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Litigation Risk and Auditor Conservatism: A UK-US Comparison

S Li, Wendy Beekes and Ken Peasnell

The Department of Accounting and Finance
Lancaster University Management School
Lancaster LA1 4YX
UK

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Shaling Li*
Portsmouth University

Wendy Beekes
Lancaster University

Ken Peasnell
Lancaster University

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Corresponding author: Dr. Shaling Li, Senior Lecturer in Accounting, Department of Accounting and Finance, Portsmouth Business School, Richmond Building, Portland Street, Portsmouth, PO1 3DE, UK. Tel: 023-9284-4295, fax: 023-9284-4037
Email: Shaling.li@port.ac.uk

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ABSTRACT

This paper investigates the association between auditor quality and the level of conservatism in reported earnings. Prior work has suggested auditor conservatism is influenced by auditors' desire to prevent litigation and/or incurring reputational costs. To tease out the relative importance of the litigation versus reputational concerns of large audit firms as reasons for greater auditor conservatism, we conduct a comparative study for UK and US firms. In contrast to the US, the UK is a comparatively low litigation environment. Our results show that (1) large auditors are not associated with greater conservatism after the clients' level of financial distress has been taken into account in the two countries; (2) the client profiles of large and small audit firms differ in key dimensions and these play a significant role in determining the incremental influence of audit firm size on the earnings conservatism of their clients. Therefore, rather than auditor quality driving the level of earnings conservatism, it appears to be the case that it is the underlying client characteristics which dictate the level of auditor conservatism. Failure to allow for such differences can result in misleading inferences being drawn about the effects of audit firm size on earnings conservatism.

Key Words: Big-Five Auditors, Earnings Conservatism, Earnings Timeliness, Litigation theory, Reputation theory.

1. Introduction

Accounting conservatism is a key concept which underlies the financial statements; it encourages a cautious approach to recognising income, by including revenues *only* when realised, and suggests making provision for liabilities *as soon as* they are known. This is an important characteristic of accounting that helps with contracting between managers, shareholders and debtholders (Watts, 2003). Auditors provide assurance to users that the financial statements do not contain any material misstatements. Therefore auditors too have a role to play in determining the appropriate level of conservatism in a client's financial statements.

The purpose of this study is to provide evidence on the reasons for auditor conservatism. Specifically, we investigate whether it is the auditing firm's reputation or litigation pressure which drives conservatism. Consistent with prior work, we posit that large auditors are more conservative than other auditors. To tease out the relative importance of the reputation versus litigation theories, we conduct our study in two countries with differing levels of litigation; the US which is a high litigation environment and the UK which is a low litigation environment. The US and UK are similar in that they are both (English) common law countries, have well developed capital markets and laws protecting the rights of minority shareholders against expropriation by managers of the firm. In addition, the same large audit firms (hereinafter referred to as the *BIG5*) operate in both countries. Therefore, the reputation effect of the *BIG5* firms is held constant in our study. However, the litigation pressure for auditors in the US is considered to be greater than in the UK.

Our study contributes to the existing literature in a number of ways. First, we provide a comparative analysis of the level of auditor conservatism in the UK and US. By examining the link between auditor and earnings conservatism in the UK as well as the US, we are able to provide evidence on whether the extant findings in US studies are generalisable to other

countries which have different governance structures, financial reporting standards and liability regime. Second, our comparison of the UK and US enables us to isolate the relative importance of reputation concerns and litigation risks for audit firms in determining the appropriate level of auditor conservatism. Therefore by comparing results in another country with a low litigation regime, we are able to draw conclusions about the relative impact of reputation and litigation concerns on auditors' actions. Third, our results suggest that the positive association between auditor size and earnings conservatism documented in prior research may be due to the underlying differences in the firm characteristics of the auditors' clients, rather than greater auditor conservatism of larger branded audit firms. After controlling for level of financial distress of the clients of large and small auditors, we find no evidence to suggest *BIG5* auditors are more conservative, in either country. However, we do observe an institutional difference between the US and the UK, when account is taken of client leverage. Whereas this makes no noticeable difference in the UK, in the US *BIG5* auditors are incrementally associated with greater earnings conservatism for their more highly indebted clients.

The remainder of the paper is organised as follows. Section 2 outlines the link between auditors and accounting quality and summarises these in the form of two hypotheses. Details of the research design, the sampling procedure and features of the data are provided in section 3. The empirical findings are reported in section 4. Section 5 contains the conclusion.

2. Auditor and Accounting Quality

2.1 Auditor 'Quality'

Financial statements provide information to shareholders and potential investors to assess both the performance and prospects of the company and the performance of the company's management team. Auditors therefore have a key role to play in providing an audit of the financial statements to detect omissions and material misstatements which may otherwise mislead shareholders. In addition, financial statements are used in contracts with debtholders, and also in manager compensation contracts. Therefore significant incentives exist for managers to report earnings opportunistically to maximise their compensation and reduce the constraint of debt covenants on the firm's activities (Watts and Zimmerman, 1986). An auditor's role is to provide assurance to debtholders and shareholders that their interests are protected and performance is faithfully represented by the financial statements. Since firms may be advised to change aspects of their accounting policies or treatment of certain items in the financial statements by their auditors, the 'quality' of a client's reported earnings may be directly influenced by the auditor.

Large 'brand name' auditors are perceived to be associated with better audit quality as they have their reputation to protect (DeAngelo, 1981). We follow previous studies in assuming that a natural break occurs in terms of brand names that can be adequately captured by the size of the audit firm, with the *BIG5* having much more reputational capital at stake than the audit firms of lesser size. Therefore we would expect *BIG5* auditors to conduct their work with great diligence and perhaps have a lower threshold for issuing modified audit opinions to clients than smaller audit firms. Evidence from the earnings management literature confirms that *BIG5* auditors are associated with lower levels of accounting discretion and consequently better accounting quality; for example, Becker, DeFond, Jiambalvo and Subramanyam (1998) show *BIG5* auditors are associated with lower

discretionary accruals. In addition, *BIG5* firms are shown to take a more conservative approach by lowering the threshold for issuing modified audit reports when there is a higher level of audit risk; for example, *BIG5* firms are more likely to issue modified audit reports for firms with high levels of accounting accruals (Francis and Krishnan, 1999). Therefore for firms where there is lower transparency about the underlying performance in earnings, a higher degree of scrutiny would be expected from *BIG5* auditors. Similar actions may be expected from auditors with respect to increasing conservatism, by requesting changes to increase the timeliness of 'bad' news relative to 'good' news in earnings.

2.2 Earnings Timeliness and Accounting Conservatism

The timeliness of earnings refers to how quickly *value relevant* information is reflected in a firm's reported earnings. If firms reflect information on a timely basis, this permits better investment decisions by shareholders and effective monitoring of the firm by outside directors and auditors. However, the level of timeliness is not constant across firms; it is expected to differ across industries and will also depend upon the level of growth opportunities available to the firm (Ball, Kothari and Robin, 2000).

There is expected to be asymmetry in the incorporation of good and bad news in earnings, with bad news being reflected on a timelier basis under accounting conservatism. This process has been characterised as requiring a higher degree of verification for good than bad news for it to be recognised in current period earnings (Ball *et al*., 2000; Basu, 1997). There are incentives for managers to release bad news on a timely basis to protect themselves against potential future litigation (Skinner, 1994). On the other hand, as mentioned earlier, incentives also exist to delay bad news and accelerate good news to increase compensation payments for manager's personal gain. However, pressure from the firm's auditor during the

audit process is likely to have a significant influence over the level of earnings conservatism in the published financial statements.

2.3 Auditor Conservatism

The auditor of a firm has a vital role in monitoring accounting quality, and, as discussed above, *BIG5* audit firms are expected to be associated with better audit 'quality'. *BIG5* firms have much to lose in terms of their reputation if there was audit failure which would likely result in a large financial loss to the audit firm (Palmrose, 1988). Therefore *reputation theory* suggests *BIG5* auditors would encourage more conservative accounting in their clients' financial statements to reduce the likelihood of audit failure and protect their market reputation. This is expected to be reflected in timelier reporting of 'bad' news and less aggressive income recognition policies for clients of *BIG5* firms. Prior studies for the US find evidence to consistent with this prediction (Basu, Hwang and Jan, 2001a, 2001b; Chung, Firth and Kim, 2003), but there is, to our knowledge, no comparable evidence for UK firms. Given that the same reputation concerns are apparent for *BIG5* audit firms in the UK as in the US, irrespective of which country the firm operates in, we would expect *BIG5* auditors to be more conservative than other firms to protect their reputation. This leads to the following hypothesis:

Hypothesis 1: *Ceteris paribus,* earnings conservatism is greater in firms audited by *BIG5* auditors.

As mentioned above, *BIG5* audit firms may encourage clients to be more conservative for reputational concerns. However, this level of auditor conservatism may also be influenced by the potential litigation which may arise from audit failure. Lennox (1999) concludes from

a study of UK firms that *BIG5* auditors are likely to have greater financial penalties from being sued, rather than a loss of business due to the reputation effects of audit failure *per se*. *Litigation theory* predicts that large audit firms would be more vulnerable to being sued as they have larger resources ('deep pockets') which could be used to compensate investors' losses in the event of audit failure (Lennox, 1999; Menon and Williams, 1994).

The potential benefits from successfully suing a *BIG5* firm could be substantial. However there is an asymmetry in litigation; the focus for litigation would be on firms given a clean audit report which were subsequently found to have overstated earnings or understated expenses in their published financial statements. In such circumstances, investors and other users of the financial statements can claim that they were mislead by the audited financial statements. It is anticipated that auditors will have a preference for a conservative approach to recording income to prevent such occurrences. We expect that *BIG5* firms have strong incentives to require clients to adopt more conservative accounting policies to protect themselves against potential future litigation. Prior research shows that earnings are more conservative in periods when litigation risk is higher in the US (Basu, 1997; Basu *et al*. 2001b), but to our knowledge, there is little evidence regarding the impact of litigation risk on auditor conservatism in the UK.

There are differences in the regulation of financial reporting between the US and the UK. The Security Exchange Committee (SEC) in the US engages in pro-active reviewing of registrants' accounts to penalise companies for earnings manipulation. This approach could be argued to be more influential than that of the Financial Reporting Review Panel (FRRP) in the UK, which operates in responsive mode, doing little or no monitoring of its own and responding to complaints made to it, press comments, etc. (Huijgen and Lubberink, 2005). The level of litigation in the two countries in our study is significantly different from each other; the US is significantly more litigious than the UK. In the US class actions are possible,

resulting in a potentially huge pool of plaintiffs for US auditors. In addition, since each party is responsible for their own fees, there is little disincentive for instigating legal action against an audit firm (Hughes and Snyder, 1995). This in marked contrast to the UK, where the losing party must pay the winning party's costs as well as their own, a factor that can be a significant deterrent to taking a matter to court (Coffee, 1999). In addition, class actions are prohibited in the UK.

Another difference is the nature of bankruptcy codes in the US and UK, which can influence the liability of auditors in the bankruptcy process and the possibility of being sued. The US has a debtor-friendly bankruptcy code while the UK has a creditor-friendly insolvency code[1] (Franks, Nyborg and Torous, 1996). In the US, the courts are heavily involved in bankruptcy proceedings, particularly in those executed under Chapter 11 of the Bankruptcy Code (Franks and Sussman, 2005), providing ample opportunities for disgruntled debtholders and shareholders to seek out parties to whom blame may be attributed for the collapse of a business. Proving loss in the case of understatement of earnings is more difficult. Bondholders have no incentives to sue in these circumstances, and shareholders do not have a ready-made court setting, in either country, in which to mount their actions. In the UK, litigation risk and frequency of lawsuits against auditors are much lower than the US. One explanation for these institutional differences is the debt structure: UK firms tend to obtain more private loans from banks and have more concentrated debt structures than is typical in the US which has a wide public debt market (Armour, Cheffins and Skeel, 2002). Traditionally, banks have been deemed to have informational advantages over holders of public debt that enabled them to protect their interests without going to court. Furthermore, to

[1] Creditor-friendly bankruptcy codes focus on preserving *ex-ante* priority of claims. It is generally understood that debtor-friendly bankruptcy codes are geared more to keeping businesses going - if necessary by subjugating (or at least delaying) creditors' claims - and as such tend to deliver more power to managers and shareholders before or during the bankruptcy process (Franks *et al.,* 1996). This feature of a debtor-friendly bankruptcy code will often work against the creditors' interests, though that will not always be the case. Sometimes, the problem is not conflict between shareholders, on the one side, and creditors on the other, but rather that one group of creditors might be holding out against the other creditors.

the extent that bank loans have shorter maturities than public debt, the bank can protect itself when the borrower's financial position worsens by simply refusing to roll over the debt. How or whether these differences in financing patterns between the two countries influences the degree of earnings conservatism remains an open question.

Litigation penalties are most likely to occur for overstatement rather than understatement of earnings and therefore auditors are likely to have natural tendencies towards accounting conservatism. However, the association between auditor and earnings conservatism is expected to be sensitive to the level of litigation risk. A comparison between the UK and US therefore provides an interesting setting to test whether litigation risk is a significant driving force for the link between auditor quality and earnings conservatism. Given the similarities between the US and UK, and *BIG5* auditors' globally recognised reputation, we predict that there will be a lower level of earnings conservatism in the UK due to the lower litigation environment:

Hypothesis 2: *Ceteris paribus,* the link between auditor quality and earnings conservatism is weaker in the UK than in the US.

3. Research design

3.1 Measure of earnings conservatism

We investigate the level of earnings conservatism using a conventional Basu (1997) reverse regression of earnings on returns:

$$E_{it} / P_{i,t-1} = \alpha_0 + \alpha_1 NEG_{it} + \beta_1 RET_{it} + \beta_2 NEG \cdot RET_{it} + \varepsilon_{it}. \quad (1)$$

The dependent variable in equation (1), $E_{it} / P_{i,t-1}$, is period t earnings per share before extraordinary items, E_{it}, scaled by beginning-of-period share price, $P_{i,t-1}$. RET_{it} is returns

ending 3 months after the financial reporting year end of firm *i* in period *t*. RET_{it} serves as a measure of information available about the firm during the period. NEG_{it} is an indicator variable which takes the value of 1 if RET_{it} is negative and 0 otherwise. $NEG \cdot RET_{it}$ is the product of the indicator variable NEG_{it} and the measure of economic news, RET_{it}, *i.e.,* is a measure of the bad news. The sensitivity of the firm's reported earnings to good news is captured in this Basu model by the regression coefficient, β_1, and the sensitivity to bad news by $\beta_1 + \beta_2$. If a firm's earnings are measured conservatively, we would expect a higher level of sensitivity to bad news, *i.e.,* that $\beta_2 > 0$.

Equation (1) provides the basic model. To allow for the effect of auditor size, we follow Chung *et al.* (2003) by extending that model to incorporate indicator variables for large auditors (*BIG5*), as in equation (2): The interaction of the *BIG5* dummy variable with positive (*BIG5·RET*) and negative returns (*BIG5·NEG·RET*) is to capture larger auditors' incremental impact on the timeliness of good and bad news respectively.

$$E_{it} / P_{i,t-1} = \alpha_0 + \alpha_1 NEG_{it} + \alpha_2 BIG5_{it} + \alpha_3 BIG5 \cdot NEG + \beta_1 RET_{it} + \beta_2 NEG \cdot RET_{it} + \beta_3 BIG5 \cdot RET_{it} + \beta_4 BIG5 \cdot NEG \cdot RET_{it} + \varepsilon_{it}. \quad (2)$$

$BIG5_{it}$ is set equal to 1 if company *i*'s financial statements are audited by a Big 5 firm in period *t* and 0 otherwise. The interaction term, $BIG5 \cdot RET_{it}$, the product of $BIG5_{it}$ and RET_{it}, is the news for the subset of firms audited by the Big 5. The three-way interaction, $BIG5 \cdot NEG \cdot RET_{it}$, the product of $BIG5_{it}$, NEG_{it} and RET_{it}, is the bad news for firms audited by *BIG5* firms. β_1 is a measure of the sensitivity of the earnings of firms with *non-BIG5* auditors to good news and $\beta_1 + \beta_2$ the sensitivity of the earnings of such firms to bad news. The sensitivity of earnings to good news and bad news for *BIG5* firms is given by $\beta_1 + \beta_3$ and $\beta_1 + \beta_2 + \beta_3 + \beta_4$, respectively.

We expect all auditors to have incentives to be conservative, *i.e.,* that both β_2 and β_4 will be positive. However, we also expect the level of accounting conservatism to differ between the *BIG5* and *non-BIG5*. Hypothesis 1 predicts that the *BIG5* take a more conservative approach to income recognition. This might take the form of the *BIG5* being less inclined to recognise good news, or more inclined to recognise bad news, or both. In the case of good news, this leads to the prediction that the relevant total regression coefficient for the *BIG5* companies will be less than the corresponding total coefficient for the *non-BIG5* companies: $\beta_1 + \beta_3 < \beta_1$, *i.e.*, $\beta_3 < 0$. The prediction regarding bad news is less straightforward to compute. It implies that the total coefficient for bad news for the *BIG5* will be greater than the corresponding total coefficient for bad news for the *non-BIG5*: $\beta_1 + \beta_2 + \beta_3 + \beta_4 > \beta_1 + \beta_2$, *i.e.*, $\beta_3 + \beta_4 > 0$. In other words, the prediction for bad news depends on the prediction for good news.

A complication that has to be addressed is that the choice of auditor might be driven by factors other than conservatism. We focus on three such client-specific factors that operational and theoretical considerations indicate might need to taken into account if we are to be able to pin down effect of auditor size: client size, industry and bankruptcy risk. Large companies require *BIG5* auditors for a variety of reasons, including the possibility that only the *BIG5* might have the capability to audit their possibly 'far-flung' operations. To the extent that client size plays an independent role in determining the conservatism of their reported earnings, misleading inferences might be drawn about the impact of auditor size on conservatism. Auditors might be chosen for their expertise in particular industries, leading to possible differences in the proportions of large and small auditors across sectors. This might result in a correlated omitted variables problem if firms in different industry sectors exhibit different degrees of earnings conservatism because of cross-industry differences in operating characteristics and the accounting rules governing income recognition. Finally, auditor choice

might be affected by the degree of bankruptcy risk facing the client. This has both a demand- and a supply-side dimension. For example, risky firms may have a particularly strong need to convince suppliers of capital of the soundness (*i.e.,* conservativeness) of their financial reporting practices, and this might cause them to seek out *BIG5* auditors. On the other hand, the *BIG5* might seek to protect themselves from litigation risks by being less willing to take on high risk clients.

We deal with this omitted variables problem in the following manner. In addition to examining results for the pooled samples for each country, we also investigate our results using a matched-pairs design. For each firm with a small auditor (i.e. where *BIG5* is equal to 0), we match it to a firm with a large auditor, which is in the same two-digit Standard Industry Code (SIC) and is nearest in size (in terms of market value) in each fiscal year. This matching process is completed for each country separately. Additional matched samples are used to identify the impact of risk (defined as the level of the firm's Altman Z-score from Altman, 1968) on the level of conservatism. We use a matched-pair design in preference to simply adding control variables for client size, industry membership and bankruptcy risk because of the lack of knowledge as to how these variables should be included in the model specification (*e.g.,* whether the relationship is linear or non-linear or how they might interact with the primary variables).

3.2 Sample and Data

This paper uses data for UK and US firms for the period 1993 - 2002. The sample period is chosen to coincide with the introduction of Financial Reporting Standard 3 (FRS3) in 1993 in the UK. The differences in accounting methods used in the two countries shrank following the introduction of FRS3, making UK and US reported earnings more comparable (Lin and Walker, 2000). The sample period also pre-dates the Sarbanes-Oxley Act 2002, a regulatory

development in the US which places restrictions on the non-audit work an audit firm can undertake for an audit client, which may have influenced auditors' attitudes towards accounting conservatism.

Our US sample consists of all active and dead non-financial firms from the intersection of (1) the active industrial and research files on Compustat, and (2) price and return data extracted from CRSP. Our UK sample consists of all active and dead non-financial firms from the intersection of (1) accounting, price and returns data from DataStream and (2) company auditor data from Company Analysis. We also exclude utility firms as they are subject to different reporting regulations which could affect conservatism. To be included in our sample, firms must have the necessary price, return and earnings data, as well as other accounting items required to calculate leverage and Altman-Z scores which are used in sample matching procedures. Table 1 provides the definitions of our variables.

TABLES 1 & 2 HERE

After winsorizing the top and bottom 1% for each variable to reduce the impact of outliers, the pooled sample contains 27,706 US firm-year observations and 6,313 UK firm-year observations. Table 2 provides descriptive statistics. Panels A and B of Table 2 report the results for the US and UK samples respectively. These results are given first for the pooled sample (column 1) and then partitioned into *BIG5* and *non-BIG5* for 'sample #1' (columns 2 and 3). In both countries, over 80% of sample firms are audited by large audit firms (*BIG5*=1): 87.74% in US and 81.48% in UK (See column 2). For the US sample, *BIG5* auditees are on average larger (median *SIZE* = 19.08 v. 16.85), perform better (median *E/P* = 0.04 v. 0.02; median *RET* = 0.03 v. -0.05), have lower bankruptcy risk (median *ZSCORE* = 3.28 v. 3.17), and have double the leverage (median *LEV* = 0.16 v. 0.08) [see columns 2 and 3, Table 2, Panel A]. The pattern is broadly the same with the UK sample, except that the

BIG5 and *non-BIG5 auditees* have broadly the same leverage (median *LEV* = 0.21 v. 0.23) [see columns 2 and 3, Table 2, Panel B].

In creating the matched samples, we match *BIG5* and *non-BIG5* auditees by size and industry in each fiscal year, for both the US and UK samples independently. We denote the resultant matched samples as sample #2. Contrary to what we observe for sample #1, descriptive statistics for sample #2 (see Table 2 Panel A, columns 5 and 6) show US *BIG5* auditees are on average less profitable (median *E/P* = 0.01 v. 0.02), have lower stock market returns (median *RET* = −0.07 v. −0.05) and have greater bankruptcy risk (median *ZSCORE* = 2.75 v. 3.25). The greater degree of leverage of the *BIG5* subsample remains unaffected by the matching process (median *LEV* = 0.14 v. 0.07). The greater leverage and bankruptcy risk in *BIG5* audited firms in sample #2 is consistent with prior evidence (Table 1 of Chung *et al.* 2003: 23). For the UK, *BIG5* auditees continue to be more profitable (median *E/P* = 0.06 v. 0.05; median *RET* = −0.02 v. −0.04) and to have higher leverage (median *LEV* = 0.30 v. 0.21), but now they have greater bankruptcy risk (median *ZSCORE* = 2.60 v. 2.71) whereas in sample #1 this was not the case.

Finally, columns 8 and 9 of Table 2 provide descriptive statistics for sample #3, obtained by matching *BIG5* and *non-BIG5* auditees by bankruptcy risk as well as size and industry in the fiscal year. In the US, the *BIG5* auditees remain less profitable, measured in terms of both accounting and stock market performance, but the previous observed difference in leverage has now disappeared. In the UK, the *BIG5* auditees no longer outperform the *non-BIG5* ones − indeed, their stock market performance was inferior during the sample period (median *RET* = −0.06 v. −0.03) – and they remain more indebted (median *LEV* = 0.27 v. 0.17).

In summary, as expected, Table 2 indicates that firms differ in potentially important ways according to the size of auditor. The regression results reported in the next section examine whether these factors can account for differences in earnings conservatism.

4. Results

TABLE 3 HERE

Table 3 Panels A and B report the results for the US and UK samples respectively. For completeness we report the results for the pooled sample alongside those for the matched pair samples. All the regressions include year indicator variables to control for time-related effects. The *t*-statistics are reported on a White-corrected basis.

We consider first the results of fitting equation (1), the Basu model, which makes no distinction for auditor type, for the pooled sample (sample #1). Consistent with expectations, in the case of the US sample, the estimated value of the coefficient on *NEG·RET* is positive and statistically significant ($\beta_2 = 0.33;\ t = 28.02$), suggesting 'bad' news is reflected in earnings more quickly than is good news. The explanatory power of the model is 9 per cent, which is comparable to prior research. The results shown in Table 3, panel B reveal a similar picture for the UK, with the bad news coefficient also being positive and statistically significant ($\beta_2 = 0.18;\ t = 15.63$). At first sight, therefore, earnings conservatism appears to manifest itself in a broadly similar manner in the two countries.

We turn next to our first cut at measuring the influence of auditor type. Equation (2) adjusts the Basu model to allow the news coefficients to vary by according to the size of the auditor. In the case of the US sample (Panel A), we observe no statistically significant differential impact on the timeliness of 'good' news for *BIG5* audited firms relative to *non-BIG5* audited firms ($\beta_3 = -0.01;\ t = -1.05$). The equivalent result for the UK (Panel B) is a marginally significant negative association, which is the predicted sign, but the magnitude of

the effect is very small ($\beta_3 = -0.02;\ t = -1.80$). As explained in section 3.1, determination of the effect of auditor type on the recognition of bad news is more complex, involving the sum β_3 (the coefficient for $BIG5 \cdot RET$) and β_4 (the coefficient for $BIG5 \cdot NEG \cdot RET$). In the US, the effect of auditor type is for all practical purposes zero: $\beta_3 + \beta_4 = -0.01 + 0.02 = 0.01; t = 0.22$. The equivalent result for the UK is $\beta_3 + \beta_4 = -0.02 + (-0.05) = -0.07;\ t = -2.21$. The effect works in the opposite direction to what is expected, implying that *BIG5* auditors are associated with *less, rather than more,* conservative earnings.

We address next the possibility that these counter-intuitive results are driven by correlated omitted variables. We do this by focusing first on the results in Table 3 for sample #2, which contains only firms with large and small auditors matched by client size and industry in fiscal year. As with the pooled sample, the equation (1) results for sample #2 indicate that bad news is reflected more quickly in earnings than is good news in both the US ($\beta_2 = 0.34;\ t = 13.78$) and the UK ($\beta_2 = 0.17;\ t = 7.19$). Again, there appears to be no discernible effect of auditor type on the recognition of good news in the US ($\beta_3 = -0.01;\ t = -0.43$), or in the UK ($\beta_3 = -0.02;\ t = -1.28$). The *BIG5* do seem to be associated with faster recognition of bad news in the US ($\beta_3 + \beta_4 = -0.01 + 0.11 = 0.10;\ t = 1.86$), but not in the UK ($\beta_3 + \beta_4 = -0.02 - 0.00 = -0.02;\ t = -1.28$). Taking the differential good news and bad news together, the findings are consistent with the *BIG5* exerting a conservative influence on the reporting of earnings by their clients in the US. We find bad news is conservatively recognised in the US, but not good news. However we find no evidence of greater conservatism in *BIG5* clients for the UK.

One factor not controlled for in the matching procedure used to create sample #2 is whether there are differences in the risk profile of the *BIG5* and *non-BIG* firms. Sample #3 addresses this potentially confounding factor by matching each *non-BIG5* firm-year observation with a *BIG5* by size, industry and bankruptcy risk (proxied by Altman z-score). The results of estimating equations (1) and (2) for sample #3 are included in Table 3. The results for equation (1) for sample #3 are consistent with those for samples #1 and #2. In the US, the results for equation (2) suggest that the *BIG5* has no influence on earnings conservatism, either for good news ($\beta_3 = -0.01;\ t = -0.25$) or for bad news ($\beta_3 + \beta_4 = -0.01 + 0.00 = -0.01;\ t = -0.25$). In other words, when account is taken of bankruptcy risk the bad news conservatism associated with the *BIG5* observed in the sample #2 regression disappears. For the UK, sample #3 regression results for equation (2) show the relationship for bad news is *negative* ($\beta_3 + \beta_4 = -0.00 - 0.10 = -0.10;\ t = -1.85$), implying that the effect of being audited by a *BIG5* auditor in the UK is for earnings to be *less* conservative than when they are audited by a *non-BIG5* auditor.

One aspect of the sample #3 matching procedure we noted in section 3.2 was that while in the US this resulted in no difference in the median leverage of *BIG5* and *non-BIG5* firms, this was not the case in the UK. We therefore re-ran the matching process used to create sample #3, replacing *ZSCORE* by *LEV* as the measure of client risk for matching purposes. Our results (not tabulated) show no greater evidence of conservatism for *BIG5* audited companies. It would appear to be the case that leverage and risk are factors that play a role in determining the degree of earnings conservatism. Our analysis leads us to expect that BIG5 auditors might have especially strong reasons to be conservative when these two factors are important, but our matching procedure does not enable us to determine how this might operate. Therefore, in order to try to pin down what is going on, we split the firm-year observations in sample #2 according to whether *ZSCORE* and *LEV*, respectively, are above or

below the median. Table 4 provides the results of re-running the equation (2) regressions based on these splits. Again, all the regressions include year indicator variables to control for time-related effects. The *t*-statistics are reported on a White-corrected basis.

TABLE 4 HERE

Table 4 panel A presents results for the US distinguishing between firms which have high (above median) and low (below median) *ZSCORE*. The comparable results for the UK are given in panel C. Firms with below the median level of *ZSCORE* (denoted 'LOW' in the table) are associated with high bankruptcy risk and firms with above the median *ZSCORE* (denoted 'HIGH' in the table) are associated with low bankruptcy risk. The β_2 coefficients for *NEG·RET*, in both countries, indicate that bad news is reflected more quickly in reported earnings, and the effect is more pronounced in high risk firms. However, based on the β_3 and β_4 coefficients for *BIG5·RET* and *BIG5·NEG·RET*, there is no evidence of *BIG5* imposing an additional dose of conservatism, either in terms of being more reluctant to recognise good news or more eager to recognise bad news. Our results indicate that bankruptcy is an event with which no auditor, in either country, regardless of size, wishes to be associated.[2] Differences in the bankruptcy regimes in the two countries do not affect this conclusion.

Panel B presents results for the US distinguishing between firms which have high (above median) and low (below median) *LEV*. The comparable results for the UK are given in panel D. The β_3 coefficient is insignificant in the US, suggesting that the incremental effect of having a *BIG5* auditor is minimal as far as modifying the recognition of good news is concerned and that this is so regardless of the client's level of indebtedness. This is

[2] This is consistent with evidence from prior research which suggests that more audit work is carried out where there is greater audit risk (e.g., Brumfield *et al.*, 1983, and Simunic, 1980).

consistent with the previously noted result for sample #2 in Table 3 panel A that the *BIG5* are not associated with more speedy recognition of good news in the US ($\beta_3 = -0.01;\ t = -0.43$). We also noted from Table 3 panel B that in the UK the *BIG5* are likewise not significantly associated with more speedy recognition of good news ($\beta_3 = -0.02;\ t = -1.28$). The results in Table 4 panel D indicate that conditioning on leverage makes no appreciable difference: while in each case the coefficient has the hypothesised negative sign, the magnitudes are very small and the relationship is not statistically insignificant, i.e., for the below-average *LEV* firms $\beta_3 = -0.03 (t = -1.48)$ and for the above-average *LEV* ones $\beta_3 = -0.04 (t = -1.20)$.

We turn next to the influence of leverage on the recognition of bad news. In both the US and the UK, the magnitude of the β_2 coefficients are positive and significant and of approximately the same magnitude in both the high *LEV* and low *LEV* regressions, suggesting that the speed of recognition of bad news associated with *non-BIG5* auditors is unaffected by the client's debt level. The values of $\beta_3 + \beta_4$ in Table 4 panel D provide no support for the prediction that UK *BIG5* auditors are inclined to be incrementally more conservative for bad news if the client is more heavily indebted. However, the picture is different in the US. Contrary to the UK, panel B shows that *BIG5* clients in high-*LEV* firms in the US recognise bad news more quickly $(\beta_3 + \beta_4 = 0.00 + 0.15 = 0.15; t = 2.15)$ than do low-*LEV* ones $(\beta_3 + \beta_4 = -0.01 + 0.07 = 0.06; t = 0.42)$ Therefore, it appears that any additional conservatism of *BIG5* firms in the US is driven by the presence of a high leverage. Taking the results for sample #2 in Table 3 panel A with those in Table 4 panel B together, it would seem that the additional bad news conservatism associated with the *BIG5* in the US revealed in the former table can be seen from the latter table to be traceable to firms with high leverage.

5. Conclusion

This paper examines the level of earnings conservatism for a sample of US and UK companies. It extends prior research by providing comparative evidence between the UK and US by investigating the influence of auditors on earnings conservatism. Since *BIG5* audit firms have much to lose in terms of their reputation and potential litigation costs, we posit that they will require greater earnings conservatism in their clients' accounts than *non-BIG5* firms.

Our results can be summarised as follows:

1. We confirm that there is a general tendency in both countries to recognise bad news more quickly than good news, as measured by the Basu (1997) model.
2. To assess the effect of auditor type, we use an extended version of the Basu model to separate out the impact for *BIG5* auditors. We find no clear and strong evidence of the *BIG5* being more conservative than the *non-BIG5*, in either country.
3. The next step was to allow for the fact that the client profiles of audit firms differ in potentially in important ways according to the size of auditor. Two important factors are client size and industry mix. To determine whether such factors might be obscuring the impact of the *BIG5*, a subsample was created that matched *BIG5* and *non-BIG5* according to these characteristics. The results for the US sample confirm expectations: when allowance is made for differences in the size and industry mix of *BIG5* and *non-BIG5* audit clients, 'bad' news is incorporated on a timelier basis where there is a *BIG5* auditor. However, in the UK, there is no discernable effect of the *BIG5* auditors on earnings conservatism.
4. As a further refinement, a third subsample was created in which the BIG5 and non-BIG5 observations were matched according to bankruptcy risk as well size and industry. When account is taken of bankruptcy risk the conservatism associated with

the *BIG5* observed by matching by size and industry disappears in the US, but in the UK, we find evidence of lower conservatism as evidenced through lower timeliness of bad news relative to *non-BIG5* firms.

5. As a final step, the subsample created by matching by size and industry was broken into two groups depending, in turn, on whether ZSCORE and leverage was above or below the median. We find no evidence, in either country, of the *BIG5* imposing an additional dose of conservatism, either in terms of being more reluctant to recognise good news or more eager to recognise bad news when analysing ZSCORE. We find no strong evidence to suggest that in the UK the level of a client's indebtedness makes BIG5 auditors more conservative than their smaller brethren. However, the picture is different in the US: any additional conservatism of *BIG5* firms in the US is driven by the presence of a high leverage.

Our study contributes to the literature by providing comparative evidence for the U*K an*d US. We show that there are differences in auditor conservatism in different countries. Although litigation concerns clearly influence the level of work completed by an auditor, they do not seem to be a fundamental factor to explain auditor conservatism. Our results should be interpreted with caution as there is a body of research which has questioned the validity of the Basu model in identifying conservatism (see for example, Dietrich *et al.,* 2007). As yet, while there is no clear consensus in the literature as to the validity of the Basu model, the model continues to be regarded as the best summary measure of earnings conservatism. With this caveat noted, our paper shows that the influence of auditor type on earnings conservatism varies to some degree across jurisdictions.

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Table 1: Variable Definitions

Variable	Definition
Auditor type (BIG5)	Dummy variable coded 1 if firm has a large auditor, 0 otherwise.
Earnings per Share (E)	Earnings per share (before extraordinary items) *E/P* is Earnings per Share, deflated by the share price at the beginning of the year.
Returns (RET)	12-month fiscal year share price return, ending 3-months after the fiscal year end.
Negative returns (NEG)	Dummy variable coded 1 if RET < 0, 0 otherwise.
Firm Size (SIZE)	Natural log of market value of equity (dollars in the US, pounds sterling in the UK) at the fiscal year end.
Leverage ratio (LEV)	Total debt / market value at the fiscal year end.
Bankruptcy risk (ZSCORE)	Z-score, using the coefficients reported in Altman (1968). Higher Z-scores are associated with lower bankruptcy risk.

Table 2: Descriptive Statistics for Dependent and Independent Variables

Panel A: US Sample of Firms (1993 – 2002)

Variables			Sample #1			Sample #2			Sample #3		
		ALL	BIG5=1	BIG5=0	Difference	BIG5=1	BIG5=0	Difference	BIG5=1	BIG5=0	Difference
Column No.		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E/P	Mean	-0.02	-0.01	-0.05	9.13**	-0.08	-0.05	-4.72**	-0.08	-0.07	-1.17
	Std. Dev.	0.20	0.20	0.26		0.28	0.25		0.27	0.27	
	Median	0.04	0.04	0.02	9.07**	0.01	0.02	-4.85**	0.01	0.02	-2.03**
RET	Mean	0.13	0.13	0.09	3.61**	0.05	0.09	-2.73**	0.06	0.10	-1.71*
	Std. Dev.	0.61	0.60	0.67		0.63	0.68		0.64	0.69	
	Median	0.03	0.03	-0.05	8.71**	-0.07	-0.05	-1.85*	-0.06	-0.05	-0.92
ZSCORE	Mean	5.14	5.05	5.76	-1.46	3.48	4.81	-8.22**	4.57	4.76	-0.76
	Std. Dev.	14.15	10.90	27.97		5.53	7.05		7.07	7.72	
	Median	3.27	3.28	3.17	3.83**	2.75	3.25	-8.90**	3.04	3.07	0.01
LEV	Mean	0.52	0.54	0.37	8.18**	0.69	0.35	8.11**	0.60	0.36	4.03**
	Std. Dev.	1.75	1.83	1.03		2.14	0.97		2.16	1.14	
	Median	0.15	0.16	0.08	13.41**	0.14	0.07	7.73**	0.07	0.07	0.13
SIZE	Mean	18.93	19.18	17.11	67.16**	17.25	17.19	1.53	17.39	17.32	1.12
	Std. Dev.	2.10	2.03	1.64		1.62	1.66		1.70	1.74	
	Median	18.79	19.08	16.85	55.10**	16.96	16.96	1.53	17.12	17.10	1.09
No. of obs.		27,706	24,308	3,398		3,063	3,063		1,787	1,787	
% of total sample		100.00%	87.74%	12.26%		11.06%	11.06%		6.45%	6.45%	

Panel B: UK Sample of Firms (1993 – 2002)

Variables			Sample #1			Sample #2			Sample #3		
		ALL	BIG5=1	BIG5=0	Difference	BIG5=1	BIG5=0	Difference	BIG5=1	BIG5=0	Difference
Column No		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
E/P	Mean	0.04	0.05	0.02	7.50**	0.04	0.02	2.21**	0.02	0.02	0.52
	Std. Dev.	0.11	0.10	0.15		0.13	0.14		0.13	0.15	
	Median	0.06	0.07	0.05	6.41**	0.06	0.05	2.51**	0.05	0.05	0.00
RET	Mean	0.07	0.08	0.02	3.65**	0.03	0.02	0.29	-0.01	0.03	1.10
	Std. Dev.	0.48	0.48	0.50		0.51	0.51		0.49	0.51	
	Median	0.02	0.03	-0.04	4.73**	-0.02	-0.04	0.36	-0.06	-0.03	-1.20
ZSCORE	Mean	3.90	3.99	3.51	1.97*	3.12	3.88	-2.12**	3.93	3.62	0.62
	Std. Dev.	6.97	6.81	7.62		5.48	8.15		7.13	8.10	
	Median	2.91	2.97	2.53	8.24**	2.60	2.71	-1.83*	2.62	2.72	0.10
LEV	Mean	0.48	0.44	0.63	-3.37**	0.70	0.58	1.50	0.68	0.62	0.53
	Std. Dev.	1.14	0.97	1.70		1.74	1.27		1.90	1.63	
	Median	0.21	0.21	0.23	-1.43	0.30	0.21	3.85**	0.27	0.17	3.15**
SIZE	Mean	15.67	15.99	14.27	34.02**	14.52	14.46	0.90	14.61	14.50	1.09
	Std. Dev.	1.95	1.90	1.46		1.43	1.48		1.54	1.53	
	Median	15.52	15.87	14.19	27.92**	14.49	14.36	0.75	14.59	14.48	1.13
No. of obs.		6,313	5,144	1,169		752	752		468	468	
% of total sample		100.00%	81.48%	18.52%		11.91%	11.91%		7.41%	7.41%	

** (*) significant at 5% (10%) level.

Notes: Panel A shows the descriptive statistics for sample of US firms and Panel B shows the descriptive statistics for a sample of UK firms for the period (1993-2002). The pooled sample comprises all firms. Sample #1 shows descriptive statistics for the complete sample partitioned by the firm's auditor size. Sample #2 is a sample of firms matched by firm size (SIZE) and industry in the fiscal year. Sample #3 is a sample of firms matched by firm size (SIZE), industry and bankruptcy risk (ZSCORE) in the fiscal year. The difference is the *t*-statistic from a *t*-test of the difference of means (Wilcoxon test for difference of medians). Refer to Table 1 for variable definitions.

Table 3: Earnings-Returns Regressions and Auditor Size

Panel A: US Sample (1993-2002)

	α_0 *Intercept*	α_1 *NEG*	α_2 *BIG5*	β_0 *BIG5·NEG*	β_1 *RET*	β_2 *NEG·RET*	β_3 *BIG5·RET*	β_4 *BIG5·NEG·RET*	*F* - value	Adj. R^2	No. of obs.
Ex. sign	(?)	(?)	(?)	(?)	(+)	(+)	(-)	(+)			
Sample #1											
Equation (1)	-0.05	0.01			-0.02	0.33			78.09**	0.09	27,706
	(-1.83)*	(2.73)**			(-4.83)**	(28.02)**					
Equation (2)	-0.08	0.00	0.03	0.01	-0.01	0.31	-0.01	0.02	67.08**	0.10	27,706
	(-2.48)**	(0.36)	(3.74)**	(0.44)	(-0.76)	(9.37)**	(-1.05)	(0.45)			
Sample #2											
Equation (1)	-0.22	-0.00			-0.01	0.34			27.12**	0.11	6,126
	(-2.74)**	(-0.26)			(-1.75)*	(13.78)**					
Equation (2)	-0.21	-0.01	-0.02	0.01	-0.01	0.29	-0.01	0.11	23.67**	0.11	6,126
	(-2.66)**	(-0.63)	(-1.65)*	(0.64)	(-1.09)	(8.35)**	(-0.43)	(2.27)**			
Sample #3											
Equation (1)	-0.17	0.00			-0.01	0.33			16.94**	0.10	3,574
	(-2.38)**	(0.35)			(-0.63)	(9.95)**					
Equation (2)	-0.17	0.01	-0.00	-0.02	-0.00	0.33	-0.01	0.00	14.05**	0.11	3,574
	(-2.36)**	(0.77)	(-0.02)	(-0.71)	(-0.33)	(7.02)**	(-0.25)	(0.03)			

Table 3 continued

Panel B: UK Sample (1993-2002)

	α_0 *Intercept*	α_1 *NEG*	α_2 *BIG5*	β_0 *BIG5·NEG*	β_1 *RET*	β_2 NEG·RET	β_3 *BIG5·RET*	β_4 *BIG5·NEG·RET*	*F* - value	Adj. R^2	No. of obs.
Ex. sign	(?)	(?)	(?)	(?)	(+)	(+)	(-)	(+)			
Sample #1											
equation (1)	0.06	-0.00			0.01	0.18			50.36**	0.17	6,313
	(3.42)**	(-0.91)			(2.46)**	(15.63)**					
Equation (2)	0.05	-0.01	0.16	0.00	0.03	0.21	-0.02	-0.05	44.92**	0.18	6,313
	(2.49)**	(-0.68)	(2.28)**	(0.35)	(3.03)**	(8.17)**	(-1.80)*	(-1.69)*			
Sample #2											
Equation (1)	0.08	-0.02			0.02	0.17			20.30**	0.21	1,504
	(1.33)	(-1.77)*			(2.39)**	(7.19)**					
Equation (2)	0.07	-0.01	0.23	-0.02	0.04	0.17	-0.02	-0.00	17.58**	0.21	1,504
	(1.19)	(-0.61)	(2.05)**	(-0.84)	(3.11)**	(5.25)**	(-1.28)	(-0.05)			
Sample #3											
Equation (1)	0.06	-0.01			0.02	0.20			16.62**	0.24	936
	(2.91)**	(-0.62)			(1.43)	(7.42)**					
Equation (2)	0.07	-0.00	-0.00	-0.01	0.02	0.25	-0.00	-0.10	14.12**	0.25	936
	(2.86)**	(-0.01)	(-0.18)	(-0.55)	(1.52)	(6.52)**	(-0.10)	(-1.85)*			

** (*) denotes significant at 5% (10%) level.

Notes: Panel A shows the results for US firms and Panel B shows the results for UK firms for the period (1993-2002). Sample #1 shows results for the complete sample. Sample #2 is a sample of firms with smaller auditors matched by firm size (SIZE) and industry to firms with larger auditors in the fiscal year. Sample #3 is a sample of firms with smaller auditors matched by firm size (SIZE), industry and bankruptcy risk (ZSCORE) to firms with larger auditors (BIG5=1) in the fiscal year. All models reported include year dummy variables to control for time-related effects. Refer to Table 1 for variable definitions. *t*-values corrected on a White-corrected basis are shown in parentheses.

Equation (1): $E_{it} / P_{i,t-1} = \alpha_0 + \alpha_1 NEG_{it} + \beta_1 RET_{it} + \beta_2 NEG \cdot RET_{it} + \varepsilon_{it}$.

Equation (2): $E_{it} / P_{i,t-1} = \alpha_0 + \alpha_1 NEG_{it} + \alpha_2 BIG5_{it} + \alpha_3 BIG5 \cdot NEG + \beta_1 RET_{it} + \beta_2 NEG \cdot RET_{it} + \beta_3 BIG5 \cdot RET_{it} + \beta_4 BIG5 \cdot NEG \cdot RET_{it} + \varepsilon_{it}$.

Table 4: Earnings-Returns Regressions Partitioned by ZSCORE and Leverage

Ex. sign	α_0 *Intercept* (?)	α_1 *NEG* (?)	α_2 *BIG5* (?)	β_0 *BIG5·NEG* (?)	β_1 *RET* (+)	β_2 *NEG·RET* (+)	β_3 *BIG5·RET* (-)	β_4 *BIG5· NEG · RET* (+)	F - value	Adj. R^2	No. of obs.
Panel A: US Sample Partitioned on ZSCORE											
HIGH	0.05	-0.01	0.01	0.01	-0.00	0.14	-0.00	0.07	8.56**	0.08	3064
	(2.00)**	(-0.91)	(0.68)	(0.61)	(-0.52)	(3.44)**	(-0.39)	(1.34)			
LOW	0.17	-0.02	-0.03	0.02	-0.03	0.28	0.00	0.08	10.27**	0.08	3062
	(2.52)**	(-0.98)	(-1.52)	(0.69)	(-1.31)	(5.27)**	(0.12)	(1.08)			
Panel B: US Sample Partitioned on Leverage (LEV)											
LOW	-0.03	-0.00	0.00	-0.01	-0.01	0.27	-0.01	0.07	12.74**	0.11	3059
	(-0.32)	(-0.20)	(0.04)	(-0.50)	(-0.69)	(5.61)**	(-0.08)	(1.01)			
HIGH	-0.21	-0.01	-0.03	0.04	-0.01	0.30	0.00	0.15	12.60**	0.12	3067
	(-1.35)	(-0.80)	(-2.18)**	(1.37)	(-0.63)	(6.17)**	(0.02)	(2.15)**			
Panel C: UK Sample Partitioned on ZSCORE											
HIGH	0.05	-0.02	0.01	-0.02	0.02	0.11	-0.01	0.00	9.81**	0.22	752
	(1.53)	(-1.46)	(1.37)	(-0.84)	(1.48)	(3.05)**	(-0.66)	(0.08)			
LOW	0.09	0.01	0.03	-0.02	0.05	0.17	-0.04	-0.00	10.59**	0.20	752
	(1.53)	(0.28)	(1.63)	(-0.58)	(2.41)**	(3.60)**	(-1.20)	(-0.03)			
Panel D: UK Sample Partitioned on Leverage (LEV)											
LOW	0.06	-0.01	0.01	-0.02	0.02	0.15	-0.03	0.00	9.62**	0.27	752
	(2.98)**	(-0.41)	(1.16)	(-0.93)	(1.64)	(3.96)**	(-1.48)	(0.01)			
HIGH	0.09	0.01	0.03	-0.02	0.05	0.17	-0.04	-0.00	10.59**	0.20	752
	(1.53)	(0.28)	(1.63)	(-0.58)	(2.41)**	(3.60)**	(-1.20)	(-0.03)			

** (*) significant at 5% (10%) level.

Notes: Results presented above are for Sample #2, a sample of firms with smaller auditors (BIG5=0) matched by firm size (SIZE) and industry to firms with larger auditors (BIG5=1) in the fiscal year. Firms with a 'HIGH' ZSCORE would be associated with a lower risk of bankruptcy. All models include year dummy variables to control for time-related effects. *t*-values corrected on a White-corrected basis are shown in parentheses.