



ELSEVIER

Journal of Accounting and Economics 29 (2000) 321–337

JOURNAL OF
Accounting
& Economics

www.elsevier.com/locate/econbase

Do companies successfully engage in opinion-shopping? Evidence from the UK[☆]

Clive Lennox*

Department of Economics, University of Bristol, 8 Woodland Rd., Bristol, BS8 1TN, UK

Received 1 February 1999; received in revised form 7 July 2000

Abstract

Since observed audit opinions do not generally become more favourable after companies switch auditors, it has been argued that companies do not successfully engage in opinion-shopping. Rather than comparing observed pre- and post-switch audit reports, this study tests for opinion-shopping by predicting the opinions companies would have received had they made opposite switch decisions. My results indicate that companies would have received unfavourable reports more often under different switch decisions. This suggests that companies do successfully engage in opinion-shopping. © 2000 Elsevier Science B.V. All rights reserved.

JEL classification: M41; G33

Keywords: Opinion-shopping; Auditor switching; Audit reporting

[☆]I would like to thank Daniella Acker, David Ashton, Anindya Banerjee, Stanley Baiman, Steve Bond, David Citron, Martin Conyon, Elisabeth Dedman, Ronald Dye, John Eichenseher (the referee), Jen Ireland, Colin Mayer, In-Uck Park, Ian Tonks and Steven Young for helpful comments. Thanks are also owed to seminar participants at the Summer Workshop on Accounting and Economics (London School of Economics, 1998) and the International Symposium on Auditing (Sydney, 1998). Any remaining errors are my own. Financial assistance from the ESRC is gratefully acknowledged.

* Tel.: + 44-117-928-9039; fax: + 44-117-928-8577.

E-mail address: c.lennox@bristol.ac.uk (C. Lennox).

1. Introduction

In recent years, regulators responded to concerns that companies use auditor switching to avoid receiving unfavourable audit reports.¹ Despite these concerns, it is unclear whether companies can successfully engage in opinion-shopping. Because previous studies show that post-switch opinions are not more favourable than pre-switch opinions, some researchers conclude that opinion-shopping is futile (Chow and Rice, 1982; Smith, 1986; Krishnan, 1994; Krishnan and Stephens, 1995). I show that this conclusion is flawed because pre-switch opinions are poor proxies for the unobserved reports companies would have received had they made opposite switch decisions. I use an audit reporting model to predict these unobserved reports and I test their effect on auditor switching. While observed post-switch reports are not more favourable than pre-switch reports, companies would have received unfavourable reports more often had they made opposite switch decisions. This suggests that companies do successfully engage in opinion-shopping.

Teoh's switching model identifies two ways companies might avoid unfavourable audit reports (Teoh, 1992). First, if an incumbent auditor earns client-specific rents, a company can threaten to switch to a new auditor. The fear of losing the rents can compromise the incumbent's independence. I call this the switch threat argument.² Second, a company can avoid an unfavourable report even when there are no rents. For example, a company can switch if it believes that a new auditor is more likely than the incumbent to give a clean report. Alternatively, a company can keep the incumbent if a new auditor is no more likely to give a clean report. I call this the opinion-shopping argument. With opinion-shopping, a switch is equivalent to a second draw from the pool of independent audit opinions.

There is little convincing evidence to support the switch threat argument. Krishnan et al. (1996) test whether reports are modified less frequently when switch probabilities are high (i.e., when the switch threat is most powerful). However, they find that companies with high switch probabilities are in fact more likely to receive modified reports. Other studies test the switch threat argument by examining the relation between audit reporting and non-audit fees,

¹ For example, in 1992, the Joint Ethics Committee (representing the English Institute and its equivalents in Scotland and Ireland) issued a guidance note requiring an audit firm to contact the existing auditor when approached by a company to provide a second opinion on an accounting standard. As explained by the Financial Times, 'The note on second opinions or "opinion-shopping" is designed to prevent companies hunting for support from the profession when their auditor refuses to approve a particular accounting treatment. It ensures that the second firm approached possesses the full information available to the company's auditor before it passes judgement' (3rd December, 1992).

² This has also been modelled by Dye (1991).

since the latter may pose a threat to independence. Both UK and Australian studies find that non-audit fees are not significantly correlated with audit opinions (Barkess and Simnett, 1994; Craswell, 1999; Lennox, 1999a).³ These findings suggest that audit reporting is not affected by a switch threat.

The empirical evidence on opinion-shopping is less conclusive. Although companies change auditors more frequently after receiving modified reports, it is unclear whether this reflects opinion-shopping behaviour (Chow and Rice, 1982; Craswell, 1988; Citron and Taffler, 1992). In particular, any forward-looking company should care about how switching affects the subsequent audit opinion. Since observed audit opinions are not modified less often after companies switch auditors, some researchers argue that opinion-shopping is futile. However, this ignores the possibility that switching companies would have received modified opinions more often had they not switched. In addition, these studies only consider the successive reports of switching companies and therefore ignore the possibility that non-switching companies also engage in opinion-shopping.⁴

This paper's methodology improves on existing research by considering reports both switching and non-switching companies would have received had they made opposite switch decisions. Although observed audit opinions do not generally improve, the reports companies would have received under opposite switch decisions are predicted to be significantly worse.

The next section describes the methodology employed to test the opinion-shopping argument. Section 3 explains how the data are collected and provides descriptive statistics. Section 4 shows that the evidence is consistent with successful opinion-shopping even though observed audit opinions are not modified less frequently after companies' switch decisions. Section 5 concludes with implications for future research.

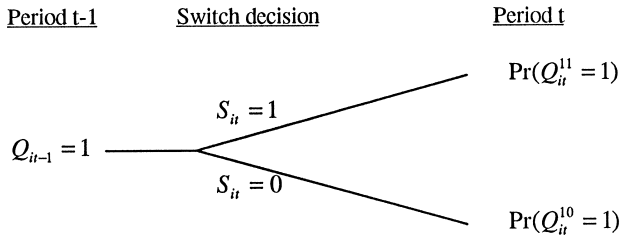
2. Methodology

Fig. 1. illustrates the methodology used to test the opinion-shopping argument. Consider the reports company i receives before and after its switch decision. A dummy variable (Q_{it}) is coded one if company i receives a modified report in period t or zero if it receives a clean report. Panel A depicts the case where company i receives a modified report prior to its switch decision

³ In contrast to most countries, UK and Australian companies are required to disclose non-audit fees.

⁴ For example, the Department of Trade and Industry's (1994) investigation of Atlantic Computers reveals, 'There is evidence that Atlantic decided to retain Spicers as auditors in 1988, rather than change to KPMG, because of a perception that Spicers were less assertive and critical than KPMG.'

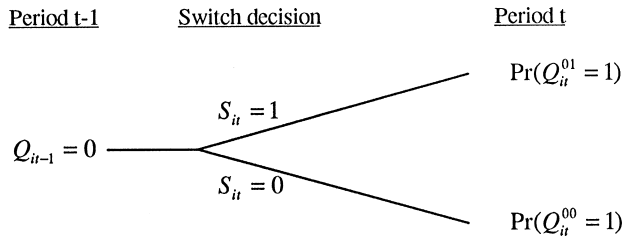
Panel A: Prior opinion is modified



$$\Pr(Q_{it}^{11} = 1) \equiv \Pr(Q_{it} = 1 | Q_{it-1} = 1, S_{it} = 1, X_{it})$$

$$\Pr(Q_{it}^{10} = 1) \equiv \Pr(Q_{it} = 1 | Q_{it-1} = 1, S_{it} = 0, X_{it})$$

Panel B: Prior opinion is clean



$$\Pr(Q_{it}^{01} = 1) \equiv \Pr(Q_{it} = 1 | Q_{it-1} = 0, S_{it} = 1, X_{it})$$

$$\Pr(Q_{it}^{00} = 1) \equiv \Pr(Q_{it} = 1 | Q_{it-1} = 0, S_{it} = 0, X_{it})$$

Fig. 1. Audit reporting and auditor switching for company *i*.

($Q_{it-1} = 1$). Panel B represents the case where company *i* receives a clean report prior to its switch decision ($Q_{it-1} = 0$). A switch dummy (S_{it}) equals one if company *i* changes auditor or zero if it does not. The report company *i* receives in period *t* depends on its prior report (Q_{it-1}), its switch decision (S_{it}) and other company characteristics (X_{it}). The conditional probability that company *i* receives a modified report in period *t* is $\Pr(Q_{it} = 1 | Q_{it-1}, S_{it}, X_{it})$. For notational convenience, I define this conditional probability as $\Pr(Q_{it}^{qs} = 1)$. The *q* and *s* superscripts denote the prior audit opinion and switch decision: *q* = 1 if the prior report is modified (*q* = 0 if the prior report is clean) and *s* = 1 if company *i* switches (*s* = 0 if it does not switch).

If company i engages in opinion-shopping, it uses the switch decision to minimise the probability of receiving a modified report. In Panel A, company i receives a modified report in period t with probability $\Pr(Q_{it}^{11} = 1)$ if it switches and with probability $\Pr(Q_{it}^{10} = 1)$ if it does not switch. So after receiving a modified report, company i switches auditor and engages in opinion-shopping when $\Pr(Q_{it}^{11} = 1) < \Pr(Q_{it}^{10} = 1)$ and does not switch when $\Pr(Q_{it}^{11} = 1) > \Pr(Q_{it}^{10} = 1)$. In Panel B, company i receives a modified report with probability $\Pr(Q_{it}^{01} = 1)$ if it switches and probability $\Pr(Q_{it}^{00} = 1)$ if it does not switch. So after receiving a clean report, company i switches auditor and engages in opinion-shopping when $\Pr(Q_{it}^{01} = 1) < \Pr(Q_{it}^{00} = 1)$ and does not switch when $\Pr(Q_{it}^{01} = 1) > \Pr(Q_{it}^{00} = 1)$. Hence, the difference in modified opinion probabilities $\Pr(Q_{it}^{q1} = 1) - \Pr(Q_{it}^{q0} = 1)$ can be used to test whether companies successfully engage in opinion-shopping. A negative association between auditor switching and the opinion-shopping variable ($\Pr(Q_{it}^{q1} = 1) - \Pr(Q_{it}^{q0} = 1)$) would support the opinion-shopping argument.

I estimate an audit reporting model in order to predict these modified opinion probabilities $\Pr(\hat{Q}_{it}^{qs} = 1)$. The predicted probabilities are then used to construct the opinion-shopping variable ($\Pr(\hat{Q}_{it}^{q1} = 1) - \Pr(\hat{Q}_{it}^{q0} = 1)$) which is included in an auditor switching model in order to test the association between predicted opinions and companies' switch decisions.

The audit reporting and auditor switching models are estimated using probit analysis. In the reporting model, probit estimation assumes that there is an underlying response variable (Q_{it}^{qs*}) such that

$$\begin{aligned} Q_{it}^{qs*} &\geq 0 \text{ if } Q_{it}^{qs} = 1, \\ Q_{it}^{qs*} &\geq 0 \text{ if } Q_{it}^{qs} = 0, \end{aligned} \quad (q = 0,1; s = 0,1).$$

The probit reporting model is

$$Q_{it}^{qs*} = \gamma_0 + \gamma_1 S_{it} + \gamma_2 X_{it} + \gamma_3 X_{it} S_{it} + \gamma_4 Q_{it-1} + \gamma_5 Q_{it-1} S_{it} + v_{it}, \quad (1)$$

where $v_{it} \sim \Phi(0, \text{var}(v_{it}))$ and Φ is the standard normal cumulative distribution function.

Since previous studies reveal strong persistence in audit reporting, Eq. (1) includes prior audit opinions (Q_{it-1}) as an explanatory variable (Monroe and Teh, 1993; Krishnan et al., 1996; Lennox, 1999b). The remaining explanatory variables (X_{it}) control for other determinants of audit reporting such as financial health.⁵ Interaction terms between the explanatory variables and the switch dummy (S_{it}) are included to test whether the coefficients in the reporting model differ across switching and non-switching companies.⁶

⁵ The variables used to control for financial health are described in Section 3.3.

⁶ This raises potential self-selection issues since the switch dummy (S_{it}) is endogenous. However, in unreported results, the null hypothesis of no self-selection bias ($E(v_{it}) = E(v_{it}|S_{it}) = 0$) is not rejected.

In the switching model, probit estimation assumes that there is an underlying response variable (S_{it}^*) such that

$$\begin{aligned} S_{it}^* &\geq 0 && \text{if } S_{it} = 1, \\ S_{it}^* &< 0 && \text{if } S_{it} = 0. \end{aligned}$$

The opinion-shopping variable ($\Pr(\hat{Q}_{it}^{q1} = 1) - \Pr(\hat{Q}_{it}^{q0} = 1)$) is predicted from Eq. (1) and included in a structural switching model (Eq. (2a)):

$$S_{it}^* = \theta_0 + \theta_1(\Pr(\hat{Q}_{it}^{q1} = 1) - \Pr(\hat{Q}_{it}^{q0} = 1)) + \theta_2 X_{it} + u_{it}, \quad (q = 0,1), \quad (2a)$$

where $u_{it} \sim \Phi(0, \text{var}(u_{it}))$ and $E(u_{it}v_{it}) = 0$.⁷

If company i engages in opinion-shopping, it switches when $\Pr(Q_{it}^{q1} = 1) < \Pr(Q_{it}^{q0} = 1)$ and does not switch when $\Pr(Q_{it}^{q1} = 1) > \Pr(Q_{it}^{q0} = 1)$. Therefore, under the alternative hypothesis that companies successfully engage in opinion-shopping, the coefficient on the opinion-shopping variable is negative ($\theta_1 < 0$). Under the null hypothesis, companies do not engage in opinion-shopping, $\theta_1 = 0$.

The remaining explanatory variables (X_{it}) control for other determinants of switching. Since Menon and Schwartz (1985) show that failing companies are more likely to change auditors, I control for the effects of financial health on switching. Event studies also show that switching signals bad news to outside investors (Fried and Schiff, 1981; Eichenseher et al., 1989). Agency theory predicts that companies have more incentive to avoid signalling bad news when there is a greater separation of ownership from control (e.g., Watts and Zimmerman, 1983). According to this argument, companies with low inside ownership are less likely to switch auditors in order to avoid signalling bad news to investors. In this case, the expected relation between inside ownership and auditor switching is positive.⁸ However, an opposite negative relation is also possible. If inside ownership is high, managers have less incentive to act contrary to investors' interests. When managers and investors' interests are more closely aligned, there may be fewer disagreements between auditors and management and this may result in less frequent auditor switching.

In Eq. (2a), the effect of opinion-shopping on auditor switching is captured using the difference between predicted modified opinion probabilities ($\Pr(\hat{Q}_{it}^{q1} = 1) - \Pr(\hat{Q}_{it}^{q0} = 1)$). I also test the opinion-shopping argument using the difference between predicted response variables ($\hat{Q}_{it}^{q1*} - \hat{Q}_{it}^{q0*}$) as shown in Eq. (2b). The relation between the predicted modified opinion probabilities and

⁷ If the error terms are not independent, the coefficient estimates and standard errors are unbiased but not fully efficient. Unreported results from simultaneously estimated audit reporting and auditor switching models show that the independence assumption is not rejected at the 5% level.

⁸ The variables used to control for inside ownership are described in Section 3.

the predicted response variables is simply $\Pr(\hat{Q}_{it}^{qs} = 1) = \Phi(\hat{Q}_{it}^{qs*})$.

$$S_{it}^* = \theta_0 + \theta_1(\hat{Q}_{it}^{q1*} - \hat{Q}_{it}^{q0*}) + \theta_2 X_{it} + u_{it}, \quad q = 0,1. \quad (2b)$$

There are two reasons for estimating both Eqs. (2a) and (2b). First, I show that the results are robust to alternative definitions of the opinion-shopping variable. Second, Eq. (2b) clarifies the reduced form relation between prior audit reports and switching. This is important because studies show that companies switch more often when prior reports are modified. A reduced form model of auditor switching (Eq. (3)) is derived by predicting Eq. (1) and substituting into Eq. (2b):

$$S_{it}^* = \theta_0 + \theta_1 \hat{\gamma}_1 + (\theta_1 \hat{\gamma}_3 + \theta_2) X_{it} + \theta_1 \hat{\gamma}_5 Q_{it-1} + u_{it}. \quad (3)$$

Eq. (3) demonstrates the condition under which opinion shopping is consistent with auditor changes occurring more frequently when prior reports are modified. The effect of prior modifications on switching is positive ($\theta_1 \hat{\gamma}_5 > 0$) if companies successfully engage in opinion-shopping ($\theta_1 < 0$) and reporting is less persistent when companies switch ($\hat{\gamma}_5 < 0$).⁹ Intuitively, opinion-shopping companies switch (do not switch) after receiving modified (clean) reports when switching increases the probability of a change in audit opinion.¹⁰ If switching reduces reporting persistence ($\hat{\gamma}_5 < 0$) and the relation between prior modifications and switching is positive ($\theta_1 \hat{\gamma}_5 > 0$), it necessarily follows that companies receive modified reports less often than they would under opposite switch decisions ($\theta_1 < 0$).

3. The data

3.1. Data sources and sample

The population of interest is all UK quoted companies between 1988 and 1994. Failing companies (those entering administration, receivership or liquidation) are identified using Stock Exchange Financial Yearbooks. Information on inside ownership, auditors and audit opinions is extracted from annual reports. In order to identify auditor switches and prior audit opinions, I impose the

⁹ The structural switching models (Eqs. (2a) and (2b)) assume that prior reports do not directly affect auditor switching. This makes sense since forward-looking companies should care about how switching affects subsequent audit opinions.

¹⁰ Krishnan and Krishnan (1997) argue that auditors resign more often when prior reports are modified in order to reduce litigation risk. However, this argument does not invalidate my test for opinion-shopping. Since resignations can be caused by auditor-client reporting disagreements, companies may engage in opinion-shopping by provoking auditor resignations and appointing preferred replacements. This paper tests whether audit opinions would have been modified more often if auditor switches/resignations had been opposite to those observed.

Table 1
Identification of the final sample^a

	Company-year observations
Initial sample (1,027 companies, 1988–1994)	7189
Less missing annual reports	– 1118
Less unavailable accounting data from Datastream	– 630
Final sample (949 companies, 1988–1994)	5441

^aNotes: The initial sample consists of 1,027 companies, where at least two consecutive annual reports are available in the Corporate Information Library at Warwick University. There are 1,118 missing reports because 171 companies exit the sample (due to bankruptcy, delisting, take-over or merger) and 234 companies become newly listed.

restriction that each company should have reports available for at least two consecutive years – 1027 companies meet this restriction. Finally, accounting information is collected from Datastream for as many company-year observations as possible.¹¹

The steps leading to the identification of the final sample are shown in Table 1. The number of observations is smaller than the number of potential reports (7,189), because 171 companies exit the sample (due to bankruptcy, delisting, take-over or merger) and 234 companies become newly listed. In addition, the final sample is reduced to 949 companies and 5,441 observations due to missing Datastream information.¹²

3.2. *Audit reporting and switching*

There are 161 modified audit opinions on 105 companies – 96 reports are qualified while 65 are unqualified but draw attention to some accounting problem or fundamental uncertainty.¹³ There are 103 going-concern modifications, with the remaining modifications arising from non-compliance with Statements of Standard Accounting Practice or from uncertainties relating to

¹¹ Financial information is downloaded from Datastream since it is prohibitively costly to extract this information manually from annual reports. Datastream does not provide historic information on company shareholdings, auditors or audit opinions.

¹² When the sample proportion of companies differs from the population proportion, the logit model has consistent coefficient estimates for all variables except the constant (Anderson, 1972). Re-estimating the probit models using logit estimation has no significant effect on the results, so sample selection bias does not seem to be a problem.

¹³ From 1993, SAS 600 required UK auditors to disclose fundamental uncertainties (particularly with respect to going-concern issues) even when reports are unqualified.

debtors, litigation, stocks or property values. There are a total of 194 switches with 160 companies switching once and 17 companies switching twice.¹⁴

3.3. The financial health and ownership variables (X_{it})

Table 2 defines the variables used to control for the effects of financial health and inside ownership.

Lennox (1999b) shows that leverage (LEV_{it}) and the return on capital (ROC_{it}) have significant effects on audit reporting in UK companies.¹⁵ Therefore, I use these variables to control for the effects of financial health. An ex post bankruptcy dummy ($FAILS_{it}$) is also included in the reporting and switching models to capture other symptoms of distress. Inside ownership is measured using the proportion of ordinary share capital owned by directors ($DIRS_{it}$) and other large shareholders ($LARS_{it}$). As in Lennox (1999b), heteroscedasticity is controlled for by allowing the error term's variance to be a function of gross cashflow (GCF_{it}).

Table 3 reports the correlation matrix for the dependent and explanatory variables. Consider first the switch dummy (S_{it}). Its correlations with the audit report dummies (Q_{it}, Q_{it-1}) show that switching companies receive modified opinions more often than non-switching companies in both the pre- and post-switch reports. The significant positive correlation with the bankruptcy dummy ($FAILS_{it}$) indicates that failing companies are more likely to switch. Inside ownership ($LARS_{it}, DIRS_{it}$) is positively associated with auditor switching. This suggests that companies with low inside ownership have less incentive to signal unfavourable news by switching auditors.

Now, consider the correlations involving the opinion dummies and the financial distress variables ($Q_{it}, Q_{it-1}, GCF_{it}, ROC_{it}, LEV_{it}, FAILS_{it}$). The significant positive correlation between the two report dummies (Q_{it}, Q_{it-1}) indicates strong persistence effects in audit reporting. The correlations between the opinion dummies and distress variables show that modified reports are generally given to poorly performing companies. The significant correlations between the distress variables confirm that failing companies have low profitability, poor cashflow and are highly leveraged.

¹⁴Care is taken to ensure that auditor name changes and auditor mergers are not coded as switches.

¹⁵In unreported results, company size, industry sector, liquidity and cyclical variables (the number of failing companies in the population and a CBI indicator of business confidence) do not significantly affect reporting or switching.

Table 2
The explanatory variables (X_{it})^a

Variable	Definition	Interpretation
LEV_{it}	$\frac{(\text{Preference capital} + \text{Subordinated debt} + \text{Loan capital} + \text{Short-term borrowings}) \times 100}{\text{Capital employed} + \text{Short-term borrowing} - \text{Intangibles} - \text{Future income tax benefits}}$	Leverage
ROC_{it}	$\frac{(\text{Total interest charged} + \text{Pre-tax profit}) \times 100}{\text{Capital employed} + \text{Short-term borrowing} - \text{Intangibles} - \text{Future income tax benefits}}$	Return on capital
$FAILS_{it}$	= 1 if Company i issues its final annual report in year t prior to entering bankruptcy; = 0, otherwise	Bankruptcy dummy
$DIRS_{it}$	Directors' ordinary shareholdings	Inside ownership
$LARS_{it}$	Non-director ordinary shareholdings in excess of 5%	Inside ownership
GCF_{it}	$\frac{(\text{Profits earned for ordinary shareholders} + \text{Depreciation} + \text{Tax equalisation}) \times 100}{\text{Capital employed} + \text{Current liabilities} - \text{Intangibles}}$	Gross cashflow

^aNotes: For companies that switch auditors, ownership information is collected for all available years. For non-switching companies, ownership information from 1990 (or the nearest available year) is used to proxy ownership in other years due to prohibitively high data collection costs. In practice, this is unlikely to cause measurement error problems since ownership patterns typically exhibit little variation over time. Non-director shareholdings are only disclosed if they exceed 5%. $LARS_{it}$ is defined as the sum of individual shareholdings in excess of 5%.

For example, suppose company i has three non-director substantial shareholders in year t :

Shareholder A: 8% Shareholder B: 10% Shareholder C: 5.5%

Then, $LARS_{it} = (8 - 5) + (10 - 5) + (5.5 - 5) = 8.5$.

Capital employed (Datastream number 322) is the sum of all non-current liabilities.

Tax equalisation (Datastream number 161) reflects the effect of timing differences between reported income and expenses allowed for tax purposes.

Table 3
Correlation matrix^a

	S_{it}	Q_{it}	Q_{it-1}	GCF_{it}	ROC_{it}	LEV_{it}	$FAILS_{it}$	$DIRS_{it}$	$LARS_{it}$
Q_{it}	0.065**	–							
Q_{it-1}	0.101**	0.406**	–						
GCF_{it}	–0.076*	–0.308**	–0.220**	–					
ROC_{it}	–0.024	–0.100**	–0.073**	0.284**	–				
LEV_{it}	0.023	0.134**	0.125**	–0.104**	0.206**	–			
$FAILS_{it}$	0.054**	0.157**	0.077**	–0.124**	–0.031*	0.104**	–		
$DIRS_{it}$	0.040**	0.013	0.007	0.010	0.017	–0.020	0.018	–	
$LARS_{it}$	0.032*	0.026	0.035	–0.088**	–0.049**	0.013	0.002	–0.175**	–

^aNotes: *Significant at the 5% level. **Significant at the 1% level $N = 5441$.

$S_{it} = 1$ if company i hires a new auditor in year t ; 0 otherwise.

$Q_{it} = 1$ if company i receives a modified report in year t ; 0 otherwise.

All other variables are defined in Table 2.

4. Main results

This section tests the opinion-shopping argument by estimating the reporting and switching models (Eqs. (1)–(3)) described in Section 2.¹⁶ It shows that observed audit reports are not modified less frequently after companies make their switch decisions, even though the evidence supports the opinion-shopping argument. The main results are reported in Table 4.

4.1. The audit reporting models

Columns 1 and 2 are audit reporting models. Column 1 restricts the coefficients in the reporting model to be the same for switching and non-switching companies ($\gamma_1 = \gamma_3 = \gamma_5 = 0$). Column 2 relaxes this restriction by including interaction terms between the explanatory variables and the switch dummy.

In Column 1, the highly significant positive coefficient on prior audit opinions (Q_{it-1}) indicates strong persistence in reporting. In addition, companies receive modified reports more often if they have high leverage (LEV_{it}), low profitability (ROC_{it}) or subsequently fail ($FAILS_{it}$). The ownership variables ($LARS_{it}$, $DIRS_{it}$) are not significantly correlated with audit opinions.

¹⁶All models are tested for omitted variables bias and heteroscedasticity using tests developed by Davidson and MacKinnon (1984). In each model, the null hypothesis of no omitted variables bias is not rejected, but the null hypothesis of homoscedasticity is rejected. While the gross cashflow (GCF_{it}) variable is used to control for heteroscedasticity, the paper's conclusions about opinion-shopping are robust to ignoring heteroscedasticity.

Table 4
Heteroscedastic probit models of audit reporting and auditor switching (z-statistics in parentheses)^a

	Audit reporting		Auditor switching		
	Eq. (1) (1)	(2)	Eq. (2a) (3)	Eq. (2b) (4)	Eq. (3) (5)
Opinion-shopping					
$\hat{Q}_{it}^{q1*} - \hat{Q}_{it}^{q0*}$	-	-	-	- 0.52 (- 4.61)**	-
$\Pr(\hat{Q}_{it}^{q1} = 1) - \Pr(\hat{Q}_{it}^{q0} = 1)$	-	-	- 1.64 (- 4.24)**	-	-
Prior reports					
Q_{it-1}	1.64 (13.59)**	1.73 (13.66)**	-	-	0.66 (4.63)**
Financial distress					
LEV_{it}	0.35e-04 (6.63)**	0.33e-04 (6.72)**	0.19e-05 (0.62)	- 0.50e-05 (- 1.32)	0.50e-05 (1.32)
ROC_{it}	- 0.10e-03 (- 5.80)**	- 0.09e-03 (- 8.01)**	- 0.80e-05 (- 0.61)	- 0.78e-05 (- 0.68)	- 0.14e-04 (- 1.06)
$FAILS_{it}$	0.66 (3.43)**	0.61 (3.05)**	0.51 (2.65)**	0.47 (2.42)*	0.39 (2.01)*
Inside ownership					
$DIRS_{it}$	0.32e-02 (1.55)	-	0.47e-02 (3.17)**	0.47e-02 (3.17)**	0.43e-02 (3.14)**
$LARS_{it}$	0.11e-02 (0.39)	-	0.54e-02 (2.66)**	0.53e-02 (2.61)**	0.47e-02 (2.49)*
$CONSTANT_{it}$	- 1.95 (- 22.90)**	- 1.89 (- 29.87)**	- 1.84 (- 27.63)**	- 1.72 (- 24.11)**	- 1.88 (- 28.52)**
Interaction terms					
$S_{it}Q_{it-1}$	-	- 1.29 (- 2.83)**	-	-	-
$S_{it}LEV_{it}$	-	- 0.13e-04 (- 0.93)	-	-	-
$S_{it}ROC_{it}$	-	- 0.82e-07 (- 0.10)	-	-	-
$S_{it}FAILS_{it}$	-	0.11 (0.19)	-	-	-
S_{it}	-	0.32 (1.62)	-	-	-
Heteroscedasticity					
GCF_{it}	- 2.68e-02 (- 8.90)**	- 0.03 (- 8.32)**	- 0.85e-02 (- 3.55)**	- 0.84e-02 (- 3.55)**	- 0.02 (- 3.59)**
LR	170.58**	164.82**	16.35**	15.77**	9.29**

^aNotes: LR = Likelihood ratio statistic under null hypothesis of homoscedasticity ($\sigma^2 = 1$).

*Significant at the 5% level. **Significant at the 1% level.

$\Pr(\hat{Q}_{it} = 1 | Q_{it-1}, S_{it}, X_{it}) \equiv \Pr(\hat{Q}_{it}^{qs} = 1) = \Phi(\hat{Q}_{it}^{qs*})$.

$S_{it} = 1$ if company i hires a new auditor in year t ($s = 1$); 0 otherwise ($s = 0$).

$Q_{it-1} = 1$ if company i receives a modified report in year $t - 1$ ($q = 1$); 0 otherwise ($q = 0$).

The remaining explanatory variables are defined in Table 2.

In Column 2, the significant negative coefficient on the interaction between the switch dummy and prior opinions ($S_{it}Q_{it-1}$) reveals less reporting persistence when companies change auditors ($\hat{\gamma}_5 < 0$). Intuitively, this means that a change in auditor increases the likelihood of a change in audit opinion. Coefficients on the other interaction variables ($S_{it}LEV_{it}$, $S_{it}ROC_{it}$, $S_{it}FAILS_{it}$, S_{it}) are not statistically significant.

The results in Column 2 are used to predict the modified opinion probabilities $\Pr(\hat{Q}_{it}^{qs} = 1)$ which are reported in Fig. 2. There are 126 observations where prior reports are modified (Panel A) and 5,315 observations where prior reports are clean (Panel B). In Panel A, the mean predicted $\Pr(\hat{Q}_{it}^{11} = 1)$ is 22.0% while the mean predicted $\Pr(\hat{Q}_{it}^{10} = 1)$ is 56.0%. This means that, when prior reports are modified, companies generally receive modified reports with lower probabilities if they switch auditors. In Panel B, the mean predicted $\Pr(\hat{Q}_{it}^{01} = 1)$ is 5.3% while the mean predicted $\Pr(\hat{Q}_{it}^{00} = 1)$ is 3.1%. This means that when prior reports are clean, companies receive modified reports with lower probabilities if they do not switch. These predicted probabilities mean that opinion-shopping companies would change auditors more frequently when prior reports are modified.

4.2. The auditor switching models

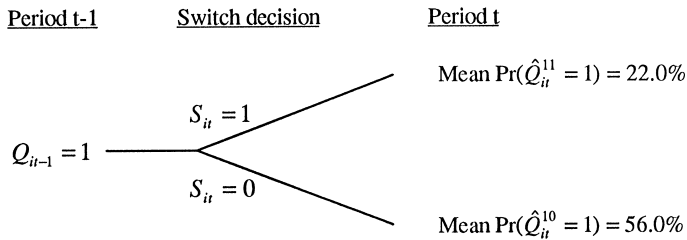
Columns 3 and 4 are the structural switching models (Eqs. (2a) and (2b)), while Column 5 is the reduced form switching model (Eq. (3)). The results in Column 2 are used to predict the modified opinion probabilities ($\Pr(\hat{Q}_{it}^{qs} = 1)$) and the response variables (\hat{Q}_{it}^{qs*}). This enables me to construct the opinion-shopping variables which are included in Columns 3 and 4. Column 5 tests the reduced form relation between prior audit opinions (Q_{it-1}) and switching.

In Columns 3 and 4, the highly significant negative coefficients ($\hat{\theta}_1 = -1.64$, -0.52) on the opinion-shopping variables indicate that companies would have received modified opinions more frequently if they had made opposite switch decisions.¹⁷ This suggests that companies do successfully engage in opinion-shopping ($\hat{\theta}_1 < 0$). In Column 5, the significant positive coefficient on prior reports (Q_{it-1}) shows that companies change auditors more often when prior reports are modified ($\hat{\theta}_1\hat{\gamma}_5 > 0$). This positive relation is exactly what one would expect, since Column 2 shows that switching reduces reporting persistence ($\hat{\gamma}_5 < 0$) and Columns 3 and 4 indicate successful opinion-shopping ($\hat{\theta}_1 < 0$).

While the leverage (LEV_{it}) and profitability (ROC_{it}) variables have insignificant effects on switching, the coefficients on the bankruptcy dummy ($FAILS_{it}$) are positive and significant. This is consistent with failing companies being more likely to change auditors (Menon and Schwartz, 1985). The significant positive

¹⁷ Similar results hold if the insignificant interaction terms are omitted from Column 2 ($\gamma_1 = \gamma_3 = 0$).

Panel A: Prior opinions are modified (126 observations)



Panel B: Prior opinions are clean (5315 observations)

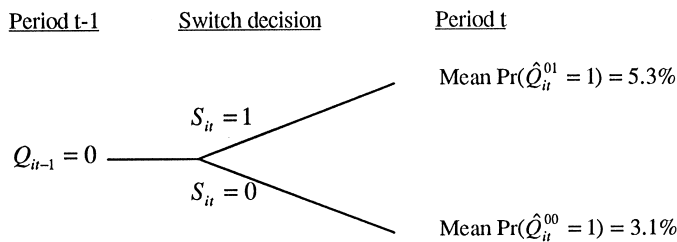


Fig. 2. Mean predicted modified opinion probabilities (see Fig. 1 for variable definitions).

coefficients on the inside ownership variables ($DIRS_{it}$, $LARS_{it}$) show that companies with low inside ownership are less likely to switch. This is consistent with managers being more reluctant to signal bad news by switching auditors when inside ownership is low.

4.3. The importance of methodology

Although the results of Table 4 are consistent with successful opinion-shopping, this section shows that observed audit opinions do not generally improve after companies switch auditors. This is important because previous studies test the opinion-shopping argument by comparing observed pre- and post-switch audit opinions.

Table 5 reports the audit opinions of switching and non-switching companies in a contingency table. As in Table 4, switching occurs more often when prior reports are modified and audit opinions change more often when companies switch. Prior to the switch decision, 10.3% (= 20/194) of switching companies receive modified reports while 2.0% (= 106/5247) of non-switching

Table 5
Audit opinions of switching and non-switching companies^a

	Switching companies ($S_{it} = 1$)			Non-switching companies ($S_{it} = 0$)		
	$Q_{it-1} = 0$	$Q_{it-1} = 1$	Totals	$Q_{it-1} = 0$	$Q_{it-1} = 1$	Totals
$Q_{it} = 0$	162	15	177	5053	50	5103
$Q_{it} = 1$	12	5	17	88	56	144
Totals	174	20	194	5141	106	5247

^aNotes: $S_{it} = 1$ if company i hires a new auditor in year t ; 0 otherwise.
 $Q_{it} = 1$ if company i receives a modified report in year t ; 0 otherwise.

companies receive modified reports. The difference between these frequencies is statistically significant at the 1% level ($\chi = 65.27$). After the switch decision, a change in opinion is experienced by 13.9% ($= 27/194$) of switching companies and 2.6% ($= 138/5247$) of non-switching companies. The difference between these frequencies is also statistically significant at the 1% level ($\chi = 78.84$). Consistent with Table 4, these findings suggest companies successfully engage in opinion-shopping.

Table 5 also reveals no significant improvement in observed audit opinions for switching and non-switching companies. Only 1.0% ($= 50/5247$) of non-switching companies receive clean reports following prior modified reports, while 1.7% ($= 88/5247$) receive modified reports after having clean reports. Although this deterioration in observed reports is statistically significant at the 1% level ($\chi = 10.46$), it does not follow that non-switching companies unsuccessfully engage in opinion-shopping. When prior opinions are clean, companies are predicted to receive clean reports more frequently when they retain incumbent auditors.

There is also no improvement in the observed reports of switching companies. Only 7.7% ($= 15/194$) of switching companies receive clean reports following prior modified reports, while 6.2% ($= 12/194$) receive modified opinions after having clean reports (the difference is not statistically significant, $\chi = 0.33$). Although audit opinions do not generally improve for switching companies, it does not follow that opinion-shopping is futile. When prior opinions are modified, companies are predicted to receive clean reports more often when they change auditors.

5. Conclusion

Previous studies test for opinion-shopping by comparing observed audit opinions before and after companies change auditors. In contrast, this paper predicts the opinions both switching and non-switching companies would have

received had they made opposite switch decisions. There are two key findings. First, auditor changes occur more often after companies receive modified opinions. Second, switching auditor increases the probability of a change in audit opinion. These two results imply that companies receive modified reports less frequently than they would under opposite switch decisions. While observed audit opinions do not generally improve, the reports companies would have received under opposite switch decisions are predicted to be significantly less favourable. This suggests that companies do successfully engage in opinion-shopping.

More research is needed to answer two important questions. First, what is the effect of audit regulation on opinion-shopping? In the UK, outgoing auditors rarely disclose accounting irregularities to incoming auditors and newly appointed auditors do not have rights of access to the working papers of previous auditors (Dunn et al., 1994). Lack of communication between incoming and outgoing auditors may increase the scope for opinion-shopping behaviour. In the US, there is more communication particularly since SAS 84 (issued in 1997) gives newly appointed auditors the right to see previous working papers. Future research might use this paper's methodology to test for opinion-shopping in other countries and to test the impact of changes in audit regulations.

Second, how does opinion-shopping affect social welfare? In answering this question, it may help to distinguish between two types of reporting errors. Type I error occurs when a company deserves a modified report but receives a clean report. Type II error occurs when a company deserves a clean report but receives a modified report. By reducing the frequency of modified reports, opinion-shopping increases the number of Type I errors but reduces the number of Type II errors. Therefore, the welfare implications of opinion-shopping depend on the social costs and frequencies of Type I and Type II errors. As yet, there is little evidence on these costs and frequencies; so, one cannot automatically presume that policy-makers should deter opinion-shopping.

References

- Anderson, J., 1972. Separate sample logistic discrimination. *Biometrika* 59, 19–35.
- Barkess, L., Simnett, R., 1994. The provision of other services by auditors: independence and pricing issues. *Accounting and Business Research* 24, 99–108.
- Chow, C., Rice, S., 1982. Modified audit opinions and auditor switching. *The Accounting Review* 57, 326–335.
- Citron, D., Taffler, R., 1992. The audit report under going concern uncertainties: an empirical analysis. *Accounting and Business Research* 22, 337–345.
- Craswell, A., 1988. The association between modified opinions and auditor switches. *Accounting and Business Research* 19, 23–31.
- Craswell, A., 1999. Does the provision of non-audit services impair auditor independence?. *International Journal of Auditing* 3 (1), 29–40.

- Davidson, R., MacKinnon, J., 1984. Convenient specification tests for logit and probit models. *Journal of Econometrics* 25, 241–262.
- Department of Trade and Industry, 1994. Atlantic Computers Plc/Atlantic Computer Systems: Investigation Under S432(2) of The Companies Act.
- Dunn, J., Puxty, A., Sikka, P., 1994. Auditor resignations from public limited companies: some preliminary findings. Working paper.
- Dye, R., 1991. Informationally motivated auditor replacement. *Journal of Accounting and Economics* 14, 347–374.
- Eichenseher, J., Hagigi, M., Shields, D., 1989. Market reaction to auditor changes by OTC companies. *Auditing: A Journal of Practice and Theory* 9, 29–40.
- Fried, D., Schiff, A., 1981. CPA switches and associated market reactions. *The Accounting Review* 56, 347–374.
- Krishnan, J., 1994. Auditor switching and conservatism. *The Accounting Review* 69, 200–215.
- Krishnan, J., Krishnan, J., 1997. Litigation risk and auditor resignations. *The Accounting Review* 72, 539–560.
- Krishnan, J., Stephens, R., 1995. Evidence on opinion shopping from audit opinion conservatism. *Journal of Accounting and Public Policy* 14, 179–201.
- Krishnan, J., Krishnan, J., Stephens, R., 1996. The simultaneous relation between auditor switching and auditor opinion: an empirical analysis. *Accounting and Business Research* 26, 224–236.
- Lennox, C., 1999a. Non-audit fees, disclosure and audit quality. *The European Accounting Review* 8, 239–252.
- Lennox, C., 1999b. The accuracy and incremental information content of audit reports in predicting bankruptcy. *Journal of Business, Finance and Accounting* 26, 757–778.
- Menon, K., Schwartz, K., 1985. Auditor switches by failing firms. *The Accounting Review* 60, 248–261.
- Monroe, G., Teh, S., 1993. Predicting uncertainty audit qualifications in Australia using publicly available information. *Accounting and Finance* 33, 79–106.
- Smith, D., 1986. Auditor 'subject to' opinions, disclaimers and auditor changes. *Auditing: A Journal of Practice and Theory* 6, 95–108.
- Teoh, S., 1992. Auditor independence, dismissal threats, and the market reaction to auditor switches. *Journal of Accounting Research* 30, 1–23.
- Watts, R., Zimmerman, J., 1983. Agency problems, auditing, and the theory of the firm: some evidence. *The Journal of Law and Economics* 26, 613–634.