees Market share %*	*Rank*
KPMG	20.2	1	22.2	2
Coopers & Lybrand	15.4	2	23.3	1
Price Waterhouse	12.5	3	15.7	4
Ernst & Young	11.6	4	18.1	3
Touche Ross	9.2	5	7.0	5
Arthur Andersen	6.0	6	5.5	6
Binder Hamlyn	3.8	7	1.6	7
BDO Stoy Hayward	3.4	8	0.7	10
Grant Thornton	3.1	9	0.8	9
Pannell Kerr Forster	1.7	10	0.8	8
Market share of top 4 ranked	59.7		79.4	
Market share of top 6 ranked [i.e., market share of BIG SIX]	74.9		91.9	
Total number of audit firms		106		

Notes
1. Data obtained from pages 1.30 and 1.31 of Barings (1998).
2. Total audit fees are estimated from the data on page 1.30 of Barings (1998).
3. Obtained by counting no of separate audit firms on pages 8.3–8.36 of Barings (1998).
4. Extract from Table 3 on page 461 of Pong (1999).
5. Table includes the top 9 audit firms, based on either measure of market share, plus Arthur Andersen.

fees. Moreover, the composition of the top six charity auditors differs from the Big Six. Binder Hamlyn, a 'second tier' firm, audits 105 charities, ranking fifth and emerges as the market leader based on audit fees. Further, the National Audit Office also features in the top tier of charity auditors, ranking sixth based on audit fees but based on a smaller number of audits. The 'outlier' of the Big Six is Arthur Andersen, who apparently undertook *just four charity audits (Barings, 1998: 8.3).*[3] These differences in market structure provide a unique setting within which to examine the links between market structure and pricing (an aspect of market conduct) that have concerned previous researchers.

The different audit risks and audit market structure mean that the charity sector is a valuable setting within which to develop and test audit pricing models, thereby extending our understanding of pricing issues generally. Moreover, the growing importance of this sector in economies worldwide, and the need for a high level of accountability, mean that an understanding of audit fee determinants in this sector is important in its own right. The present study has four objectives. First, to develop and estimate a model of charity audit fee determinants. Second, to assess the existence of a Big Six brand name premium in a market in which none of the Big Six firms is considered a specialist. Third, to test the pricing impact of expertise in a niche market where the Big Six firms have less dominance than is commonly encountered. Fourth, to undertake an explicit comparison of the level of charity audit fees with those prevailing in the private sector. While the latter does not contribute directly to our general understanding of audit pricing, it will provide preliminary evidence to form the basis of further research on audit risks in the charity sector.

The remainder of this paper is structured as follows. Section 2 reviews the prior literature on audit pricing, covering first the private sector and then the limited number of studies on the public sector. Studies that specifically examine the impact of expertise, in the form of market share, are also reviewed. Methods are described in Section 3, including a discussion of audit risks in the charity sector, model specification and the procedures for the comparison of audit fee levels at the sectoral level. Section 4 deals with sample selection, followed by the presentation and discussion of results in Section 5. A final section summarises and concludes.

[3] However, in 1994, Arthur Andersen and Binder Hamlyn effectively merged when the four major UK offices of Binder Hamlyn were taken under the Arthur Andersen umbrella.

2. Prior literature

There exists a well-developed literature on the determinants of audit fees in the private sector, dating from the seminal article by Simunic (1980). Three principal lines of research have emerged, which focus on the presence of a Big Eight fee premium, the presence of low-balling, and the impact of non-audit services (NAS) provision. The main objective of Simunic's study was to investigate the impact of the audit firm size variable, after controlling for cross-sectional differences in auditee characteristics. At this time, rising concentration ratios within the market had led to concerns that the Big Eight were behaving monopolistically, i.e., the audit industry was not competitive. In the market of the late 1980s, however, the concern was that audit firms were 'low-balling', i.e., quoting fees below cost to secure clients. Thus, this line of research focused on initial audit engagements. The third main line of research focused on the impact on audit fees of the provision of NAS by the incumbent auditor, amid concerns that such provision impaired auditor independence.

Simunic (1980) develops a pricing model in which the audit fee is determined by differences in loss exposure, differences in the assessed loss-sharing ratio, differences in auditor production functions, and auditor identity. He notes that the observation of a Big Eight premium, while consistent with the extraction of monopoly rents, is also consistent with the existence of product differentiation accruing to high reputation. Moreover, the potential existence of economies of scale would offset both of these factors (Simunic, 1980: 170).

Loss exposure is proxied using auditee size (total assets), complexity (number of consolidated subsidiaries, number of industries engaged in, and proportion of foreign assets), and risky asset types (proportion of debtors and proportion of stock). The loss-sharing ratio is proxied by the accounting rate of return, the existence of a net loss in the two prior years, and the presence of a 'subject to' qualification in the current year. Differences in auditor production functions are captured by an audit tenure variable.

Simunic finds that auditee size is the most important determinant of audit fees. Only the accounting rate of return and tenure variables were not significant in the regression equation, and the overall explanatory power was 46%. The key variable of interest, a Big Eight dummy variable, was insignificant. Thus, the hypothesis that price competition prevails could not be rejected. Moreover, the negative sign on the coefficient suggested that the Big Eight enjoy economies of scale, which are passed on as lower fees to auditees (Simunic, 1980: 187–188).

In subsequent studies, the main control variables in Simunic's model have consistently been found

to be significant. The basic specification of the audit fee model has remained essentially unchanged over the last 20 years, although one or two new explanatory variables have been added.[4] The explanatory power of the model has generally been in the region of 70%. The model has been estimated using many different data sets, drawn from several countries and time periods, in an attempt to assess the generalisability of extant findings and, in some cases, to resolve conflicting findings regarding the audit fee premium variable.

Studies that focus on the existence of a Big Eight (more recently, Big Six) fee premium include Simunic (1980), Simon (1985), Palmrose (1986a), Francis and Simon (1987), Beatty (1993), and Gist and Michaels (1995) in the US; Taylor and Baker (1981), Taffler and Ramalinggam (1982), Chan, Ezzamel and Gwilliam (1993), Brinn, Peel and Roberts (1994), Pong and Whittington (1994), and Che-Ahmad and Houghton (1996) in the UK; Francis (1984) and Francis and Stokes (1986) in Australia; Firth (1985) and Johnson, Walker and Westergaard (1995) in New Zealand; Chung and Lindsay (1988) and Anderson and Zéghal (1994) in Canada; Low, Tan and Koh (1990) in Singapore; Lee (1996) and Gul (1999) in Hong Kong; Simon, Teo and Trompeter (1992) in Hong Kong, Malaysia and Singapore; Simon, Ramanan and Dugar (1986) in India; and Langendijk (1997) in the Netherlands.

Results, while inconclusive, are suggestive of the existence of a fee premium in the case of small auditees, but not large auditees (e.g., Palmrose, 1986a; Francis and Simon, 1987; Taffler and Ramalinggam, 1982; and Francis and Stokes, 1986). This premium is generally attributed to the existence of differentiated audit services, consistent with the predictions of DeAngelo (1981a).

Studies that focus on the existence of low-balling are of two types: those that focus on real markets and those that use data generated from artificial markets. Studies using real market data include Simon and Francis (1988), Turpen (1990), Ettredge and Greenberg (1990) in the US; Gregory and Collier (1996) in the UK; Butterworth and Houghton (1995) and Craswell and Francis (1999) in Australia. DeAngelo's (1981b) model predicts that low-balling will occur. Because audit cost functions are unobservable, fee cutting on initial engagements is used as a proxy for fees cut below the cost of conducting the audit. This may result in model mis-specification. A significant fee reduction in the initial engagement year is observed in both the US and the UK (Simon and Francis, 1988: –24%; Turpen, 1990: –19%; Ettredge and Greenberg, 1990: –25%; Gregory and Collier, 1996: –22%). However, this is not found in Australia.[5]

Studies that use artificial markets include Schatzberg (1990, 1994) and Schatzberg and Sevcik (1994). Schatzberg (1990) finds evidence consistent with DeAngelo's (1981b) prediction that low-balling will occur when transactions costs are positive. Schatzberg (1994) and Schatzberg and Sevcik (1994) extend this work to examine the relationship between low-balling (price) and auditor independence (quality) and find evidence that transactions costs are not a *necessary* condition for low-balling to occur. An alternative rationale is the existence of cross-sectional variation in audit cost and quality and an informational advantage that accrues to an incumbent auditor-client pair regarding future variations in these audit dimensions.

The impact of NAS provision has been the focus of several studies including Simunic (1984), Palmrose (1986b), Parkash and Venable (1993) and Davis, Ricchiute and Trompeter (1993) in the US; Ezzamel, Gwilliam and Holland (1996, 1997) in the UK; Barkess and Simnett (1994) in Australia; and Firth (1997) in Norway. These studies generally show a positive relation between audit and non-audit fees,[6] which is interpreted by some authors as due to knowledge spillover effects and/or audit production efficiencies and a price-elastic demand for audit services. While other authors dispute this interpretation, a satisfactory alternative has yet to be proposed. Further, using production function data that allows them to control for audit effort, Davis et al. (1993) do not find a significant relation, suggesting that the link is not due to a pricing premium. Parkash and Venable (1993) distinguish between recurring and non-recurring NAS, arguing that only recurring NAS are likely to result in a reduction in perceived auditor independence. They find that auditees purchase higher levels of recurring NAS when they engage industry specialists, which suggests that the selection of an industry specialist is a quality signal that permits the auditee to purchase higher levels of recurring NAS than would otherwise be the case.

Organisational differences can result in differences with respect to factors that determine the supply and demand, and thus the fees, for audit services. A number of studies have examined the determinants of audit fees in the context of the

[4] Gist (1992, 1994) examines the auditee's regulatory complexity and finds proxies for this factor to be significant and explicable in terms of scale economies and specialisation effects. Iyer and Iyer (1996) examine the impact of the Big Eight mergers on fees and find none.

[5] Craswell and Francis (1999) conclude, following Dye's (1991) analytical work, that the public disclosure of audit fees in Australia precludes initial engagement discounting such as observed in the US. However, this conclusion is not consistent with the UK evidence of Gregory and Collier (1996) who report a significant discount in a setting where audit fees are disclosed.

[6] There is some evidence that this general finding is contingent upon the *type* of NAS supplied and confined to corporate finance and tax services rather than consultancy services (Ezzamel et al., 1997).

public sector (Baber, 1983; Beck and Barefield, 1986; Baber, Brooks, and Ricks, 1987; Rubin, 1988; Ward, Elder, and Kattelus, 1994; Sanders, Allen and Korte, 1995; Deis and Giroux, 1996; and Bandyopadhyay and Kao, 1998).[7] These studies are all conducted in North American settings, most frequently the municipal audit market. It is found that, in addition to the determinants of audit fees in the private sector, additional variables that reflect the unique aspects of the public sector environment have significant explanatory power (e.g., political factors).

Finally, a recent development in the literature is a focus on the impact of auditor expertise and specialisation. Some studies have found that auditors with a specialism in a particular sector receive an audit premium, but others have found that such auditors charge lower audit fees. In an early US study, Palmrose (1986a) found no evidence of an 'industry specialism' premium. Using a large sample of Australian listed companies, Craswell, Francis and Taylor (1995) attempt to disentangle the two components of the Big Eight fee premium: the general brand name premium and the industry specialisation premium. Three levels of audit quality are posited and supported by their evidence: at the highest level specialist Big Eight firms, then non-specialist Big Eight firms, then non-Big Eight firms. Matthews, Jubb and Houghton (1997) extend this work to investigate the structure in the market for audit services in Australia based on the traditional Big Six/non-Big Six dichotomy and a specialisation definition of 20% of state industry audit fee market share, i.e., a four-sector system. Their audit pricing evidence suggests that these four sectors collapse into two levels of audit quality. The higher level includes specialist Big Six, non-specialist Big Six and specialist non-Big Six, while the lower level comprises non-specialist non-Big Six audit firms.[8]

Using fee data from listed Hong Kong companies, DeFond, Francis and Wong (2000) find evidence of Big Six premia both for general brand name and for industry specialisation. Interestingly, however, they find that a specialist non-Big Six firm in one sector *discounts* fees relative to other audit firms. They conclude that Big Six brand name reputation is a necessary foundation on which to extract a fee premium based on industry specialisation.

Researchers have also investigated other audit markets that are less dominated by the Big Six. Cullinan (1997, 1998) examined the effect of industry expertise on audit fees in the US multi-employer pension plan market, a market in which the Big Six firms have a relatively small market share. Results indicated that non-Big Six firms with industry expertise received a fee premium over non-specialist firms, whereas Big Six firms with larger market shares did not. This suggests that non-Big Six firms may be able to benefit from market specialism in niche assurance service markets. Earlier, Ward et al. (1994) had found that an 'auditor experience' variable was positively associated with audit fees in their study of US municipalities. The study on school district audits in Texas by Deis and Giroux (1996) found that auditors with greater market share charged lower audit fees, as did Pearson and Trompeter (1994) in their study of the US insurance company audit market. Thus, overall, the evidence for an 'expertise' audit fee premium is somewhat mixed.

3. Methods

3.1. Audit risks in the charity sector

Before describing the audit fee model adopted in the current study, it is necessary to discuss the nature and extent of audit risks in the charity sector since these differ somewhat from those encountered in the private sector.

By law, charity trustees have similar responsibilities to company directors (i.e. safeguarding assets, annual reporting, compliance with relevant legislation and other regulations, and the prevention and detection of fraud and error in their financial statements by means of internal control systems). Auditors' responsibilities are laid down in statute, the main legislation being the Companies Acts 1985 and 1989, Charities Acts 1992 and 1993, and The Charities (Accounts and Reports) Regulations 1995, and in professional auditing standards issued by the Auditing Practices Board. Litigation against auditors in the private sector has become a major concern for practising firms in recent years, evidenced by the 1997 £53m out-of-court settlement paid by BDO Binder Hamlyn to ADT, a third party plaintiff. The decision in the ADT case (*ADT Ltd v BDO Binder Hamlyn* [December 1995], unreported), that an auditor may owe a duty of care to a third party if he makes statements regarding the

[7] While this paper was under review, we became aware of a working paper by Clatworthy, Mellett and Peel (2000) that examines audit fees in UK NHS trusts. This is a market in which auditors are appointed by the Audit Commission and private sector auditors are in the minority. Their model explains 47% of observed fee variation. Unusually, they find a significant negative relationship between audit and NAS fees, supporting the 'knowledge spillover' hypothesis. No evidence is found of a Big Six auditor premium. They also report that the ratio of auditor fees to turnover is less than half that for private healthcare companies. This finding is attributed to differences in audit risk, supply-side factors such as labour cost differentials and/or demand-side factors, such as the existence of a dominant purchaser and regulator.

[8] Ritson, Jubb and Houghton (1997) develop a continuous measure of the extent of change in industry specialisation and find this variable to be significant in a model of auditor change. Specialisation is measured as the percentage of *total* revenues earned by the auditor from the auditee's industry (Ritson et al., 1997:10), a measure that avoids the use of a subjective cut-off rule.

audited accounts to that party, caused audit firms considerable anxiety. It seemed to go against the landmark Caparo decision of 1990 (*Caparo Industries plc v Dickman and Others* [1990], 1 All ER 568) which limited the auditor's duty of care to shareholders as a body (i.e. not to individual shareholders/investors, and certainly not to third parties).

Case law suggests therefore that, provided the auditor does not actually assume a duty of care to a third party relying on audited financial statements, his duty of care is restricted to those with whom he has contracted to carry out the audit. According to the Caparo decision, in order for an individual to take legal action against an auditor, there must firstly be proximity. In the charity sector there is no body of shareholders and therefore no obvious party to sue an auditor for negligent work. Gordon, Greenlee and Nitterhouse (1999), in their useful overview of the regulation of US charities, similarly affirm that, under US legislation, 'individual donors have no standing to bring suit against charitable organisations in court'. A review of UK case law (Sweet & Maxwell's *Current Law Cases Database*, 1986 to date) failed to reveal any cases involving auditors of charities being sued; the vast majority of the cases dealt with issues such as charitable status, property and tax law. These observations suggest that litigation loss may not be a key factor in charity audit risk, though it is possible that the courts might be prepared to extend the duty of care in the case of voluntary/public sector bodies. However, 'reputational loss' may be an important consideration in auditors' overall risk assessment.

The external audit of charities also presents risks that are peculiar to the sector. The Auditing Practices Board (APB) issued a Practice Note (Practice Note 11, October 1996) in which they identify five inherent risk factors requiring particular consideration by auditors of charity accounts. First, the extent and complexity of regulation affecting the voluntary sector is high, which increases the risk that either trustees or directors may unintentionally breach regulation. Tax rules are especially complex in this area as can be witnessed by the extent of case law arising in recent years. Second, the significance of donations and cash receipts presents problems for the auditor in terms of vouching completeness of income and controls over cash handling. Third, the uncertainty of future income, whether the source is voluntary or grant-based, creates difficulties for the auditor in assessing going concern status. Fourth, the fact that many charities rely on voluntary workers, fund-raising on the charities' behalf from widespread branches and retail outlets, is a significant risk factor. These volunteers are not controlled by the reporting entity in the way that employees are, and their skills, competence and integrity cannot be readily judged. Finally, the auditor must pay attention to the charity's governing documents to ensure that it is operating according to its objects, that its trustees are complying with their designated authority, and that its financial activities are compatible with any restrictions laid down in those documents.

3.2. Charity audit fee model

The first objective in the present study is to develop and estimate a model of charity audit fee determinants. In common with previous studies, our approach is to seek to explain the cross-sectional variation of audit fees using an OLS regression model. Much of the logic of previous work on private sector companies is relevant in deriving our model but it is also necessary to consider additional potential explanatory variables to capture the unique aspects of charities. For ease of exposition, the variables used in the basic charity audit fee model are classified into five mutually non-exclusive categories: auditee size, auditee complexity, audit production costs, non-audit services and audit difficulties and, thus, the general model specification can be summarised as:

audit fee = f (auditee size, auditee complexity, audit production costs, non-audit services, audit difficulties)

Table 2 (Panel A) provides a full listing of the specific proxy variables used, their definitions, variable names, the expected coefficient signs and the sources of the data.

3.2.1. Auditee size

A financial audit involves the review of the accounting and internal control system and of the financial transactions of the organisation. Larger organisations will usually undertake more transactions and have larger balance sheet assets and liabilities, thereby requiring more audit work. Thus, it is expected that larger charities will generally be associated with larger audit fees. In private sector studies, auditee size has often been proxied by company total assets (e.g., Taylor and Baker, 1981; Brinn et al., 1994; Firth, 1997) and occasionally by total sales (e.g., Haskins and Williams, 1988; Chan et al., 1993). In public sector studies of local government audits, population has been used as the size proxy (e.g., Rubin, 1988; Baber et al., 1987).

The measurement of size in the charity sector is not straightforward. First, most charities are by nature service-providers so the link between output and assets is not well defined. This link is further obscured once the difference between the two major types of charity is considered. Grant-making charities tend to have relatively high asset levels, but these are often investments of various types

Table 2
Definitions of independent variables

Description of potential audit fee determinant		*Data[1] source*	*Variable name*	*Expected sign*
Panel A: Basic model variables				
Auditee size				
Total incoming resources (£000)	[natural log]	R&A	lntotir	+
Total assets (£000)	[natural log]	R&A	lnasset	+
Total funds (£000)	Sum of restricted and unrestricted funds [natural log]	R&A	lntotf	+
Auditee complexity				
Number of trading subsidiaries		R&A or B	subs	+
Number of different significant areas of activity [i.e. no of areas with >25% of expenditure]	[integer from 1 to 4]	B	divers	+
Number of trading outlets		R&A or B	outlets	+
Number of branches		R&A or B	branch	+
Debtors	[total debtors / total assets]	R&A	deb	+
Stock	[stock / total assets]	R&A	stock	+
Grant-making or fund-raising	[= 1 for Fund-raising]	B	type	+
Constitution	[= 1 if Trust]	R&A or B	constT	+ or –
Constitution	[= 1 if Act of Parliament or Royal Charter]	R&A or B	constA	+ or –
[base case is Company, when both constT and constA = 0]				
Principal areas of activity	[= 1 if at least 50% of expenditure in area]			
[for sectors with at least 20 sample charities]				
Culture, sport and recreation		B	CSR	+ or –
Education, training and scientific research		B	ETR	+ or –
Health and medicine		B	HM	+ or –
Social services and relief		B	SS	+ or –
[base case is charities in less common areas]				
Overseas activities	[= 1 if evidence of o/seas activities in fin statements]	R&A	oseas	+
Trading activity – proportion of income from trading	[gross trading income / total incoming resources]	R&A	trad%	+
Fund-raising activity – proportion of income from fund-raising	[fund-raising income / total incoming resources]	R&A	fundr%	+
Number of trustees (or equivalent)		R&A	trust	+ or –

Notes
1. B = data sourced from Barings (1998); R&A = data sourced from charity Report and Accounts.

Table 2 *(continued)*
Definitions of independent variables

Description of potential audit fee determinant		*Data[1] source*	*Variable name*	*Expected sign*
Audit production costs				
Location of audit firm	[= 1 for London]	R&A	audloc	+
Busy season audit	[= 1 if year-end in Dec/Jan/Mar/Apr]	R&A	ye	+
Non-audit services				
Fees to auditor for non-audit services (£000)		R&A	nasfee	+ or –
Audit difficulties				
Lag (days) between year-end and date of audit report [mean audit delay used for 21 charities with undated audit reports]		R&A	delay	+ or –
Qualified (i.e. non-standard) audit opinion	[= 1 if qualified]	R&A	opinion	+
Panel B: Experimental variables				
Auditor premium				
Big Six /Non-Big Six	[= 1 if Big Six]	R&A	BIG6	+ (if premium)
Individual firm dummies for Big Six auditors [KPMG, CL, DT, EY, PW; Arthur Andersen had 0 sample audits]	[= 1 if charity is audit client of firm]			+ or –
Market share/specialist	total number of audit clients in charity sector	B	specialist	+ (if premium)
Individual firm dummies for non-Big Six market leaders	[= 1 if charity is audit client of firm]			
Binder Hamlyn		R&A	BH	+ or –
Grant Thornton		R&A	GT	+ or –
Horwath Clark Whitehill		R&A	HCW	+ or –
BDO Stoy Hayward		R&A	BDO	+ or –
National Audit Office		R&A	NAO	+ or –

Notes
1. B = data sourced from Barings (1998); R&A = data sourced from charity Report and Accounts.

and, therefore, are reasonably straightforward to audit. By contrast, fund-raising charities have relatively few assets but there are significant control difficulties associated with funds raised. Given the problem of using assets as the size measure, we use *total incoming resources* (the closest charity equivalent to company sales), while also recognising the major difference between grant-making and fund-raising charities via a dummy variable (*type*). This dummy takes the value of 1 if the charity is fund-raising and 0 if grant-making so the higher audit cost associated with the former will be reflected in an expected positive coefficient. As this dummy variable might more usefully be considered an indication of complexity we classify it as such. To test whether the results are sensitive to our choice of size measure, we also use measures based on total assets and on total funds (i.e., the sum of restricted and unrestricted funds).

Audit costs are likely to benefit from economies of scale since the cost of assessing the control system is relatively fixed in nature and sampling theory dictates that the cost of transaction testing need not increase linearly with the number of transactions. Thus, the use of a non-transformed size variable may not adequately reflect the fee-size relationship. Most previous studies have adopted a log transformation of the size variable to reflect this non-linearity. However, Pong and Whittington (1994) argue against the use of a log transformation of variables, such as size, without explicit consideration of the underlying relationship. They accommodate economies of scale by using a non-transformed asset variable in addition to its squared equivalent. They also recognise the difficulties associated with each of the two main size proxies by incorporating both sales and asset variables in their model. They argue that the resulting multicollinearity between assets and sales does not present a serious problem.[9] Consequently, we also assess the usefulness of incorporating both variables in our models.

To establish the most appropriate functional form of the size measure, preliminary tests of the relationship between charity audit fees and total incoming resources were undertaken.[10] These confirmed that a linear model is inappropriate, but that both a log-linear model and a quadratic model are acceptable; results for both models are reported later.

3.2.2. Auditee complexity

It is likely that the level of audit work will increase with the level of auditee complexity. In previous private sector studies, proxies for complexity have included the number of subsidiaries, the number of industries in which the company participates, the number of different company locations and variables relating to asset composition. To the extent that relevant parallel proxies exist in the charity sector, they have been used, and a number of proxies unique to the sector have also been identified.[11]

The parallel complexity proxies in the charity sector are the number of trading subsidiaries (*subs*),[12] the number of different significant areas of activity (*divers*), the number of trading outlets (*outlets*) and the number of branches (*branch*). The equivalent asset composition proxies, indicating the importance of the relatively 'difficult to audit' asset-classes stock and debtors, were measured as the proportion of total assets represented by debtors (*deb*) and by stock (*stock*).

Several unique dimensions of complexity in the charity sector may impact on the level of audit fees. First, the fundamentally different nature of fund-raising and grant-making charities was as-

[9] They report a bivariate correlation between sales (S) and assets (A) of 0.98 but do not report the results of any further diagnostic tests for multicollinearity. They merely assert that 'The fact that the standard errors [presumably *coefficients* was intended] on S and A in Table 3 are statistically significant at an acceptable level suggests that it (i.e., multicollinearity) is not a serious problem'. Further, Gregory and Collier (1996:20) report having problems with multicollinearity when they used the Pong and Whittington model.

[10] A Mackinnon-White-Davidson (see Gujarati, 1995: 265) test of functional form rejected the linear model and accepted a log-linear model as potentially appropriate. Further evidence from a Durbin-Watson test and the Ramsey RESET specification test (see Gujarati, 1995: 462 ff.) confirmed the linear model as inappropriate, but both log-linear and quadratic models were acceptable. However, the level of heteroskedasticity was much higher for the latter (as Pong and Whittington, 1994, conceded).

[11] A number of standard control variables relating to audit risk are omitted from the models. Some of the omitted variables (e.g. 'loss-making', return on investment) are not relevant to non-profit organisations such as charities. Parallel measures based on operating surplus/deficit would not capture similar risk aspects since charities expect to report deficits. Indeed a deficit could be seen as a measure of success in achieving the aims of the charity! 'Liquidity' measures, such as current and quick ratios, are also omitted from our model specification. In prior studies, the coefficients on these two variables are typically found to be significantly positive and negative, respectively. This suggests that either the two variables are collinear (quite likely given their construction) or that they are proxying for something other than liquidity. For example, the current ratio includes both stock and debtors, both of which are difficult to audit suggesting a positive relationship with audit fees. On the other hand, high liquidity should reduce the likelihood of firm failure, thereby reducing audit risk and implying a negative relationship with audit fees. In view of the difficulty in interpreting results for these variables, we have preferred to include stock and debtor measures separately in our model specification.

[12] Many prior empirical papers have taken the square root (or log) transformation of the number of subsidiaries. Although this has not been adopted in the present paper, additional testing shows that the results are not sensitive to this. In Model 1a, for example, adoption of the square root proxy leads to one very minor change in the significance of variables: the t-statistic for SS changes from 1.98 to 1.90 giving significance at the 10% rather than 5% level (in fact the p-value changes from 0.049 to 0.059).

sessed by incorporating the *type* binary variable (discussed in the previous section); the classification in Barings was adopted here.

Second, it can be hypothesised that a charity's constitution might affect the work required of the auditor and, consequently, the audit fee. This could result from additional reporting requirements to government or regulators, or perhaps from differing trustee (or equivalent) needs for audit assurance. This was explored by categorising the charity as a company, a trust, or one whose constitution was set up by Act of Parliament or Royal Charter. This split was incorporated using dummy variables for the latter two categories (*constT* = 1 if the charity is a trust, *constA* = 1 if Act of Parliament or Royal Charter), leaving company status as the base case.[13] A priori, the expected signs on these coefficients are difficult to predict.

While the diversity of activities within a charity is one potential audit fee determinant (already proxied by *divers*), the specific area of charitable activity might also be important. This is analogous to the argument supporting the use of industry dummies in private sector audit fee studies (e.g., Simunic (1984) and Barkess and Simnett (1994) both found evidence of significant industry factors). To assess this, classifications were extracted from Barings and dichotomous variables constructed for the major areas of activity represented in the sample charities. A charity with at least 50% of its expenditure in a particular area of activity was classified as having a major interest in that area. Five areas of activity had at least 20 sample charities with a major interest in the area, so were considered for inclusion in the model. One of these areas, 'international', was strongly correlated with another variable (*oseas*) and was excluded from the model as the latter was considered more effective in capturing charities with significant overseas involvement. Thus, four dummy variables representing major areas of activity were included in the model; these were 'culture, sport and recreation (*CSR*)', 'education, training and scientific research (*ETR*)', 'health and medicine (*HM*)' and 'social services and relief (*SS*)'.[14] Charities within other areas of activity acted as the base case.

Other aspects of charities' operations that may impact on audit fees include involvement overseas, significant trading activities, and the importance of fund-raising activities.[15] Overseas involvement (*oseas*) was measured dichotomously, taking a value of 1 if there was any evidence of significant overseas activity within the financial statements. Trading activities are broadly incorporated in the model through the variables 'number of trading subsidiaries' (*subs*) and 'number of trading outlets' (*outlets*). As these two variables are rather crude indicators of trading activities, an additional variable indicating the relative importance of trading in generating income was also investigated. This was measured as the proportion of total incoming resources relating to gross trading activities (*trad%*). Similarly, the binary variable (*type*) based on Barings categorisation of charities as fund-raising or grant-making only crudely captures the importance of fund-raising activities within a charity. So, to capture more accurately the potential increased audit costs associated with the difficulties in control of fund-raising activities, an additional continuous variable *fundr%* was incorporated; this measures the proportion of total incoming resources relating to fund-raising. All three additional variables (*oseas*, *trad%* and *fundr%*) are expected to have positive coefficients.

Finally, it is possible that the number of trustees (or equivalent) might affect audit risk. On one hand, it could be argued that a larger number of trustees might lead to more rigorous governance and a commensurate reduction in audit risk. On the other hand, a large trustee group might lead to a reduction in each individual's perceived responsibility and perhaps fewer meetings, thereby resulting in weaker, less robust, organisational governance. The number of trustees was captured in a variable *trust*, whose expected sign is, a priori, indeterminate.

3.2.3. Audit production costs

In common with private sector audits, two aspects of the audit process are expected to have an effect on audit fees. The location of the audit staff undertaking the audit will affect the costs of employing audit staff, with higher costs associated with the London area. This is proxied by the office location of the audit firm undertaking the audit as indicated in the audit report. A dichotomous measure (*audloc*) is used taking the value 1 if the location

[13] The coefficient on *constT* measures the incremental audit fee (log transformed) for charities with a 'trust' constitution above the audit fee for the base case of a charity with a 'company' constitution; a similar argument applies to *constA*.

[14] It is possible that the financial statements of housing group charities may differ significantly from other charities (e.g. the amount of land stock may be expected to be much higher) and that this may affect some of the key ratios. The sensitivity of the results to this was tested in two ways. First, inclusion of an extra dummy variable for charities in this subsector was incorporated in the basic model (1a). The coefficient on this dummy was insignificant (t-stat = 0.56) and there was a minor change in the significance of just one of the control variables (*divers*, marginally ceased to be significant; p value = 0.115). Second, the regression was re-estimated excluding all housing group charities; there were no changes in variable significance. We are grateful to one of the referees for drawing this point to our attention.

[15] A charity auditor suggested that the variety of different sources of income also affects the level of audit fees. To the extent that charities in a particular sector have similar sources of income, this aspect is proxied by the 'area of activity' dummy variables.

was London and 0 if elsewhere, and a positive coefficient is expected.[16]

The majority of UK private sector companies have either December or March year-ends, causing considerable seasonality of audit work for audit firms. It is hypothesised that audits performed around this busy period will be more costly because of the increased demand for auditors' services. This potential 'busy season' factor is captured by a dichotomous year-end variable (*ye*) that has a value of 1 if the year-end is in December, January, March or April and 0 otherwise.

3.2.4. Non-audit services

Many private sector studies in the US (e.g., Simunic, 1984; Simon, 1985; Davis et al.; 1993), in Australia (e.g., Barkess and Simnett, 1994), in Norway (Firth, 1997) and in the UK (Ezzamel et al., 1996) have observed a significant positive association between audit fees and payments to auditors for non-audit services. Several explanations for this positive relationship have been proposed, including knowledge spillovers between audit and non-audit services, but a consensus view has not emerged. The association in the charity sector is investigated by inclusion of a continuous variable, the fees payable to auditors for non-audit services (*nasfee*), in the audit fee model.

3.2.5. Audit difficulties

A qualified audit report, or a long lag between year end and audit report completion, often reflects difficulties in the auditee organisation (e.g., fraud or going-concern problems), potentially increasing audit risk. It is expected that this would lead to an increased audit fee either because additional audit work is required, or to reflect an element of insurance premium to compensate the auditor for the additional risk. Positive coefficients on proxies for these two variables have been found in previous studies of private sector firms (e.g., for audit delay: Chan et al., 1993; Ezzamel et al., 1996). However, in charity audits, there is usually less pressure to complete the audit within a short period after the accounting year-end. Thus, for charities, a greater audit 'delay' might also arise because the audit firm had been able to schedule the audit to coincide with 'slack' periods thereby benefiting from reduced marginal staff costs. This would suggest a negative relationship between audit fee and delay. The impact on the level of audit fees of a qualified audit report, here taken as any non-standard features in the audit report, is assessed using a dummy variable (*opinion*). The potential impact of audit delay is explored by including a continuous audit delay variable (*delay*), measured as the number of days between the year-end and the date of the audit report.[17] Interestingly, the audit report was undated (and, with one exception, also unsigned) for 22 of the sample charities;[18] the mean audit delay of the other charities was imputed for these charities.[19]

3.3. Experimental variables concerning auditor premia

3.3.1. Big Six brand name premium

Once a basic model of the determinants of charity audit fees has been determined, the presence of auditor premiums can be assessed. Four specific hypotheses are investigated. Hypothesis one investigates the presence of a large firm audit premium in the charity sector. The audit market structure within the sector is especially useful for exploring this issue since Big Six auditors do not dominate the market to the extent that is true for the private sector. In particular, none of the Big Six can be described as having expertise in the sector, based on the usual definition of expertise indicated by 10% market share (e.g., Palmrose, 1986a; Craswell et al., 1995). Thus, any observed premium can be attributed to brand name rather than any specific sector expertise.

The hypothesis can be stated in alternative form as:

H_1: The brand name of large audit firms (the Big Six) is rewarded by a fee premium above non-Big Six firms in the charity sector.

To test for the existence of a large firm audit premium, a binary variable (*BIG6*) to identify those charities that were audited by one of the Big Six auditors is incorporated in the regression (Model 1 variants).

If evidence of a premium is found, a finer level of detail can be investigated to see whether there is any diversity in reward amongst the Big Six. This leads to the second hypothesis:

H_2: Individual Big Six firms are rewarded by a

[16] The location of the charity head office, taken from Barings, was investigated as an alternative proxy since a similar variable had been used in a previous study (Brinn et al., 1994). This was strongly correlated with *audloc* so was excluded from the model.

[17] As a sensitivity check, the basic model (Model 1a) was also re-estimated excluding 18 charities with large audit delays, taken as longer than a 95% one-sided confidence interval (240 days). There were no changes in variable significance.

[18] This somewhat lax attitude to audit reporting demonstrated by over 10% of the sample charities provides another illustration of relatively poor control procedures. The basic model (Model 1a) was re-estimated including a dummy variable for those charities with an unsigned audit report. The coefficient on this dummy was insignificant (t-stat = 0.12) and there were no changes in the significance of other variables.

[19] Mean value imputation is a strategy for dealing with *missing values without loss of observations* (Little and Rubin, 1989). As a sensitivity check, the basic model (Model 1a) was re-estimated excluding all 22 charities with an undated audit report. There were three minor changes in the significance of control variables: *divers* and *stock* ceased to be significant, and the significance of *trad%* reduced to 5%.

brand name fee premium above non-Big Six firms in the charity sector.

This is tested by incorporating dummy variables for each of the five Big Six firms (*KPMG, CL, DT, EY, PW*) that are active in the charity sector (Models 4 to 6).

3.3.2. Specialist premium

While Big Six auditors do not dominate the charity sector market, they still command relatively large market shares (e.g. KPMG audits 6.4% of the Barings 'top 3000'). Ideally, to assess the relative importance of brand name and industry specialisation, a joint analysis would be applied. The approach usually adopted to carry out this joint analysis is to incorporate a 'specialist' variable in addition to the Big Six dummy variable, with an interactive term Big Six*'specialist' to see if Big Six specialists earn a premium over non-Big Six specialists. Unfortunately, there is likely to be significant collinearity between 'specialist' and Big Six variables. This can lead to increased standard errors for the coefficient estimates, tending to reduce statistical significance, and also the coefficients can be more sensitive to sample data, to the extent that coefficient signs can change on introduction of the collinear variable(s) (Gujarati, 1995: 325–335).

In the current study there was indeed significant collinearity between the Big Six and 'specialist' variables. Introduction of the 'specialist' variable changed the sign of the Big Six coefficient to negative and reduced the significance of both variables.[20] This means that sensible interpretation of the coefficients on these variables was impossible. In view of this, an alternative approach was adopted, in which separate regressions were estimated for Big Six and non-Big Six audit firms; this method has been used in previous studies of audit specialist premia (e.g., Craswell et al., 1995: 310–311). In the separate Big Six regression model (details not reported here), there was no evidence of a fee premium for expertise in Big Six firms. This is not too surprising, given that none of the Big Six firms has a particular comparative expertise/specialism over the other Big Six firms. Specialism in non-Big Six firms is discussed further in the next section.

3.3.3. Non-Big Six specialist premium

The reduced role of Big Six auditors in the charity sector allows pricing by non-Big Six auditors to be investigated, and, in particular, whether there is any evidence of reward for expertise or specialism in the sector. Certainly, some non-Big Six audit firms (e.g. Binder Hamlyn, Horwath Clark Whitehill) market themselves on the basis of specific expertise in the charity sector (see adverts on pages 1.4, 8.7, 8.19 and others, in Barings (1998)), but whether this is rewarded in audit pricing is unclear.

Cullinan (1998: 49–50) discusses various alternative perspectives on audit pricing and the potential impact of market share conditioned on audit expertise. If there are no perceived differences in audit expertise, the impact of higher market share will depend on the approach to pricing adopted by firms. Cost-based pricing would yield lower audit fees as a result of economies of scale reducing per-client costs. If the audit market is characterised by a high degree of concentration, the few firms with a dominant market share could have monopolistic or oligopolistic pricing power, leading to higher audit fees under market-based pricing. If there *are* perceived (and actual) differences in sector expertise, this will tend to increase overall audit firm costs and the effect on per-client costs will depend on the number of clients in the sector. The impact on audit fees in a cost-based pricing environment is indeterminate. In a market-based pricing environment, greater perceived (and actual) expertise results in higher value audits, for which clients would be willing to pay more since this may reduce agency costs. Thus, higher market share is a signal of greater expertise, which should result in higher audit fees. As market concentration is much lower in the charity sector than in the private sector company audit market, there is less likelihood of monopolistic/oligopolistic pricing by a few

[20] For example, in the 'All Charities' model (Model 1a) the coefficient on *BIG6* is 0.0963 (t-stat = 1.26) when this variable is included without the *specialist* variable. Including the *specialist* variable instead of *BIG6* gave a coefficient estimate of 0.0014 (t-stat = 1.80, significant at the 10% level). When both variables were incorporated together, without an interactive term, the coefficient for *BIG6* changed sign to –0.0871 (t-stat = –0.71) and for *specialist* became insignificant, even though it increased in size to 0.0020 (t-stat = 1.62). Inclusion of an interactive term as well gave coefficients of –0.1442 (t-stat = –0.53) for *BIG6*, of 0.0018 (t-stat = 1.17) for *specialist* and of 0.0006 (t-stat = 0.23) for the interactive term *BIG6*specialist*. For Fund-raising charities (Model 3), the coefficient on *BIG6* included on its own is 0.1701 (t-stat = 2.00, significant at the 5% level). Including the *specialist* variable instead of *BIG6* gave a coefficient estimate of 0.0019 (t-stat = 2.36, significant at the 5% level). When both variables were incorporated together, without an interactive term, the coefficient for *BIG6* changed sign to –0.0200 (t-stat = –0.13) and for *specialist* became insignificant, even though it increased in size to 0.0021 (t-stat = 1.35). Inclusion of an interactive term as well gave coefficients of 0.1716 (t-stat = 0.60) for *BIG6*, of 0.0031 (t-stat = 1.76, significant at the 10% level) for *specialist* and of –0.0023 (t-stat = –0.84) for the interactive term *BIG6*specialist*. Collinearity between *BIG6* and *specialist* variables (and the interactive term) was evident in both sets of models: relatively high condition numbers associated with high variance proportions were observed (Belsley et al., 1980, Chapter 3). For example, in the 'All Charities' models, a condition number of 12.8 was associated with variance proportions of 0.83 and 0.91 for *BIG6* and *specialist*, respectively. With the interactive term included, the condition number of 26.52 was associated with variance proportions of 0.70 (*BIG6*), 0.34 (*specialist*) and 0.86 (*BIG6*specialist*), respectively.

market leaders. Consequently, observation of a fee premium is stronger evidence that clients are willing to pay higher audit fees to firms with perceived expertise in the sector.

Thus, the third hypothesis focuses on non-Big Six firms (where brand name reputation is much lower) and assesses the impact of expertise on audit pricing in the charity sector:

H_3: Non-Big Six audit firms with expertise are rewarded by a fee premium above other non-Big Six firms in the charity sector.

Expertise is proxied by market share, measured as the number of charities within the top 2,620 that are audited by the firm.[21] A variable (*specialist*) representing the audit firm's market share is incorporated in a regression based on charities audited by non-Big Six audit firms (Model 7).

If evidence of a premium for expertise is found, a finer level of detail can be investigated to see whether there is any diversity in reward amongst the non-Big Six market leaders in the charity sector. This leads to the fourth hypothesis:

H_4: Individual non-Big Six audit firms with expertise are rewarded by a fee premium above other non-Big Six firms in the charity sector.

Market leadership was based on the ranking in Barings according to the total number of charities audited, and the total audit fees charged (details in Table 1, Panel A). Five non-Big Six firms rank in the top nine on *at least one* of these two measures and binary variables are incorporated in the regression for these firms (Model 8). Table 2 (Panel B) provides definitions of the experimental variables, their names, expected coefficient signs and the sources of the data.

3.4. Procedures for comparison between charity and company audit fees

The general regression model described above seeks to explain the factors *within* the charity sector that contribute to the level of audit fees charged. A second important issue is to consider the impact, if any, that the fundamental charitable nature itself might have on audit fees. Anecdotal evidence, prior expectations and preliminary views at the data gathering stage of the current study all suggest that charity audit fees are lower than those paid by private sector non-charitable companies. There are at least three reasons why this might be the case. First, the risks involved in auditing a charity are certainly different to, and might well be less than, those of a non-charitable company audit (see Section 3.1 above). Lower risks should lead to lower costs for the audit firm and commensurately lower audit fees are expected if cost-based pricing is followed. Second, it seems likely that charity audits might be seen by the auditing profession as a way of supporting the charitable sector, of 'giving back' to society. Thus, a reduced level of audit fees would represent a form of altruism; in effect, a charitable donation is being made by the audit firm to the charity.[22] Third, there is the possibility that a lower 'market rate' for charity audits might encourage audit firms to use less experienced staff and reduce audit time in trying to minimise losses incurred. The lower audit quality implied by this is of great concern in view of the importance of accountability in maintaining confidence in the charity sector, and of the key role that the independent audit plays in this.

To assess these alternatives, it is necessary to have some 'hard' evidence on the relative size of audit fees in the charity sector. To our knowledge, this issue has not been systematically investigated. Thus our final hypothesis is:

H_5: Charities pay lower audit fees than similar-sized private sector companies.

To allow for different organisational sizes, the basic measure adopted for comparison is audit fee scaled by organisation size, i.e., audit fee per pound of revenue, with revenue measured as total incoming resources (charities) and total sales (companies); two alternative scale measures, total assets and total funds, are also used to check sensitivity. The usefulness of this ratio measure depends upon the assumption that marginal audit costs are constant across the whole range of company and charity sizes. Its limitation is that it does not recognise the expected economies of scale in the audit process. If the size distributions of companies and charities are similar, scale economies will not cause a major problem. However, as we find that their size distributions differ significantly, it is necessary to control further for size to effect a valid audit fee comparison. Initially, a simple size control was investigated by selecting only the subset of companies that fell within the size range (based on revenue) of our charity sample. However, even *within* this truncated range the distributions of companies and charities are significantly different. There is a much larger concentration of small charities, which would tend to increase the observed mean 'audit fee per pound of revenue' measure for charities. This leads to a bias against the hypothesis that charity audit fees will be lower.

One way to address this problem would be to match each charity within the sample with a *single* company of similar size. However, this has the

[21] An alternative market share variable, based on total audit fees earned in the charity sector (also taken from Barings, 1998), was incorporated with similar (unreported) results.

[22] An illustration of this was noted during data collection. The charity 'Lloyds TSB Foundation for England and Wales' reported that 'the auditors waived their fee for 1996'.

limitation that the matched company may have idiosyncratic audit risks. An alternative approach, preferred here, is effectively to match each charity with an *average* similar-sized company (based on total revenue). This is achieved by using a bootstrapping method to control for the scale economies in the audit process. This 'manufactures' a closer size-distribution match between the sample of companies and charities *within* the similar size range. From the existing company sample, a stratified random sample was taken to mirror the distributional properties of the charity sample. Effectively, each charity was matched with a randomly chosen company from the group of companies of similar size and the mean audit fee for the charity and company samples was computed. This sampling process was repeated 1,000 times to reduce the sampling bias that would be introduced if just one such sample were chosen. This enables a distribution of audit fee sample means to be derived, and both the mean and standard error of the distribution to be estimated (Mooney and Duval, 1993).

4. Sample selection

Data from the UK was used, as legislation in this country requires the disclosure of key variables, in particular, fees for audit and non-audit services paid to the auditor. The sample was selected from the top 500 charities identified in the 1998 edition of *Baring Asset Management Top 3000 Charities* (Barings, 1998). This covers a wide variety of different types of charity such as the British Council, Wellcome Trust, Oxfam, the Tate Gallery, training organisations (e.g., Construction Industry Training Board), and some housing associations (e.g., Notting Hill Housing Group). Entries are published in respect of the top 2,000 charities, but as a charity can qualify for inclusion on any of three criteria (income, expenditure or funds) approximately 3,000 are published in each edition; in the 1998 edition there are 2,620 charities included. Our objective was to achieve a sample that was representative of the population of major UK charities. Given the economic importance of larger charities, all of the top 100 charities ranked by income were included in our sample.[23] In recognition of the greater homogeneity expected in charities ranked between 101 and 500, every alternate charity was selected to give, overall, a stratified sample of 300 charities from the top 500. Based on charity income reported in Barings (1998), the top 500 charities accounted for approximately 76% of the total income of £13.2bn of the top '3,000' charities. This suggests that our sample should capture audit fee determinants for a large and important part of the charity sector. However, it does not cover the large number of relatively small charities in the sector.

Most of the data items required for the study are not included in Barings (1998), so a considerable amount of data had to be collected manually from the charities' annual reports and accounts (see Table 2 for details). In June 1998, a letter was sent to each of the charities selected, requesting a copy of their latest annual report and accounts, with follow-up letters sent in July 1998. All replies received by September 1998 were included in the study.[24]

For the comparison of audit fees paid by companies and charities, company data for 1997 year-ends were sourced from the UKQI list of industrial and commercial companies on *Datastream*.[25] The particular data items extracted were audit fees (*Datastream* item: 118), total sales (104), total assets (392) and shareholders' capital plus reserves (307). Companies whose revenue fell outside the observed charity size range (based on total incoming resources) were eliminated. Thus, 236 large companies with sales above £440m and 30 small companies with sales below £300,000 were eliminated to leave 1,084 companies.

[23] Almost identical results (not reported here) were obtained for a sample based on selecting every alternate charity in the top 500 (n= 176). In this model one of the nine significant variables in Model 1a ceased to be significant, namely *SS* with a very marginally insignificant p-value of 0.101. Two of the other eight control variables increased slightly in significance (*divers* to 5%, and *stock* to 1%). The coefficient on the experimental variable *BIG6* increased to 0.1184 but remained insignificant.

[24] Of the charity sample, 84% had year-ends in 1997 and a further 14% had year-ends in the following three months (to 31/03/98), so 98% had year-ends in the 15-month period 31/12/96 to 31/3/98 inclusive. The Barings publication deadline means that some of its data, particularly quantitative financial data collected from financial statements, is not from sources time-coincident with those used for the current study. For our charity sample, 58% of the financial statements used were coincident with those used in Barings; the rest were more recent than those used in Barings by one year (37%), two years (4%) or three years (1%). The majority of data items (about 75%) used in the current study were extracted directly from the accounts provided to us by the charities. With one exception (auditor market share), the few data items extracted from Barings (e.g., areas of charitable activity, grant-making/fund-raising categorisation and auditor market share) are of a categorical nature. All of these items are likely to be relatively stable over time, so the exact matching in terms of year-end is not critical. Furthermore, charities provide additional data to Barings (Barings, 1998:6.III) so any non-financial data included therein is likely to be based on more recent information than the available financial statements. While the non-coincidence in sources for some data items may introduce a source of error into the estimated models, we do not believe that these errors could be significant.

[25] This excludes financial companies and investment trusts. Also, the fact that a proportion of sample charity year-ends fall in the first three months of the next calendar year (see footnote 30) may introduce a small bias in the audit fee comparison. However, inflationary audit fee increases mean that this is likely to be a bias *against* finding that charities pay lower audit fees than companies.

Table 3
Sample summary

Rank in Barings 'Top 3000'	*1–100*	*101–500*	*Total*	*%*
Selection basis	all	every other one		
Possible sample size	100	200	300	100.0
Reason for exclusion				
Accounts not received from charity	25	58	83	27.7
Audit fee = £nil/ other reason[1]	4	3	7	2.3
Final sample	71	139	210	70.0
Types of charity in final sample				
Fund-raising	48	94	142	67.6
Grant-making	23	45	68	32.4
Total	71	139	210	100.0

Types of audit firm in final sample	*BIG SIX*		*Non-BIG SIX*		*Total*	
	No	*%*	*No*	*%*	*No*	*%*
Fund-raising	62	43.7	80	56.3	142	100.0
Grant-making	26	38.2	42	61.8	68	100.0
Total	88	41.9	122	58.1	210	100.0

Notes
1. Other reasons for exclusion were: accounts denominated in a foreign currency (1); out-of-date or incorrect accounts submitted (2); fee requested (2).

5. Results

5.1. Descriptive statistics

Table 3 provides a descriptive summary of the 210 charities in the final sample. From this table it can be seen that 83 charities (28%) failed to provide accounts, a level of non-response which is broadly similar to the 19% obtained by Hyndman (1990). All charities are required by law[26] to make a copy of the accounts available to anyone requesting them, though they may charge a reasonable sum to cover copying and postage costs. Thus, a significant proportion of charities failed to comply with the law. This is a disturbing indictment of the basic system of governance in the charitable sector, especially given that all of the sample charities are relatively large.

Three tests for response bias were performed on the full complement of 300 charities. First, the Wilcoxon-Mann-Whitney non-parametric test was used to compare responding and non-responding charities on the basis of size (measured as total income, as reported in Barings, 1998). The hypothesis that the two groups have been drawn from the same population could not be rejected (even at the 10% significance level). Second, the proportion of grant-making and fund-raising charities in both groups was compared and found to be identical. Third, the date of the most recent accounts available to Barings for its 1998 statistical compilation (Barings, 1998) was examined. Eight (9%) of the non-respondent charities had out-of-date accounts (dated prior to 1 January 1996, i.e., more than 30 months prior to our investigation). Taken together, these results suggest that response bias is unlikely to be a serious threat to the validity of the results, though charities with 'old accounts' (and their special circumstances) are perhaps not adequately represented. Unfortunately, data availability is a constraint in many empirical studies that use publicly available sources.

Of the 210 usable responses, Table 3 shows that 142 (68%) were classified by Barings as fund-raising and 68 (32%) as grant-making charities.[27] It also demonstrates that Big Six audit firms were responsible for 42% of the audits in our sample. This percentage is higher than the overall Big Six market share of 25% reported in Table 1, and reflects the greater preponderance of Big Six firms en-

[26] For incorporated charities, and unincorporated charities in England and Wales, Section 47 of the Charities Act 1993 (Part VI) refers. Equivalent regulations for unincorporated charities in Scotland are included in the Law Reform (MPS) Act 1990 and the Charities Accounts (Scotland) Regulations 1992.

[27] Barings express some concern over their classification. 'In charity parlance, the expression "grant maker" is epitomised by a foundation exclusively engaged in making grants, mainly to other charities, out of income earned on its investments. There are many charities which fit this description precisely. However, there are a considerable number of others making grants in the normal course of their activities which do not..... In the circumstances, there are no clearly defined and generally accepted criteria by which to judge whether certain charities should or should not be described as grant makers. Wherever possible, charities are categorised in accordance with how they perceive themselves' (Barings, 1998: 6.II). Thus, the dichotomous classification must be viewed with caution.

Table 4
Summary statistics of variables (n = 210)

	Mean	*Median*	*Min*	*Max*	*Standard deviation*	*Skew*	*Kurt*	*Corr with audfee*
Audit fees								
audfee (£000)	25.649	18	0.6	263	29.122	4.28	26.83	1.00
lnaudfee	2.860	2.89	–0.511	5.572	0.872	–0.07	0.85	0.80 ***
Auditee size								
totir (£000)	27,199	13,205	313	433,864	44,672	5.54	40.86	0.60 ***
asset (£000)	113,594	15,348	673	8,583,934	643,232	11.79	149.18	0.35 ***
totf (£000)	99,521	10,609	1	8,137,613	611,760	11.78	148.31	0.34 ***
lntotir	9.617	9.488	5.746	12.98	1.044	0.12	1.16	0.61 ***
lnasset	9.900	9.639	6.512	15.965	1.587	0.55	0.50	0.48 ***
lntotf	9.314	9.270	0	15.912	2.072	–0.52	2.29	0.42 ***
Auditee complexity								
subs	0.995	0	0	8	1.446	2.23	6.56	0.26 ***
divers	1.100	1	1	4	0.397	4.56	22.68	0.01
outlets	10.06	0	0	585	62.59	7.14	53.45	0.15 **
branch	36.18	0	0	2,000	186.76	7.56	67.30	0.13 *
deb	0.112	0.053	0	0.733	0.144	2.16	4.62	–0.04
stock	0.013	0.002	0	0.365	0.039	6.32	46.09	–0.03
type	0.676	1	0	1				0.10
constT	0.233	0	0	1				–0.06
constA	0.214	0	0	1				0.27***
CSR	0.138	0	0	1				–0.04
ETR	0.110	0	0	1				0.01
HM	0.248	0	0	1				–0.09
SS	0.152	0	0	1				0.21***
oseas	0.167	0	0	1				0.21***
trad%	0.257	0	–0.006	21.534	1.579	12.17	160.74	–0.03
fundr%	0.208	0.037	0	0.989	0.298	1.32	0.31	0.07
trust	19.39	16	3	150	15.87	3.84	24.18	0.20 ***
Audit production costs								
audloc	0.552	1	0	1				0.25***
ye	0.805	1	0	1				0.00
Non-audit services								
nasfee (£000)	7.187	0	0	89	14.361	3.01	10.23	0.37 ***
Audit difficulties								
delay (days)	140.5	134	23	513	65.0	1.93	7.41	0.01
opinion	0.033	0	0	1				0.03
Auditor premium								
BIG6	0.419	0	0	1				0.03
KPMG	0.095	0	0	1				0.03
CL	0.086	0	0	1				0.02
DT	0.105	0	0	1				0.05
EY	0.038	0	0	1				–0.09
PW	0.095	0	0	1				0.00
specialist	78.1	68	1	167	54.8	0.15	–1.18	0.18 ***
BH	0.076	0	0	1				0.38 ***
GT	0.038	0	0	1				–0.05
HCW	0.033	0	0	1				–0.07
BDO	0.024	0	0	1				–0.03
NAO	0.062	0	0	1				0.05

***, **, and * represent significance at the 1%, 5% and 10% levels respectively (two-tail).

gaged in the audit of larger charities, which form the basis of our sample.

Table 4 provides summary statistics for each of the variables, including non-transformed size variables. Audit fees ranged from £600 to £263,000 with a mean of £25,649. Charity size, based on total incoming resources (*totir*), ranged from a low of just £313,000[28] to a high of £433.9m, and averaged £27.2m. As in previous studies on private sector companies, the correlation of 0.60 between audit fees and size is quite strong, suggesting that size is a major determinant of charity audit fees. Further, the positively skewed and leptokurtic nature of both audit fees and size encourage the use of transformed variables to improve their distributional properties. The alternative measure of size based on total assets (*asset*) covers a very wide range up to an extremely large £8,584m, and is less strongly correlated with audit fees (correlation coefficient = 0.35); similar observations relate to the total funds variable (*totf*). The wide range and relatively low correlation for these two size measures reflects the important difference in the nature and level of assets between fund-raising and grant-making charities and is the major reason for choosing total incoming resources as the most appropriate size proxy.

For the binary variables, the 'mean' value represents the proportion of charities that possess the particular characteristic. For example, the mean value of 0.676 for *type* shows that 67.6% of the charities were in the fund-raising classification, leaving 32.4% as grant-making. The constitution variables indicate that 23.3% are trusts (*constT*), 21.4% were set up by Act of Parliament or Royal Charter (*constA*) and, therefore, the remaining 55.3% are charitable companies. The 'health and medicine' variable (*HM*) shows that almost 25% of the sample charities were significantly involved in this area of activity and that this represents the most common area. On average, gross trading (*trad%*) accounts for approximately 26% of incoming resources, but this relatively large proportion needs to be interpreted with care. First, the mean is heavily distorted by one or two major outliers (the maximum *trad%* value of 21.53 implies that gross trading represented 2153% of total incoming resources in one particular charity), and so the median of 0% may be more representative. This more closely reflects the fact that only 94 of the 210 charities (45%) undertook trading activities. Second, further analysis of the basic data reveals that the net contribution from trading (i.e., after deducting trading expenses) accounts for just 5.4% of total incoming resources, on average.

Further points to note from the summary statistics are:

- *audloc* shows that 55.2% of the audit firms were London-based.
- *ye* indicates that a large proportion (80.5%) of charity year-ends are in the audit 'busy-season' around December and March, implying that charities have probably not chosen their year-ends in order to fit in with auditor slack periods.
- *nasfee* has a significant positive correlation with audit fees and a mean value of £7,187 representing 28% of audit fees. Further analysis showed that 44% of the charities reported non-zero fees for non-audit services with just 7% reporting *nasfee* higher than audit fees. This contrasts with the UK company results of Ezzamel et al. (1996) who found that non-audit services represent a much higher proportion of audit fees (87%), that 93% of their sample of companies had non-zero *nasfee*, with 44% reporting higher *nasfee* than audit fees. Non-audit services are apparently much less important in the charity sector.
- *delay* has a mean of 140 days implying a period of about 4½ months between year-end and audit report signing.[29] This compares with mean delays of between 53 and 96 days reported for private sector companies in various international studies (see Carslaw and Kaplan, 1991: 22, and references therein).
- the *specialist* variable is significantly correlated with audit fee, suggesting that sector expertise might be rewarded with a fee premium. Of the individual audit firm variables, Binder Hamlyn (*BH*) shows a significant positive correlation with audit fee size, suggesting the existence of a premium to one of the market leaders in the sector. Deloitte Touche (*DT*) carried out the most audits (10.5%).

5.2. Charity audit fee model

As expected, the bivariate correlations suggest that the major determinant of audit fees is the size of the charity (with a correlation of 0.60). Other potentially important factors (indicated by significant correlations at the 5%, two-tailed, level) include the number of trading subsidiaries (*subs*: 0.26), the number of trading outlets (*outlets*: 0.15),

[28] The total income of the smallest charity in our 'top 500' sampling frame according to Barings was £4.7m. Our definition of total incoming resources is slightly different and component details were extracted directly from the financial statements rather than Barings. These differences mean that a small number of charities (approximately 12) would not be classified within the top 500 based on our measure. However, these charities have been retained within our sample.

[29] The one major outlier of 513 days related to a charity whose charitable status was under investigation by the Inland Revenue; one further charity had a delay of 471 days. These are the only two sample charities with delays beyond the 10-month time period by which annual reports must be filed with the Charity Commission and/or with Companies House (S45, The Charities (Accounts and Reports) Regulations 1995 (SI 1995 No. 2724) and S.244(1) of the Companies Act).

the constitution of the charity when set up by Act of Parliament or Royal Charter (*constA*: 0.27), principal area of activity in social services and relief (*SS*: 0.21), significant involvement overseas (*oseas*: 0.21), the number of trustees (*trust*: 0.20), the location of the audit firm (*audloc*: 0.25) and the fee paid to the auditor for non-audit services (*nasfee*: 0.37). However, as virtually all of these are also significantly correlated with size (*lntotir*), the outcome of the multivariate analysis is not easy to predict. One further observation from the full correlation matrix (not reported) is that, apart from high correlations between alternative size proxies, none of the other correlations between independent variables is particularly high (the highest is 0.37). This suggests that multicollinearity may not normally be a serious problem in the regression model.

5.2.1. Basic model

The OLS multivariate regression results for the basic model and the full sample of charities (n = 210) are reported in Table 5 (Model 1a).[30] This model uses log-transformed total incoming resources (*lntotir*) as the size proxy.

The results for Model 1a confirm size (*lntotir*) as the major audit fee determinant, with a highly significant t-ratio of 9.01. The positive coefficient of 0.4739 implies that, *ceteris paribus*, audit fees increase approximately with the square root of total incoming resources, consistent with many previous private sector studies (see summary in Chung and Lindsay, 1988: Table 11). Of the seven other variables that were significantly correlated with *audfee* (see Table 4), only three (*subs*, *audloc* and *nasfee*) are confirmed as significant determinants in the multivariate model (at the 1% level). Two further variables are significant at the 1% level (*type* and *trad%*), two at the 5% level (stock and *SS*) and one at the 10% level (*divers*).

The results suggest that a number of general organisational characteristics, in addition to characteristics unique to the charity sector, are associated with differences in charity audit fee levels. In common with private sector studies, the number of trading subsidiaries (*subs*) and the proportion of total assets represented by year-end stock (*stock*) are positively associated with audit fees. These are consistent with, respectively, the additional audit work to meet statutory requirements and the uncertainties in valuing and confirming the valuation of stock. The significant negative coefficient on the diversity measure (*divers*) is contrary to expectation (but see later result for fund-raising subsample). However, the coefficient estimate may be somewhat unreliable as the *divers* variable is found to be significantly collinear with size measures.

The dummy variable *type* seeks to capture the fundamentally different nature of fund-raising and grant-making charities, with the positive coefficient implying that the greater complexity and control difficulties of the former group are reflected in higher audit fees. The form of a charity's constitution (company, trust etc.) does not seem to impact on audit fees. Generally, the principal area of activity of a charity does not affect audit fees except for those charities within the 'social services and relief' sector (dummy variable SS), which have higher audit fees. As suggested earlier, this might reflect additional reporting or audit requirements imposed by the fund-providers as a condition of funding.[31] The relative importance of trading activities in generating income (*trad%*) is a significant audit fee determinant, in line with expectations, but the relative importance of fund-raising activities is not.

The significantly positive coefficient on *audloc* suggests that, as expected, the higher audit production costs incurred by London-based auditors are passed on to charities in higher audit fees. However, there is no evidence of additional fees related to audit firm busy periods (*ye*) or short audit delays (*delay*). These observations are consistent with audit firms seeking to minimise increased production costs by scheduling charity audits in slack periods. A non-standard audit report (*opinion*) does not appear to have a significant impact on audit fees.

As in previous private sector studies, there is a significant positive relationship between audit fees and fees paid to auditors for non-audit services (*nasfee*). Thus, in the charity sector also, there is no evidence that auditors use audit fees as a form of 'loss-leader' nor that cost savings from the joint provision of audit and consultancy services are passed on to the charity in the form of lower audit fees (or consultancy fees).

Overall, the adjusted R^2 of 62% implies that a good proportion of the cross-sectional variation in audit fees is explained by the model. An appropriate comparison can be made with prior studies on smaller private sector companies, since all but a small number of charities would be classified as small in the UK private sector. Thus, our R^2 of 62% is in line with previous studies on smaller companies (e.g., 55% by Brinn et al., 1994; 62%

[30] Notwithstanding the uni-directional alternative hypotheses for approximately half of the variables, all significance levels in Tables 5 and 6 are reported using the more conservative two-tail tests. All procedures were carried out using the SHAZAM v8.0 econometrics program.

[31] This argument was confirmed by one of the charity auditors who provided comments on the draft paper: *'Social services/relief charities are often involved with their local authorities in one way or another, and this tends to bring in Audit Commission requirements that add to the cost of their statutory audit!'* Another auditor suggested that social services charities tend to employ a relatively large number of staff; this increases audit risk, audit work and audit fees.

Table 5
Basic model for alternative size proxies and specifications:
OLS multivariate regressions on all sample charities with *lnaudfee* as dependent variable

Size proxy:		*ln(totir)*		*ln(assets)*		*ln(total funds)*		*ln(totir) AND ln(assets)*		*totir AND totir²* [quadratic model]	
		MODEL 1a (Basic model)		*MODEL 1b*		*MODEL 1c*		*MODEL 1d*		*MODEL 1e*	
Variable	*Exp sign*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*
Control variables											
lntotir	+	0.4739	9.01***					0.4007	5.62***		
lnasset	+			0.2801	7.01***			0.0844	1.86*		
lntotf	+					0.2023	6.62***				
totir	+									1.68×10^{-3}	7.71***
totir²	–									-2.94×10^{-9}	–4.76***
subs	+	0.0949	4.98***	0.1052	4.45***	0.1301	5.44***	0.0869	4.46***	0.1200	5.91***
divers	+	–0.2057	–1.74*	–0.4819	–3.04***	–0.4406	–2.79***	–0.2901	–2.26**	–0.1801	–1.42
outlets	+	0.0010	1.27	0.0017	2.88***	0.0018	3.02***	0.0010	1.44	0.0012	1.38
branch	+	0.0001	0.90	0.0002	1.50	0.0003	1.87*	0.0001	0.83	0.0001	0.38
deb	+	–0.2589	–0.94	0.8655	2.52**	0.6879	2.00**	0.0686	0.21	–0.3179	–1.02
stock	+	1.5305	2.62**	1.7672	2.03**	1.8799	1.81*	1.6303	2.45**	1.8762	2.82***
type	+	0.2560	3.09***	0.2790	2.77***	0.2836	2.78***	0.2605	3.11***	0.2696	3.01***
constT	+ or –	0.0537	0.55	–0.0569	–0.47	–0.0479	–0.41	0.0050	0.05	0.0287	0.27
constA	+ or –	*0.0925*	*0.91*	*0.0856*	*0.71*	*0.0758*	*0.60*	*0.0599*	0.57	0.0747	0.72
CSR	+ or –	0.1531	1.06	0.3074	2.13**	0.4922	3.46***	0.1771	1.23	0.2238	1.53
ETR	+ or –	–0.1063	–0.97	0.0302	0.26	–0.0203	–0.17	–0.0837	–0.78	–0.0046	–0.04
HM	+ or –	–0.0610	–0.56	0.0325	0.28	0.0034	0.03	–0.0363	–0.34	–0.0359	–0.33
SS	+ or –	0.2398	1.98**	0.2085	1.35	0.2108	1.32	0.2225	1.82*	0.1984	1.35
oseas	+	0.1161	1.02	0.3710	2.97***	0.3713	2.90***	0.1659	1.46	0.1244	1.06
trad%	+	0.0007	3.97***	–0.0001	–0.63	–0.0002	–1.73*	0.0006	3.33***	–0.0000	–0.37
fundr%	+	–0.0004	–0.27	–0.0002	–0.11	–0.0011	–0.63	–0.0003	–0.21	–0.0001	–0.05
trust	+ or –	0.0044	1.62	0.0038	1.30	0.0038	1.37	0.0040	1.49	0.0047	1.85*
audloc	+	0.2612	3.28***	0.3383	4.21***	0.3144	3.77***	0.2610	3.33***	0.3281	4.16***
ye	+	–0.0469	–0.48	0.0004	0.00	0.0018	0.02	–0.0343	–0.36	–0.0213	–0.20

Table 5 *(continued)*
Basic model for alternative size proxies and specifications:
OLS multivariate regressions on all sample charities with *lnaudfee* as dependent variable

Size proxy:		*ln(totir)*		*ln(assets)*		*ln(total funds)*		*ln(totir) AND ln(assets)*		*totir AND totir²* [quadratic model]	
		MODEL 1a (Basic model)		*MODEL 1b*		*MODEL 1c*		*MODEL 1d*		*MODEL 1e*	
Variable	*Exp sign*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*
nasfee	+ or –	0.0097	3.47***	0.0115	3.42***	0.0131	3.92***	0.0092	3.26***	0.0106	3.71***
delay	+ or –	–0.0002	–0.26	–0.0002	–0.26	–0.0003	–0.50	–0.0002	–0.34	0.0001	0.12
opinion	+	–0.1412	–0.50	–0.1861	–0.77	–0.2210	–1.01	–0.1694	–0.62	–0.1863	–0.65
Experimental variables											
BIG6	+	0.0963	1.26	0.1422	1.79*	0.1933	2.35**	0.1003	1.33	0.1523	1.96*
constant		–2.1104	–4.05***	–0.3422	–0.87	0.4972	1.58	–2.1755	–4.26***	1.8826	7.88***
n			210		210		210		210		210
Adj Rsq			0.624		0.539		0.524		0.630		0.569
F			15.47***		11.16***		10.59***		15.21***		12.05***
Jarque-Bera			1.09		17.30***		21.04***		1.11		45.65***
Breusch-Pagan-Godfrey			43.46***		50.95***		49.48***		46.83***		50.12***

***, ** and * represent significance at the 1%, 5% and 10% levels respectively (two-tail).
White's (1980) heteroskedastic-consistent covariance matrix estimation is used to adjust for heteroskedasticity.

for the small-firm sub-sample in Chan et al., 1993) but is lower than reported in large company models (e.g., 87% by Chan et al., 1993). This explanatory power compares favourably with that obtained in other studies that seek to develop audit fee models in niche markets (for example, Cullinan (1997) obtains an R^2 of 0.39 for the US pension plan market).

5.2.2. Sensitivity of basic model to alternative size proxies and specifications

Given the difficulties involved in selecting an appropriate size proxy (see Section 3.2.1 above), the OLS regression results for two alternative size proxies and two alternative size specifications are reported in Table 5 (last four columns, Models 1b through 1e). Model 1b uses log-transformed total assets (*lnasset*), Model 1c uses total funds (*lntotf*) and Model 1d uses both incoming resources and assets together. The final column (Model 1e) reports a quadratic specification based on total incoming resources.

Six key explanatory variables (the size proxy, *subs*, *stock*, *type*, *audloc* and *nasfee*) are significant across all models. Several variables (*divers*, *outlets*, *deb*, *CSR*, *SS*, *oseas* and *trad%*) are significant in some of the models but not others. The remaining 10 variables do not appear to be significantly related to charity audit fees in any of the models. Thus, there appears to be substantial consistency across the models. The inclusion of two size proxies (Model 1d) adds little, since results almost identical to those of the simpler Model 1a are obtained. Also, interpretation of the relative importance of the two size aspects from this model is problematic due to the significant collinearity between the two size measures. The positive coefficient on *totir* and the negative coefficient on $totir^2$ in the quadratic specification for size (Model 1e) are consistent with the expected economies of scale in the audit process. However, this specification has little impact on the significance of the other explanatory variables. Overall, these results suggest that the major findings are robust to alternative size proxies and specifications. In view of this, later results will be presented for just one model (Model 1a) based on the log-linear model with *lntotir* as the size proxy. This model has good explanatory power and has better diagnostic characteristics than the others, especially in terms of normality of residuals, thereby leading to more robust t-statistics.

[32] Grant-making charities include the likes of *Save the Children Fund*, *Help the Aged*, and *Cancer Research Campaign*. Notwithstanding their classification as grant-making, these organisations also undertake significant fund-raising activities, often via trading subsidiaries.

5.2.3. Big Six premium

Based on Model 1a, the BIG6 coefficient is positive but not significant, suggesting that, in aggregate, there is no evidence of a general Big Six audit fee premium in the charity sector (Hypothesis 1 is rejected). However, the coefficient *BIG6* is consistently positive, and three of the alternative models in Table 5 do show relatively weak levels of significance, suggesting that this result may be somewhat sensitive to the size proxy or model specification. Overall, there appears to be some (weak) evidence of a Big Six brand premium in the charity sector (Hypothesis 1).

5.2.4. Comparison between fund-raising and grant-making charities

The observation of a significant coefficient on the variable *type* indicates that fund-raising charities pay higher audit fees, on average, than grant-making charities. However, the potential impact on audit fees of their different operating characteristics merits further investigation. Table 6 (panel A) reports the results of re-estimating Model 1a separately for grant-making (Model 2) and fund-raising charities (Model 3).

The major contrast between the two is the number of significant explanatory variables. Grant-making charities (Model 2) have just three significant variables compared with 11 for fund-raising charities (Model 3), with only size (*lntotir*) significant at the 1% level, the number of trading subsidiaries (subs) at the 5% level[32] and *CSR* (major activities in Culture, Sport and Recreation) marginally significant at the 10% level. This is consistent with the view of grant-making charities as a relatively homogeneous group, in which size and statutory obligations are the major determinants of audit fees.

By contrast, the factors that determine the audit fees of fund-raising charities (Model 3) are much more diverse, consistent with greater heterogeneity in the group. This, and the larger number of charities classified as fund-raising, contributes to the similarity between the 'fund-raising' and 'all charities' results. However, there are three differences in the control variables for the 'fund-raising' group. The sign on the diversity measure (*divers*) changes to positive and is now significant at the 1% level, conforming with priors that audit fees will be greater in charities with more diverse operations. The number of branches (*branch*) coefficient becomes significant (1% level), in the direction expected. Fund-raising charities set up as trusts (*constT*) also seem to pay higher audit fees.

Results for the Big Six experimental variable are quite different between the two. For grant-makers, Model 2 shows that *BIG6* continues to be non-significant, but for fund-raisers *BIG6* is significant at the 5% level. This result is confirmed using the

other size proxies: all five models show the *BIG6* coefficient as non-significant for grant-makers, and significant at the 5% (or 1%) level for fund-raisers. Thus, there appears to be reliable evidence of a Big Six brand premium in the fund-raising sub-sector of the charity market. The size of the *BIG6* coefficient (0.1701) in the log-linear specification (Model 3), is equivalent to a premium of 18.5% above non-Big Six auditors, on average (Simon and Francis, 1988: 263, provides details of the calculation).

The observation of a brand name premium in only the fund-raising sub-sector is not too surprising. Fund-raising charities have greater need of public confidence, in order to continue to raise funds, and therefore stand to benefit most by employing a high-profile auditor as a symbol of high accountability. It is possible that this need increases the relative bargaining position of Big Six auditors, enabling them to charge a premium. In contrast, it may be difficult to justify charging a premium to grant-making charities where the need for a symbol of high accountability is less, and where the audit process is relatively straightforward. An offsetting factor is that the significant 'negative premium' charged by Ernst & Young is partially obscuring the overall Big Six results in the grant-making charities sub-sector.[33]

Formal tests confirmed that the two sub-sample models (i.e., 2 and 3) are significantly different. The Chow test is significant at the 1% level and, using the dummy variable approach (Gujarati, 1995: 512), the coefficients on three variables are significantly different: *audloc* at the 1% level (two-tail), and *lntotir* and *divers* at the 10% level. These tests suggest that audit fee determinants differ between grant-makers and fund-raisers, implying that the pooled estimates should be treated with some caution.

5.2.5. Individual Big Six firm brand premia

Panel B of Table 6 reports the results of testing for individual Big Six firm premia based on the *lntotir* size proxy. In the 'all charities' regression (Model 4) four of the five Big Six firms involved in the charity sector have positive coefficients, and one significantly positive (*KPMG*) (thus hypothesis 2 is partially accepted). The other firm, Ernst & Young (*EY*), has a significant negative coefficient. However, this overall picture again obscures some differences between grant-making and fund-raising charities.[34] For grant-makers (Model 5), *KPMG* is significantly positive and Ernst & Young significantly negative, mirroring the overall results. For fund-raisers, *KPMG* is significantly positive (now at the 5% level) but Ernst & Young is now positive, but not significant.[35]

Thus, there is convincing evidence that KPMG enjoy higher audit fees, especially in the fund-raising sub-sector; they charge a premium of about 40%, on average, above the audit fees charged by non-Big Six auditors. On the other hand, not all of the Big Six seem to benefit from their brand name. In particular, Ernst & Young audits seem to be priced below the non-Big Six level in the grant-making sub-sector. There are several possible explanations for this. It may be that Ernst & Young adopt a cost-based pricing strategy (i.e., they choose to price below what the market might bear, given their Big Six status). Alternatively, if there is market segmentation between Big Six and non-Big Six firms, the relative weakness (reduced specialism/expertise) of Ernst & Young in the Big Six segment of the charity market may be reflected in lower audit fees.

As a whole, these results confirm that fund-raising charities have more complex operations than grant-making charities, and that these complexities contribute to the higher audit fee observed.[36] Further, these complexities enable some audit firms with a Big Six brand name to benefit from the greater perceived assurance that the brand name provides.

5.2.6. Expertise in non-Big Six audit firms

The results of testing whether a premium is earned by 'specialist' non-Big Six audit firms for expertise in the charity sector are presented in Panel C of Table 6. First, Hypothesis 3 was investigated by incorporating a 'continuous' variable based on market share as a proxy for specialism/expertise. Model 1a (size proxy = *lntotir*) was re-estimated for charities audited by non-Big Six audit firms with the variable (*specialist*) based on the number of charity auditees in the top 2,620 (Barings, 1998). There was no evidence of a premium for expertise in the 'all charities' or 'grant-makers' regressions (details not reported). This is perhaps not too surprising in light of the evidence

[33] To assess the importance of this impact, the Big Six brand premium regression for grant-makers (Model 2) was re-estimated with the exclusion of the (three) charities audited by Ernst & Young. The *BIG6* coefficient increased in size from 0.0704 to 0.2054 but remained statistically insignificant (t-stat = 1.43).

[34] Formal tests again confirmed that the two sub-sample models (i.e., 5 and 6) are significantly different. The Chow test is significant at the 1% level and, using the dummy variable approach (Gujarati, 1995:512), the coefficients on three control variables are significantly different at the 5% level (two-tail): *audloc*, *lntotir* and *divers*. The experimental dummy variable *EY* is also significantly different at the 5% level.

[35] The result for individual Big Six firm premia are generally consistent across all size proxies and specifications, but with some changes in significance levels.

[36] The mean (median) audit fee for fund-raising charities is £27,730 (£18,000) compared with £21,303 (£16,000) for grant-making charities. The mean total incoming resources are £26.55m and £28.56m respectively. Excluding outliers, the ratio of audit fee to total incoming resources for fund-raising charities is 0.150%, and is statistically higher (at the 5% level, two-tail) than the 0.118% for grant-makers.

Table 6
Testing for fee premia relating to auditor characteristics. OLS multivariate regressions with *lnaudfee* as dependent variable

		Panel A: Big Six brand premium					
		All charities		*Grant-makers*		*Fund-raisers*	
	Exp	*Model 1a*		*Model 2*		*Model 3*	
Variable	*sign*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*
Control variables							
lntotir	+	0.4739	9.01***	0.5711	5.75***	0.3995	7.41***
subs	+	0.0949	4.98***	0.1458	2.25**	0.0681	2.74***
divers	+	–0.2057	–1.74*	–0.1095	–0.69	1.0049	4.45***
outlets	+	0.0010	1.27	0.0005	0.44	0.0005	1.10
branch	+	0.0001	0.90	–0.0003	–0.50	0.0004	3.43***
deb	+	–0.2589	–0.94	–1.1313	–1.37	–0.3787	–1.22
stock	+	1.5305	2.62**	4.0164	1.05	1.0741	2.41**
type	+	0.2560	3.09***	–	–	–	–
constT	+ or –	0.0537	0.55	–0.1202	–0.55	0.2250	2.37**
constA	+ or –	0.0925	0.91	0.2111	0.85	0.0248	0.21
CSR	+ or –	0.1531	1.06	0.7104	1.71*	0.1616	1.19
ETR	+ or –	–0.1063	–0.97	–0.0853	–0.23	–0.0792	–0.64
HM	+ or –	–0.0610	–0.56	–0.0295	–0.10	–0.0910	–0.81
SS	+ or –	0.2398	1.98**	0.1885	0.72	0.2033	1.78*
oseas	+	0.1161	1.02	0.0400	0.18	0.1466	1.03
trad%	+	0.0007	3.97***	0.0055	1.13	0.0005	3.21***
fundr%	+	–0.0004	–0.27	0.0029	0.90	–0.0017	–0.98
trust	+ or –	0.0044	1.62	0.0075	1.18	0.0044	1.27
audloc	+	0.2612	3.28***	–0.0645	–0.31	0.4637	6.01***
ye	+	–0.0469	–0.48	–0.1517	–0.73	0.0745	0.64
nasfee	+ or –	0.0097	3.47***	0.0098	1.12	0.0093	3.45***
delay	+ or –	–0.0002	–0.26	0.0004	0.34	–0.0005	–0.64
opinion	+	–0.1412	–0.50	–0.0965	–0.17	–0.3848	–1.24
Experimental variables							
BIG6	+	0.0963	1.26	0.0704	0.40	0.1701	2.00**
KPMG	+ or –						
CL	+ or –						
DT	+ or –						
EY	+ or –						
PW	+ or –						
specialist	+						
BH	+ or –						
GT	+ or –						
HCW	+ or –						
BDO	+ or –						
NAO	+ or –						
constant		–2.1104	–4.05***	–3.1158	–3.34***	–2.4814	–4.89***
n			210		68		142
Adj Rsq			0.624		0.601		0.659
F			15.47***		5.39***		12.85***
Jarque-Bera			1.09		1.58		6.56**
Breusch-Pagan-Godfrey			43.46***		15.27		35.14*

***, ** and * represent significance at the 1%, 5% and 10% levels respectively (two-tail)
White's (1980) heteroskedastic-consistent covariance matrix estimation is used to adjust for heteroskedasticity when this is evident (i.e., in models 1a, 3, 4, 7 and 8).

Panel B: Individual Big Six firm brand premia						*Panel C: Non-Big Six specialist premia*			
All charities Model 4		*Grant-makers Model 5*		*Fund-raisers Model 6*		*Fund-raisers Model 7*		*Fund-raisers Model 8*	
coeff	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*	*coeff*	*t-stat*
0.4803	9.06***	0.6037	6.28***	0.3962	7.59***	0.3955	5.04***	0.3906	4.72***
0.0919	4.67***	0.0948	1.49	0.0658	1.96*	0.0918	2.98***	0.0882	2.89***
–0.2452	–2.11**	–0.2192	–1.42	0.9948	1.82*	0.8420	3.47***	0.7802	3.06***
0.0009	1.22	0.0007	0.69	0.0005	0.47	–0.0007	–1.13	–0.0008	–1.27
0.0001	0.91	–0.0000	–0.02	0.0004	1.70*	0.0010	2.39**	0.0009	2.40**
–0.1482	–0.55	–0.3725	–0.46	–0.2849	–0.84	0.8143	2.72***	0.6801	2.37**
1.1557	1.93*	3.8377	1.07	0.8930	0.89	–0.6966	–0.72	–0.1263	–0.11
0.2363	2.99***	–	–	–	–	–		–	–
0.0614	0.64	–0.0743	–0.35	0.2241	1.72*	0.2239	1.75*	0.2379	1.76*
0.1018	1.02	0.1079	0.43	0.0377	0.30	0.1404	1.02	0.1633	1.03
0.1332	0.97	0.5192	1.30	0.1360	0.95	0.0157	0.11	0.0623	0.37
–0.1300	–1.25	–0.2311	–0.65	–0.1013	–0.65	–0.3766	–3.06***	–0.3418	–2.73***
–0.0200	–0.18	–0.0396	–0.14	–0.0781	–0.62	–0.0326	–0.22	–0.0275	–0.18
0.2744	2.22**	0.0772	0.31	0.2387	1.67*	0.2437	1.96*	0.2648	1.97*
0.1183	1.07	0.1471	0.67	0.1126	0.80	0.0506	0.29	0.0699	0.34
0.0009	5.21***	0.0048	1.03	0.0006	2.07**	0.0012	1.96*	0.0013	2.01**
–0.0009	–0.58	0.0013	0.38	–0.0021	–1.06	–0.0036	–1.60	–0.0037	–1.57
0.0035	1.42	0.0054	0.90	0.0040	1.37	0.0030	0.73	0.0029	0.68
0.2810	3.43***	–0.0034	–0.02	0.4941	5.34***	0.4442	4.50***	0.5062	4.43***
–0.0630	–0.67	–0.2419	–1.18	0.0603	0.51	–0.0698	–0.44	–0.0968	–0.61
0.0097	3.51***	0.0121	1.42	0.0094	2.99***	0.0063	2.13**	0.0072	1.78*
0.0001	0.17	0.0011	1.02	–0.0003	–0.37	0.0002	0.24	0.0000	0.03
–0.1675	–0.59	–0.2248	–0.41	–0.3745	–1.51	–0.6372	–5.99***	–0.6501	–4.75***
0.2877	1.97*	0.4861	1.92*	0.3439	2.13**				
0.0335	0.24	0.1429	0.49	0.0336	0.21				
0.0590	0.47	–0.1883	–0.61	0.1310	0.88				
–0.4134	–2.19**	–0.9400	–2.30**	0.0730	0.28				
0.1625	1.43	0.1879	0.47	0.2018	1.43				
						0.0050	3.07***		
								0.3994	2.09**
								0.2521	1.86*
								0.0587	0.44
								0.2925	1.85*
								0.0604	0.31
–2.1416	–4.20***	–3.2618	–3.66***	–2.4579	–3.47***	–2.4478	–3.17***	–2.2492	–2.84***
	210		68		142		80		80
	0.633		0.651		0.654		0.727		0.700
	13.88***		5.62***		10.88***		10.16***		7.81***
	0.88		0.44		5.29*		10.66***		13.62***
	41.20*		23.58		35.41		50.94***		45.97**

above that implies that audits of grant-makers are relatively straightforward in comparison with fund-raiser audits. Relative expertise is most likely to be advantageous in the fund-raiser sub-sector, where greater expertise is required and higher accountability desired by the charities concerned.

The results for fund-raising charities audited by non-Big Six audit firms are given in Model 7. Comparison between Model 7 and Model 3 shows that the explanatory power of the model improves slightly (adjusted R^2 = 72.7%), and that most of the control variables are similar for non-Big Six audited charities, though there are some differences. In particular, *deb* becomes significant, but *stock* ceases to be so, charities operating in the 'education, training and research' area (*ETR*) seem to have significantly lower audit fees, and charities with a non-standard audit report (*opinion*) also have lower audit fees. This last observation is contrary to expectation and does not appear to result from any collinearity. This is difficult to rationalise, but one conjecture is that the audit firm recognises the difficulties that the charity is facing and reduces the audit fee to avoid exacerbating the problems. The variable of prime interest in Model 7 is *specialist* and this is significantly positive at the 1% level, suggesting that non-Big Six specialists do earn a premium for their expertise over non-Big Six non-specialist firms [Hypothesis 3 is confirmed].

Model 8 investigates whether individual non-Big Six specialist firms earn a premium for their expertise. Dummy variables were introduced for the top 5 non-Big Six audit firms as outlined in Section 3.3. Three firm dummies were significant, one at the 5% level (Binder Hamlyn (*BH*)), and two at the 10% level (Grant Thornton (*GT*), and BDO Stoy Hayward (*BDO*)). Thus, there is some evidence that individual non-Big Six market leaders in the charity sector obtain a premium over other non-Big Six firms (Hypothesis 4 is accepted). While this evidence is consistent with a premium for expertise in the charity sector, it could also be explained in terms of a second-tier brand name premium.[37] Our method is unable to distinguish between these competing explanations.

5.2.7. Regression diagnostics

To assess the potential impact of outliers on the regression results, influential observations were explored using both DFFITS and DFBETAS measures (Belsley, Kuh and Welsch, 1980, ch. 2). For example, in the basic model (1a), one observation was identified as highly influential,[38] and a further four or 16 as possibly influential, depending on the criteria adopted. The regression model was re-estimated excluding each of these influential observations individually and together as a group of five or 17. Essentially, there were few changes in the results. The adjusted R^2 values improved and virtually all of the significant variables remained so. When the groups of possibly influential observations were excluded, just *trad%* ceased to be significant and one additional variable (*constT*) became positively significant at the 5% level. Overall, the tests suggest that the results are not driven by outlier observations.[39]

Testing for multicollinearity was carried out using a principal components approach, by observing whether the condition indices were below the suggested cut-off of 15 and/or not associated with high variance proportions on two (or more) variables (Belsley et al., 1980, Chapter 3). Generally, collinearity was not a problem except when both *BIG6* and *specialism* variables were incorporated in a model, as discussed earlier in Section 3.3.2. The assumption that the residuals are normally distributed was tested using the Jarque-Bera statistic (Tables 5 and 6, penultimate row) and accepted in all four models for 'all charities' and 'grant-makers'. For 'fund-raisers', the normality of residuals is reduced and is rejected at various levels of significance in the different models. However, the violation of the normality assumption does not appear to be sufficient to invalidate the use of the t-distribution in significance testing. The assumption of homoskedasticity was formally assessed using the Breusch-Pagan-Godfrey test (Tables 5 and 6, final row) and rejected at the 5% level for Models 1a through 1e, and Models 7 and 8. Thus, the significance levels for the regression coefficients in these models are reported using White's (1980) heteroskedastic-consistent covariance matrix estimation.

5.3. Charity and private sector audit fees compared

One of the objectives of this paper is to assess the impact that the fundamental charitable nature itself might have on audit fees by comparing the size of audit fees paid by charities with those paid by private sector companies. Panel A of Table 7 provides some summary measures for the sample of charities and the company population within the charity revenue range. The mean audit fee for charities of £25,700 is less than one-third of the mean company audit fee of £87,400; the median measures show a similar picture. However, this overstates the difference between charity and company audit fee levels, due to the limitations of this

[37] Clatworthy et al. (2000) investigated the presence of a second-tier premium in the audit fees of NHS Trust but found no evidence to support this.

[38] This charity had an exceptionally high *trad%* variable that arose from the scaling on a low level of total incoming resources. Its influence on the *trad%* coefficient is significant as indicated by a high DFBETA.

[39] Unfortunately, the existence of influential and outlier observations is rarely reported in audit fee studies (exceptions are Turpen (1990: 67) and Gist and Michaels (1995: 257–8)).

Table 7
Comparison of charity and company audit fees for 1997

Panel A: Comparison of characteristics of sample charities and companies within charity revenue range (£000)

	Obs	*Mean*	*Median*	*Min*	*Max*	*Stan devn*	*Skew*	*Kurt*
Charities								
audit fee (*audfee*)	210	25.7	18	0.6	263	29.1	4.28	26.83
total incoming resources (*totir*)	210	27,199	13,205	313	433,864	44,672	5.54	40.86
total assets (*asset*)	210	113,594	15,348	673	8,583,934	643,232	11.79	149.18
total funds (*totf*)	210	99,521	10,609	1	8,137,613	611,760	11.78	148.31
Companies								
audit fee	1084	87.4	54	2	800	92.7	2.37	7.67
total sales	1084	80,225	39,205	346	438,677	96,294	1.69	2.24
total assets	1084	78,685	33,652	420	1,909,284	148,355	6.75	66.02
shareholders' funds (*shfunds*)	1084	39,240	16,433	–91,681	1,314,328	82,152	7.82	90.35

Panel B: Comparison of charity and company audit fee measures[1,2]

	Obs	*Mean*	*Median*	*Diff in means*	*t-stat*	*p-value (1 tail)*
All charities						
audfee / totir [%]	207	0.1391	0.1099	–0.0902	–8.582	0.0000
audfee / assets [%]	210	0.1823	0.1064	–0.0600	–3.592	0.0002
audfee / totf [%]	204	0.3658	0.1504	–0.1669	–3.688	0.0001
Companies						
audfee / sales [%]	1064	0.2293	0.1479			
audfee / assets [%]	1080	0.2423	0.1721			
audfee / shfunds [%]	1044	0.5327	0.3462			
Fund-raising charities						
audfee / totir [%]	139	0.1496	0.1223	–0.0797	–6.777	0.0000
audfee / assets [%]	142	0.2113	0.1211	–0.0310	–1.432	0.0770
audfee / totf [%]	136	0.3924	0.1837	–0.1403	–2.760	0.0032

Panel C: Comparison of charity and size-matched company audit fee measures[1,2,3,4]

	Obs	*Mean*	*Diff in means*	*t-stat*	*p-value (1 tail)*
Audit fee / revenue [%]					
All charities	207	0.1391	–0.1589	–11.547	0.0000
Companies (size-matched)	207	0.2980			
[mean of distribution of 1000 samples]					
Fund-raising charities	139	0.1496	–0.1414	–8.560	0.0000
Companies (size-matched)	139	0.2910			
[mean of distribution of 1000 samples]					

Notes

1. For Panels B and C, extreme outliers have been excluded
   (i.e., ratios > than the upper quartile + 10 x the inter-quartile range, and ratios < 0)
   Inclusion of all outliers:
   (a) Renders ratios involving total or shareholders' funds meaningless (see endnote 46).
   (b) For all charities: mean audfee/totir = 0.1678; companies: audfee/sales = 0.2890; t-stat for difference = –4.859
   (c) For all charities: mean audfee/assets = 0.1823; companies: audfee/assets = 0.2513; t-stat for difference = –3.987
   (d) For fund-raising charities: mean audfee/totir = 0.1918; companies: audfee/sales = 0.2890; t-stat for difference = –3.103
   (e) For fund-raising charities: mean audfee/assets = 0.2113; companies: audfee/assets = 0.2513; t-stat for difference = –1.807
2. In Panels B and C, 'diff in means' = charity mean – company mean.
3. For Panel C, the size distribution of companies (based on sales) was matched with the size distribution of charities (based on totir) by re-sampling from the company sample – see text for more details.
4. The t-stat (and associated p-value) shows the likelihood that the charity sample might be drawn from a population of equivalent-sized companies.

Table 8
Distribution of charity size and company comparison [based on revenue (total incoming resources and sales respectively)]

	Charities			*Companies*		
Revenue £m	*No*	*% of sample*	*mean % audfee/totir*	*No*	*% of sample*	*mean % audfee/sales*
< 20	126	60.8	0.168	336	31.6	0.449
20 – 40	48	23.2	0.102	188	17.7	0.173
40 – 60	14	6.8	0.096	102	9.6	0.152
60 – 80	6	2.9	0.081	77	7.2	0.122
80 – 100	5	2.4	0.101	72	6.8	0.130
100 – 200	6	2.9	0.052	150	14.1	0.102
200 – 300	0	0.0	na	81	7.6	0.085
300 – 400	1	0.5	0.030	47	4.4	0.073
400 – 440	1	0.5	0.028	11	1.0	0.062
	207	100.0	0.139	1064	100.0	0.229

basic truncated range approach, which are readily apparent.

For example, the median revenue measure for charities (*totir*) is only approximately one-third of the equivalent company measure (*sales*), and for assets about one-half. To get a clearer picture, the level of audit fees *relative* to organisation size was computed and these measures are summarised in Panel B of Table 7. To reduce the significant distortion that some observations were introducing, the measures were computed after excluding all extreme outliers.[40] For comparison, measures including outliers are also reported in a footnote to Table 7.

Charities pay, on average, approximately 0.14% of total incoming resources by way of audit fee in contrast with the 0.23% paid by private sector companies; i.e., the charity audit fee rate is just over half that of private sector companies. This difference is, not surprisingly, statistically significant at the 1% level. The tests based on other size measures yield essentially similar results. However, the validity of these initial comparisons remains open to criticism on two grounds.

First, the sample of charities includes both fund-raising and grant-making organisations. As discussed earlier, grant-making charities are more likely to have a larger proportion of investment-type assets, to operate in a more closely controlled manner with less transactions and have less diversity of operations. Their audit costs are expected generally to be lower than for fund-raising charities as was confirmed in the charity audit fee regression models. As the company sample does not include any 'similar' financial companies, such as investment trusts, the company audit fee ratio is likely to be biased upwards. This would tend to increase the observed difference in company over charity audit fees. To overcome this problem, a second set of statistics was calculated based only on fund-raising charities and the results are also presented in Panel B. The charity audit fee ratios increase, as expected, but not markedly (e.g., audfee / totir increases to 0.15% from 0.14%). The difference between mean measures for charities and companies remains statistically significant at the 1% level, except for the asset-based ratio which is significant at the 10% level. Thus, the charity audit fee rate appears to be in the region of 65% of the rate of comparable private sector companies.

Second, the size distribution of charities and companies *within* the charity revenue range differs substantially, as illustrated in Table 8, which shows the number and proportion of organisations within nine size intervals. For charities, 174 (84.0%) of the total sample have total incoming resources of less than £40m and fall within the two smallest size intervals, with 60.8% in the smallest category. By contrast, only 49.3% of companies fall within the same two smallest size intervals, with just 31.6% in the smallest category. Thus, there is a relatively larger proportion of small charities than companies and vice versa. This distorts the comparison of audit fees due to the expected and observed economies of scale which occur in the audit process. These scale economies are demonstrated clearly in Table 8, which shows that the mean level of audit fee/revenue increases systematically as organisation size decreases.

To minimise this 'size-distribution' bias, a more

[40] Extreme outliers are defined as more than 10 × interquartile range above the upper quartile; negative measures for audfee/shfunds are also excluded. Inclusion of all outliers gives meaningless results for ratios based on total or shareholders funds because the major outlier is so extreme (e.g. for charities, 3,875 times as large as the overall median!). For the other ratios, outlier inclusion increased the observed differences between charities and companies in all cases.

precisely size-matched sample of companies was achieved by adopting the 'bootstrapping' method described earlier. The method, based on total revenue, was applied to test for lower audit fees in the sample of all charities (but with outliers excluded), and in the sub-sample of fund-raising charities. The results are presented in Panel C of Table 7.

For the company sample, now properly size-matched with the all-charities sample, the mean of the distribution of audit fee/sales was 0.298% compared with 0.139% for charities. The t-statistic for the difference in means is –11.55 indicating a very high level of statistical significance, and confirming acceptance of hypothesis 5. The results based only on fund-raising charities are similar, with the mean for the size-matched companies of 0.291% again being much higher than the mean value (0.150%) for the charity sample. Thus, in a properly size- and type-matched comparison, the charity audit fee rate is approximately half that of private sector companies.

6. Summary and conclusions

The study develops and estimates, for the first time, a model of charity audit fee determinants. As in previous private sector company studies, size is the major determinant. Several dimensions of organisational complexity (including the number of subsidiaries, and stock level) and audit firm location (i.e., London-based) are also important. Specific charity sector factors that contribute include the importance of trading as a source of charity income, the major area of activity in which the charity operates, and the fundamental nature of the charity (i.e., whether predominantly grant-making or fund-raising). Separate models are developed for the latter two categories of charity and the results reflect the relative complexity of the audit of fund-raising charities. By contrast, grant-making charities are relatively straightforward and their audit fees typically have just two determinants (size and the number of subsidiaries). Auditors' provision of non-audit services is much less important in the charity sector than the UK company sector. However, the somewhat anomalous positive association between audit fees and NAS, which has been observed persistently for non-charitable companies, is also found in the charity sector, particularly for fund-raising charities.

The lower auditor concentration in the charity sector provides a valuable opportunity to investigate whether large firms and/or auditor expertise are rewarded with a fee premium. The results show that Big Six audit firms, on average, receive higher audit fees for audits of fund-raising (but not grant-making) charities. Given that none of the Big Six can be described as having particular expertise in the sector, this premium can be attributed to brand name rather than any specific sector expertise. The observation of a brand name premium in only the fund-raising sub-sector is perhaps not surprising. Fund-raising charities have greater need of public confidence, in order to continue to raise funds, and therefore stand to benefit most by employing a high-profile auditor as a symbol of high accountability. This may increase the relative bargaining position of Big Six auditors, enabling them to charge a premium. In contrast, it may be difficult to justify charging a premium to grant-making charities where the need for a symbol of high accountability is less, and where the audit process is relatively straightforward.

The size of the premium is approximately 18.5% on average, somewhat smaller than the premium implied in studies of UK private-sector companies. For quoted companies, Chan et al. (1993) found a premium of 36.7%, Ezzamel et al. (1996), 23.5%, and for independent unquoted firms Brinn et al. (1994) found a 28.0% premium. By contrast, neither Che-Ahmad and Houghton (1996), in their study of medium-sized UK companies, nor Clatworthy et al. (2000) in their study of UK National Health Service Trusts found any evidence of a large audit firm premium.

Of the five Big Six auditors active in the charity sector, only KPMG (with the largest number of charities audited) consistently earns fee premiums. By contrast, the audit fees charged by Ernst & Young seem to lower than those charged by non-Big Six auditors in grant-making charities.

There is evidence that market-leading non-Big Six audit firms in the sector are rewarded with a statistically significant fee premium in the more complex audit environment of fund-raising charities, but the average size of this premium above other non-Big Six auditors is not economically significant (only about 0.5%). However, individual non-Big Six auditors with expertise (especially Binder Hamlyn) do appear to earn economically significant fee premia above other non-Big Six firms. Such observations are consistent with a premium either related to charity sector-specific expertise or related to a second-tier brand name premium, but our research approach is unable to distinguish between these competing explanations.

The study also provides preliminary evidence on the overall level of fees paid by charities relative to those prevailing in the private sector. In a properly size- and type-matched comparison, the charity audit fee rate is significantly lower than that of private sector companies; in fact it is approximately half. The magnitude of this differential raises important issues concerning the reasons for the lower charity audit fees. While these issues warrant further investigation, it is likely to be difficult to explain unambiguously the lower charity fees. However, the lower audit fees are certainly consistent with auditors perceiving audit risks to be

lower in the charity sector, and/or with auditor altruism in not charging the 'market rate'. Unfortunately, they are also consistent with lower quality audits, in which audit firms recognise a lower 'market rate' in the charity sector and respond by cutting costs to minimise losses incurred.

Currently, the argument that the *quality* of charity audits might be lower than company audits is difficult to refute. This is potentially damaging to both charities and their auditors. A change in the reporting of charity audit fees could improve the situation where there is an element of 'charitable giving' in the audit fee charged. The gift element could be recognised as such in the income section of the Statement of Financial Activities and the 'full' audit fee charged against the income. Alternatively, disclosure of the information could be included in the notes to the accounts. Either method would provide users of charity financial statements with a clearer indication of the extent of audit work performed and of the level of audit firm altruism, both of which are hidden under current reporting practices. This suggestion is consistent with the move towards the valuation and recognition of gifts and services provided 'in kind' advocated by the revised SORP 2[41] and might usefully be included in a future version of the SORP.

Feedback on the results from a small set of charity auditors was generally encouragingly supportive of the main findings.[42] However, a particular limitation is that the sample of charities was taken from the top 500 charities, and it would be dangerous to extrapolate the results to the rest of the top 3,000 or to the large number of much smaller registered charities.

[41] Paragraphs 107–108 of SORP 2 give details for recognition of 'gifts in kind' and paragraphs 109–110 concern 'intangible income'. The difficulty associated with valuing voluntary help is recognised in paragraph 110 which recommends that such help should not be accounted for in the *Statement of Financial Activities*, but should be dealt with in the notes to the accounts or in the Trustees' Annual Report. However, valuation of the cost of work carried out by audit firms in conducting the annual audit should not present the same difficulty. In the US, FASB Statement No. 116 *Accounting for Contributions Received and Contributions Made* includes recommendations on contributed services: *'Contributions of services are recognized only if the services received (a) create or enhance assets or (b) require specialized skills, are provided by individuals possessing those skills, and would typically need to be purchased if not provided by donation'*. The charging of a subsidised audit fee would seem to fit within such a recognition rule.

[42] The final stage of the research process was to obtain some feedback directly from charity auditors. An executive summary and an earlier draft of this paper were sent out to a small sample of leading charity auditors for their comments. Seven copies were sent out and, although only three replies were received, these provided several useful insights and additions to the paper.

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