

Busy Auditors, Ethical Behavior, and Discretionary Accruals Quality in Malaysia

Karen M. Y. Lai¹ · Andriyawan Sasmita² · Ferdinand A. Gul² · Yee Boon Foo³ · Marion Hutchinson⁴

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Abstract The required professional and ethical pronouncements of accountants mean that auditors need to be competent and exercise due care and skill in the performance of their audits. In this study, we examine what happens when auditors take on more clients than they should, thus raising doubts about their ability to maintain competence and audit quality. Using 2803 observations of Malaysian companies from 2010 to 2013, we find that auditors with multiple clients are associated with lower earnings quality, proxied by total accruals and discretionary accruals. Our results demonstrate that associating client firms' reported discretionary accruals with individual auditors, rather than their firms or offices, is important in determining audit quality. Moreover, we demonstrate that the disclosure of auditors' signatures on their reports is

useful for assessing auditor quality at the individual level, thus contributing to the debate on the usefulness of having auditor identities on reports.

Keywords Multiple audit clients · Ethical behavior · Discretionary accruals · Audit quality

Introduction

Issues surrounding auditor independence and competency continue to attract the attention of academics, practitioners, and regulators. In recent years, one particular ethical issue that has emerged in the accounting literature is whether auditors in the pursuit of more fees are taking on more clients than they should. By taking on too many clients, the auditors could lose the ability to perform every audit according to generally accepted auditing standards, thus violating the required professional ethical pronouncements regarding competency and due diligence. Although considerable research has examined whether having multiple directorships enhance or reduce financial outcomes (e.g., Fich and Shivdasani 2006; Howton et al. 2008; Perry and Peyer 2005), there is scant research that determines whether the size of an individual auditor's client base has any association with the quality of the audits. Audit failures, where the firm is operational 1 day and bankrupt the next (e.g., the UK Bank of Credit and Commerce International), are typically viewed as ethical lapses by auditors due to the failure to warn shareholders (Boyd 1996). The research question that this engenders is important since such ethical lapses have been blamed for many corporate collapses, including Arthur Anderson's failure to detect corporate fraud (Staubus 2005). The busyness of each individual auditor is likely to impact the quality of the audit and,

✉ Karen M. Y. Lai
karen.lai@monash.edu

Andriyawan Sasmita
andriyawan.sasmita@gmail.com

Ferdinand A. Gul
ferdinand.gul@deakin.edu.au

Yee Boon Foo
foo.yee.boon@monash.edu

Marion Hutchinson
m.hutchinson@qut.edu.au

¹ Monash Business School, Monash University, Caulfield East, Australia

² Department of Accounting, Faculty of Business and Law, Deakin University, Burwood, Australia

³ School of Business, Monash University, Bandar Sunway, Malaysia

⁴ QUT Business School, Queensland University of Technology, Brisbane, Australia

consequently, the ability of the auditor to detect earnings management.

In this study, we use Malaysian data to examine whether audit partners with multiple clients are associated with lower quality earnings, proxied by three measures of accruals. The auditor reports in Malaysia contain the names of the signing partners, thereby enabling such an investigation. Ours is not the first study to examine this issue. A prior study by Sundgren and Svanström (2014), using data from Swedish private companies, finds that ‘busy’ auditors provide lower audit quality in terms of the propensity to issue a going-concern opinion. However, this result may not be easily generalized to publicly listed firms as auditors of private firms are subject to different regulations and auditing standards.

In contrast, Goodwin and Wu (2015), using a sample of Australian publicly listed firms, find no significant relationship between ‘busy’ auditors and audit quality. The authors argue that the lack of results is due to audit partners being unable to decide on the optimal number of clients (Goodwin and Wu 2015). Consequently, this study is motivated by the lack of consistent results in this area of emerging research. Moreover, the Australian setting provides an environment where legal protection is relatively high compared to less developed countries such as Malaysia.

In addition, we are motivated to examine this question because regulators and academics have raised the issue of whether each audit partner should be required to sign the audit reports and disclose their identities. A survey by the International Accounting and Auditing Standards Board (IAASB) shows that more than 100 associations from both developed and emerging markets are debating the possible requirement of an audit partner signature.¹ The Public Company Accounting Oversight Board (PCAOB 2013, 2009) is also considering such a requirement in the U.S. Therefore, by using auditors’ signatures to study whether auditors with multiple clients are associated with reporting higher total and discretionary accruals, our study contributes to the debate on whether individual auditors should disclose their identities and at the same time demonstrates the usefulness of the auditor signature.

Using Malaysian data for the years 2010–2013, we find that individual auditors with multiple clients are associated with lower audit quality when proxied by higher total accruals and discretionary accruals. These results suggest that busy auditors are associated with a lower quality of

earnings. An implication of this result is that regulators or audit firms should consider a limit (cap) on the number of clients each auditor should audit. It is also possible that policy makers and practitioners could determine the optimal workload for each audit partner.

This study contributes to the audit literature in several ways. First, it examines audit quality at the individual auditor level, which has been suggested as a key factor in conflicting results between audit firm and audit quality (DeFond and Francis 2005; Francis 2011). Auditor busyness, as one of the auditor’s characteristics that affects audit quality, suggests that individual auditor analysis provides more insightful information regarding variations in audit quality. Second, the study adds to the literature on auditors’ ethical behavior because it suggests that auditors who take on more clients than they can manage effectively might be infringing ethical guidelines related to the conduct of diligent and competent audits. Third, this study contributes to the current debate on whether the auditor’s identity should be disclosed in the auditor’s report by showing indirectly that auditor identity may be useful in the assessment of auditor quality by investors and other financial statement users. Finally, in an additional test, we show that auditors from non-Big 5 firms are more likely to be associated with a higher incidence of busy auditors, thus, also adding to the audit quality literature.

The rest of this paper is organized as follows: Section 2 summarizes related studies and develops the hypothesis. Section 3 describes the sample selection and research design. Section 4 discusses the empirical results. Section 5 presents the additional test. Sections 6 and 7 discuss the study conclusion and limitations.

Literature Review and Hypothesis Development

Auditor Busyness and Audit Firms

Auditors play an important role in capital markets by providing investors an independent assessment of the credibility of financial reports (Mansi et al. 2004). Audit quality is defined by DeAngelo (1981) as the ‘market-assessed joint probability that a given auditor will both (a) discover a breach in the client’s accounting system and (b) report the breach.’ This definition consists of two important dimensions. The first dimension is the auditor’s competence, which is implied in part (a) of the definition. It means that the auditor must exercise due care and skill to discover any irregularities in the clients’ financial reports. The second dimension is auditor independence, which relates to part (b) of the definition. Auditors must not be biased toward clients and must report any breach discovered. Thus, audit quality is adversely affected if the auditor

¹ Details are available at http://www.ifac.org/sites/default/files/meetings/files/20130415-IAASB-Supplement_to_Agenda_Item_2-Questions_12-Responses-Disclosure_of_Engagement_Partner_Name-v1.pdf.

is unable to satisfy both or either of the two conditions (DeAngelo 1981).

There has been considerable research that has examined whether multiple directorships enhance or reduce financial outcomes. This research is based on the assumption that at some point, directors cannot perform effectively because they are ‘too busy’ to devote enough time to each directorship. Related research on the effect of busy directors has produced conflicting results. Some studies suggest that multiple directorships enhance director performance. For example, Fama and Jensen (1983) suggest that having multiple director appointments signal directorial quality as they are more experienced. In contrast, a number of studies support the busyness hypothesis. Fich and Shivdasani (2006), for example, suggest that directors who have multiple directorships are associated with companies reporting lower financial performance because the busier the directors are, the more inefficient they become in performing their tasks. In addition, there are studies showing that busy directors do not fulfill their roles as monitors for shareholders when they are employed on multiple boards (Howton et al. 2008). Perry and Peyer (2005) show that in poorly governed firms, a high number of directorships by outsiders are not desirable.² Furthermore, there are studies that find that outside directors hold fewer board seats after they work for companies with poor financial performance, such as companies facing the threat of liquidation (Gilson 1990; Harford 2003) and companies accused of financial fraud (Fich and Shivdasani 2007), which support the reputation hypothesis.

However, few studies have considered this case for auditors. Auditors who audit multiple clients face the possibility of conducting incompetent audits, and therefore of breaching ethical guidelines related to the requirement that auditors act ‘diligently and in accordance with applicable technical and professional standards’ (International Federation of Accountants 2010, p. 2). Lopez and Peters (2011, 2012) and Lopez and Pitman (2014) assert that audit quality tends to decrease when an auditor’s workload increases during the ‘busy season’ in December.³ This line of research finds that workload compression is positively associated with the likelihood of changes to the client portfolio of a local office. They suggest that it is not only the ‘busy season’ that affects the auditor–client relation but also the workload of the individual auditors which, in turn, affects audit quality. They cite the Public Company Accounting Oversight Board’s 2000 report as evidence of

how the pressure placed on auditors during financial year-end is likely to affect audit quality. We thus argue that when auditors take on more clients than they should, they are less likely to conduct their audits competently, and this is in breach of professional pronouncements.

Auditor Busyness and Discretionary Accruals

Over the years, audit quality research has moved from the aggregate audit firm level (i.e., Big N versus non-Big N) to office-level analysis. Findings suggest that office-level research is considerably more important and relevant in measuring audit quality than Big N research (Francis 2011; Fung et al. 2012). For example, Francis and Yu (2009) analyze audit quality at the office-level of the Big 4 audit firms and find that larger offices provide higher quality audits and are also likely to issue going-concern reports.⁴ This research suggests that factors that impact the variation of audit quality across offices need to be investigated further. However, while the decision on how many clients an auditor should audit is made at the audit firm level and is a function of audit firm size, audit partners are ultimately responsible for audit engagements. As a result, recent audit quality research demonstrates the virtues of examining the individual characteristics of an auditor rather than the characteristics of an audit firm. The study of individual auditor characteristics can only be performed if individual auditors’ data can be obtained from secondary sources such as annual reports (DeFond and Francis 2005). Thus, partner-level audit quality research is limited to date, as these studies require the audit report to be signed by audit partners with their names disclosed in the report. However, there are a few markets (China, Taiwan, Sweden, Australia, and Malaysia) that provide such data. Chen et al. (2010), for example, use Chinese individual auditor data to examine audit quality issues. More recently, Gul et al. (2013) suggest that individual audit partners are likely to have a bearing on audit quality. They find that individual auditor characteristics, such as education background, gender, Big N experience, birth cohort (age), rank in the audit firm, and political affiliation, statistically and economically affect audit quality. In this study, we add to the literature on individual auditor characteristics by examining whether Malaysian individual auditors with multiple clients are associated with lower quality earnings.⁵

The idea that auditors with multiple clients are likely to be associated with lower quality audits is based on the argument that auditors need to exert considerable effort and focus in order to detect earnings management. Caramanis

² According to Howton et al. (2008), both the National Association of Corporate Directors and the Council of Institutional Investors recommend limiting directorships to three for outside directors.

³ The busy season for most audit clients is the end of the financial year.

⁴ Office size is measured by the audit fees.

⁵ See Wahab et al. (2014) for background discussion on the institutional characteristics of the Malaysian corporate setting.

and Lennox (2008), for example, find that when audit effort (using audit hours) is lower, their clients' abnormal accruals are more often positive than negative. When positive abnormal accruals are larger, companies are more likely to manage earnings upwards in order to meet or beat the zero earnings benchmark. This suggests that greater audit effort is likely to improve audit quality by increasing the possibility that an auditor can detect existing problems (see also O'Keefe et al. 1994). In other words, auditors with multiple clients are likely to dissipate their energy and efforts at the cost of delivering high-quality audits.

Based on the above arguments, we expect that audit partners may suffer from 'capacity stress' when the number of their public clients increases, leading to a decrease in audit quality. Thus, we state the following hypothesis.

H1 Discretionary accruals of their clients are likely to be higher for an audit partner with multiple clients.

Research Design and Sample Selection

Sample Selection

The research sample consists of Malaysian public-listed companies (hereafter known as clients) from 2010 to 2013.⁶ The clients' information and financial data are obtained from the Compustat Global database. Furthermore, we collect the names of the audit partners from the Independent Auditor's Report section in the annual report of each client. Malaysian auditing standards require audit partners to sign and disclose their names in the Independent Auditor's Report section in annual reports. We start with 3346 client-year observations obtained from the Compustat Global database for the period from 2010 to 2013, as shown in Panel A of Table 1. One hundred fifty eight observations are dropped from the sample due to missing data on individual auditors' names. The number of observation is reduced further by 352 observations due to the lack of data for the calculation of earnings management. After the inclusion of all of the control variables, the number of observations is further reduced by 33 because of missing financial data, resulting in 2803 observations as the final sample.

Panel B of Table 1 shows the distribution of the sample across different years. We find that the number of clients handled by an audit partner ranges between one and 15 for the period 2010–2013. This setting provides sufficient variation for our study.

Research Design

The model used to test our hypothesis is as follows:

$$\begin{aligned}
 AQ = & a + b_1NClient + b_2LnAT(Adj) \\
 & + b_3LnAT(Adj)^2 + b_4ROA + b_5Lev + b_6Turnover \\
 & + b_7Growth + b_8CI_ia + b_9Loss + b_{10}YE \\
 & + b_{11}Big5 + \varepsilon,
 \end{aligned}
 \tag{1}$$

where AQ is our audit quality measures, *NClient* is defined as the number of clients handled by each audit partner each year (e.g., if partner A audits two clients in year *t*, then *NClient* = 2). The control variables consist of client-specific and auditor-specific control variables.

The client-specific variables include client size, which is the natural logarithm of total assets adjusted by subtracting the sample mean of the natural logarithm of total assets and its squared term, $LnAT(Adj)$ and $LnAT(Adj)^2$, respectively.⁷ $LnAT(Adj)$ is expected to have a negative relationship with total accruals and discretionary accruals (Francis and Yu 2009) as large clients are less likely to manage earnings to avoid litigation and political scrutiny (Watts and Zimmerman 1986). Since prior literature (e.g., Jaggi and Lee 2002) has shown that financially distressed firms are more likely to manipulate reported earnings, we include controls variables as proxies for financial distress. These controls are return on assets (ROA), level of leverage (Lev), total revenue over total assets (Turnover), and one-year total assets growth rate (Growth) (Gul et al. 2013, 2014). ROA is included, since prior studies (e.g., Keating and Zimmerman 1999; Doyle et al. 2007) show that firms with weak performance provide incentives for managers to engage in earnings management. Therefore, we expect ROA to be negatively associated with accruals. Leverage (Lev) is included because DeFond and Jiambalvo (1994) suggest that firms with higher liabilities tend to use accruals to manage earnings due to debt covenant constraints. Lev is expected to have a positive relationship with discretionary accruals and total accruals. Richardson et al. (2006) provide evidence that firms with higher accruals show a decrease in efficiency. They argue that an increase in accruals with no change in sales suggests that the accrual increase is due to a decline in efficiency either because of accounting distortions or less efficient use of capital. Therefore, we expect Turnover to have a negative relationship with total and discretionary accruals. Growth is expected to be positively associated with total accruals

⁷ We control for client size by using *LnAT*. Following prior studies (e.g., Gul et al. 2009), the square term is included to estimate the non-linear relationship between size and accrual measures. However, since there is high collinearity between *LnAT* and *LnAT*², we use the adjusted values following Davidson and Gist (1996, p. 114) as a way of reducing collinearity between the two variables.

⁶ This study covers the period after the financial crisis of 2008–2009; including the years with the financial crisis may distort the results.

Table 1 Panel A: sample description and Panel B: distributions of number of clients per auditor

Panel A					No. of observations
Initial observations available from 2010 to 2013					3346
Less: observations with missing individual auditors name					(158)
Less: observations with missing data for calculation of earnings management					(352)
Less: observations with other missing financial data					(33)
Sample for earnings management tests					2803
Panel B					
<i>NClient</i>	2010 No. of auditors	2011 No. of auditors	2012 No. of auditors	2013 No. of auditors	
1	68	59	55	45	
2	34	34	35	34	
3	23	22	28	30	
4	18	17	21	25	
5	15	19	16	19	
6	8	14	13	12	
7	12	9	7	7	
8	7	4	4	7	
9	7	7	4	2	
10	3	4	7	2	
11	2	4	4	3	
12	3	2	2	–	
13	1	1	1	–	
14	4	3	1	–	
15	2	–	–	–	
Total no. of observations	207	198	198	186	

No. of auditors is defined as the number of auditors with the number of clients. For example, two auditors have 15 clients each in 2010

and discretionary accruals as shown in prior studies (Menon and Williams 2004; Francis and Yu 2009) because high growth firms are more likely to manage their earnings to avoid reporting poor earnings (Francis and Yu 2009). While Francis and Yu (2009) use the one-year sales growth rate as a control, this study uses the one-year total assets growth rate.⁸ Following previous studies, Loss is included as the dummy variable when the client reports negative net income in the year (Reynolds and Francis 2001; Gul et al. 2013). Loss is expected to have a negative relationship with total and discretionary accruals. As argued by Francis and Yu (2009, p. 1528), the sign is expected to be negative because ‘firms that report losses have lower incentives to manage discretionary accruals than do firms that report positive earnings.’ For the auditor-specific control variables, client importance at the individual auditor level (*CL_{ia}*)⁹ is included to control the size of the client

portfolio, as client importance affects auditor independence (Chen et al. 2010). Consistent with the previous studies, the YE dummy variable is used as a control for the year-end effect because the year-end for most clients is December 31st and busy season companies are likely to exhibit greater magnitude of abnormal accruals (López and Peters 2011, 2012).

We report *t* values that are based on standard errors adjusted for firm and year clustering (Petersen 2009) as the OLS estimated standard error is biased if the residual may be correlated across firms and across time.¹⁰ Industry

⁸ We replace one-year asset growth with one-year sales growth and we find similar results. We also find that the model fit is better with asset growth, since the adjusted *R*² is 1.5 % or higher for all three models in Table 4.

⁹ *CL_{ia}* is measured by the client’s natural logarithm of total assets divided by the sum of an individual auditor’s client portfolio size, measured as the sum of the natural logarithm of total assets of all the clients handled by the auditor.

¹⁰ Petersen argues that ‘When both a firm effect and a time effect are present in the data, researchers can address one parametrically (e.g., by including time dummies) and then estimate standard errors clustered on the other dimension’ (p. 475). In this way, the standard errors clustered by firms capture the unspecified correlation between observations of the same firm in different years. Conversely, the standard errors clustered by time capture the unspecified correlation

dummy variables are included in the model to control for industry effects. We use the two-digit SIC codes as the industry dummy variables.

Audit Quality Measures

Prior research suggests that Big N auditors provide higher audit quality (DeAngelo 1981; Francis and Krishnan 1999). The Big 4 audit firms in Malaysia include PricewaterhouseCoopers (PwC), Ernst and Young (EY), KPMG, and Deloitte Touche Tohmatsu (DTT). However, Binder Dijker Otte (BDO) has emerged as the fourth largest audit firm in the Malaysian audit market (larger than DTT). Therefore, auditor quality is measured as Big 5 versus non-Big 5. Thus, we measure Big 5 auditors as a dummy variable equal to 1, and zero otherwise. In unreported tests, we also use the traditional Big 4 classification for all our tests and obtain similar results.

Prior studies use proxies such as the ability of the auditor to detect earnings management as audit quality where lower earnings management suggests better audit quality (Becker et al. 1998; Francis et al. 1999; Krishnan 2003; Francis and Yu 2009). To measure earnings quality, we use the total accruals model, and the Jones and the modified Jones models (Carey and Simnett 2006; Chen et al. 2008; Francis and Yu 2009).

Total Accruals

Following the model used in prior research (Healy 1985; Jones 1991; Bartov et al. 2000), the composition of total accruals is as follows:

$$TA_t = (\Delta CA_t - \Delta Cash_t) - (\Delta CL_t - \Delta DCL_t) - DEP_t, \quad (2)$$

where ΔCA_t is the change in current assets in year t , $\Delta Cash_t$ is the change in cash and cash equivalents in year t , ΔCL_t is the change in current liabilities in year t , ΔDCL_t is the change in debt included in current liabilities in year t ,¹¹ and DEP_t is the depreciation and amortization expense in year t .

Jones and Modified Jones Models

Prior studies partition the total accruals into discretionary accruals and non-discretionary accruals (e.g., DeAngelo 1986; McNichols and Wilson 1988; Jones 1991). The Jones

Model, which attempts to control the firm's economic circumstances on non-discretionary accruals, is specified as follows:

$$NDA_{it} = \alpha_1 [1/A_{it-1}] + \alpha_2 [(\Delta REV_{it}) / A_{it-1}] + \alpha_3 [PPE_{it} / A_{it-1}]. \quad (3)$$

NDA_{it} is the non-discretionary accruals of client i in year t scaled by lagged total assets, ΔREV_{it} is the total revenues of firm i in year t less the total revenues of firm i in year $t-1$, PPE_{it} is the gross property plant and equipment of client i at the end of year t , A_{it-1} is the lagged total assets for firm i , and α_1 , α_2 , and α_3 are the industry- and year-specific parameters.

To obtain the estimates of the parameters α_1 , α_2 , and α_3 , we use the following equation:

$$(TA_{it} / A_{it-1}) = \beta_1 (1 / A_{it-1}) + \beta_2 [(\Delta REV_{it}) / A_{it-1}] + \beta_3 (PPE_{it} / A_{it-1}) + \varepsilon_{it}. \quad (4)$$

TA_{it} is the total accruals in year t . The composition of the total accruals is based on model (2). β_1 , β_2 , and β_3 denote the ordinary least squares (OLS) estimates of α_1 , α_2 , and α_3 , respectively. ε_{it} , the residual term, represents the levels of discretionary accruals at time t .

The Modified Jones Model is designed to control for the inclination of the Jones Model to estimate larger errors over revenue recognition when the manager's discretion is exercised (Bartov et al. 2000). The only modification relative to the original Jones Model is that the change in total revenues is adjusted for the change in total receivables for the period. In the Modified Jones Model, non-discretionary accruals are estimated during the periods in which earnings management is hypothesized:

$$NDA_{it} = a_1 [1/A_{it-1}] + a_2 [(\Delta REV_{it} - \Delta REC_{it}) / A_{it-1}] + a_3 [PPE_{it} / A_{it-1}]. \quad (5)$$

NDA_{it} is the non-discretionary accruals of client i in year t scaled by lagged total assets, ΔREV_{it} is the total revenues in year t less the total revenues in year $t-1$ for firm i , ΔREC_{it} is the total receivables in year t less the total receivables in year $t-1$ for firm i , PPE_{it} is the gross property plant and equipment of client i at the end of year t , and A_{it-1} is the lagged total assets.¹² The estimates of firm parameters a_1 , a_2 , and a_3 are those obtained in the original Jones model.

We used the absolute value of the discretionary accruals (DA) of the Jones and the Modified Jones Models to examine the magnitude of the discretionary accruals

Footnote 10 continued
between observations of different firms in the same year (Petersen 2009).

¹¹ We follow Bartov et al. (2000) and Dechow et al. (1995) by including the adjustment for current maturities of long-term debt.

¹² Following Bartov et al. (2000), the only adjustment relative to the original Jones model is the change in revenues adjusted for the change in receivables in the event year. This is based on the assumption that during the estimation period, there is no systematic earnings management.

Table 2 Descriptive statistics for abnormal accruals and small profit tests

Variable	N	Mean	SD	Min	0.25	Median	0.75	Max
Dependent variables								
<i>TA</i>	2803	0.020	0.190	-1.110	-0.040	0.010	0.070	3.800
<i>Jones_DA</i>	2803	0.110	0.120	0.000	0.030	0.070	0.140	0.640
<i>ModJones_DA</i>	2803	0.110	0.120	0.000	0.030	0.080	0.150	0.620
Independent variables								
<i>NClient</i>	2803	6.000	3.560	1.000	3.000	5.000	8.000	15.000
<i>LnAT(Adj)</i>	2803	0.000	1.580	-4.310	-1.080	-0.180	0.890	5.830
<i>LnAT(Adj)²</i>	2803	2.490	4.120	0.000	0.220	1.030	2.860	33.950
<i>ROA</i>	2803	0.020	0.430	-20.820	0.000	0.040	0.080	5.260
<i>Lev</i>	2803	0.390	0.220	0.000	0.220	0.370	0.520	1.860
<i>Turnover</i>	2803	0.830	0.590	0.000	0.440	0.720	1.090	5.170
<i>Growth</i>	2803	0.090	0.380	-0.990	-0.030	0.040	0.130	7.910
<i>CI_ia</i>	2803	0.740	0.170	0.240	0.610	0.740	0.870	1.180
<i>Loss</i>	2803	0.230	0.420	0.000	0.000	0.000	0.000	1.000
<i>YE</i>	2803	0.610	0.490	0.000	0.000	1.000	1.000	1.000
<i>Big5</i>	2803	0.540	0.500	0.000	0.000	1.000	1.000	1.000

(Francis et al. 1999; Francis and Yu 2009), which are denoted as *Jones_DA* and *ModJones_DA*, respectively.

Descriptive Statistics

Table 2 provides descriptive statistics of the sample. *Jones_DA*, *ModJones_DA*, and *TA* are winsorized at the first and 99th percentiles. Regarding the *NClient* variables, Gul et al. (2014) suggest that auditors who handle four or more clients in a year are considered busy auditors in China.¹³ In Malaysia, *NClient* is relatively high because the mean is six, and the maximum number of clients an auditor takes on in a year is 15.

The mean for total accruals is 0.02, while the mean for *Jones_DA* and *ModJones_DA* is 0.11. The mean for *Big5* is 0.54, which means 54 % of all clients in our sample are audited by Big 5 auditors. The busy season effect is shown by the mean of *YE*, 0.61, which implies an average of 61 % of all clients in the sample have a financial year-end in December.

Table 3 reports the Pearson correlations for the variables. *Jones_DA*, *ModJones_DA*, and *TA* are positively correlated with *NClient*, suggesting that auditors that handle more clients are likely to have lower audit quality, consistent with our expectation. Of the three measures, *ModJones_DA* and *TA* are significant. The results also show no extreme correlation between most of the independent variables (with most of them being less than 0.3), suggesting that there is no significant issue of

multicollinearity. The higher correlations are among size, *Big5*, and client importance. The correlation between size and *Big5* is 0.4350, while the correlation between size and client importance is 0.5687. This is expected, since larger companies tend to be audited by the Big 5 and are likely to be more important to individual auditors.¹⁴ The negative correlation between client importance and *NClient* is high (-0.5056), since individual auditors with more important clients are likely to compensate for that with a lower number of clients.¹⁵

Empirical Results

The experimental variable *NClient* is regressed with the total accruals and the absolute values of the discretionary accruals based on the Jones (*Jones_DA*) and the Modified Jones (*ModJones_DA*) models. In Table (4), column (1) shows that *NClient* is positively associated with *TA* at the 10 % significance level. In columns (2) and (3) of Table 4, the coefficients of *NClient* are positive and significant at the 1 % level, implying that auditors with more clients are associated with higher discretionary accruals. These results support our hypothesis that the number of clients an auditor handles significantly affects audit quality by allowing high total and discretionary accruals.

The coefficients of the control variables are generally consistent with previous studies (e.g., Francis and Krishnan

¹³ In their paper, Gul et al. (2014) generate a dummy variable *HighNClient* that equals 1 if an audit partner has four or more clients and 0 otherwise.

¹⁴ We also use variance inflation factors (VIF) to detect the existence of multicollinearity. More discussion is provided in Sects. 4 and 5.

¹⁵ This negative correlation could also suggest that the more clients an auditor is in charge of, the less important the individual client is to the auditor’s total portfolio.

Table 3 Correlation matrix for the variables

	TA	<i>Jones_DA</i>	<i>ModJones_DA</i>	<i>NClient</i>	<i>LnAT(Adj)</i>	<i>LnAT(Adj)</i> ²	<i>ROA</i>
<i>TA</i>	1						
<i>Jones_DA</i>	0.0866***	1					
<i>ModJones_DA</i>	0.0893***	0.9017***	1				
<i>NClient</i>	0.0498***	0.0265	0.0413**	1			
<i>LnAT(Adj)</i>	0.0561***	-0.1332***	-0.1579***	-0.0523**	1		
<i>LnAT(Adj)</i> ²	-0.0081	-0.0245	-0.0093	-0.1168***	0.3885***	1	
<i>ROA</i>	0.0633***	-0.0512***	-0.0579***	0.0273	0.1212***	-0.0991***	1
<i>Lev</i>	-0.0056	0.1742***	0.1383***	0.0214	0.1740***	0.1304***	-0.1942***
<i>Turnover</i>	0.0516***	-0.0021	-0.0199	-0.0038	-0.0459	-0.1407***	0.0825***
<i>Growth</i>	0.6173***	0.1816***	0.1557***	0.0286	0.0785***	-0.0158	0.1092***
<i>CI_ia</i>	0.0172	-0.0639***	-0.085***	-0.5056***	0.5687***	0.1641***	-0.002
<i>Loss</i>	-0.156***	0.1178***	0.1311***	-0.0088	-0.2847***	0.0397**	-0.2154***
<i>YE</i>	0.0152	-0.0039	-0.0093	-0.0692***	0.0278***	0.0436**	-0.0117
<i>Big5</i>	-0.0191	-0.1215***	-0.1404***	-0.0395	0.4350***	0.0809***	0.0779***
	<i>Lev</i>	<i>Turnover</i>	<i>Growth</i>	<i>CI_ia</i>	<i>Loss</i>	<i>YE</i>	<i>Big5</i>
<i>Lev</i>	1						
<i>Turnover</i>	0.1186***	1					
<i>Growth</i>	-0.0244	0.0745***	1				
<i>CI_ia</i>	0.1385***	-0.025	0.0674***	1			
<i>Loss</i>	0.2259***	-0.1395***	-0.1695***	-0.1385***	1		
<i>YE</i>	0.0282	-0.0345*	0.0248	0.0242	-0.017	1	
<i>Big5</i>	-0.0239	0.0648***	-0.0272	0.005	-0.1934***	-0.0173	1

***, **, and *, respectively, refer to significance at the 1 % level, 5 % level, and 10 % level, two tails

1999). While size *LnAT(Adj)* is negatively associated with discretionary accruals for both *Jones_DA* and *ModJones_DA*, it is positively associated with TA. *LnAT(Adj)*² is positive in Jones and Modified Jones Models, which suggests that the relationship between size and discretionary accruals is non-linear. This result is consistent with prior studies (Gul et al. 2009; Francis and Yu 2009). As expected, *Growth* and *Lev* are positively and significantly associated with discretionary accruals in both models. However, *Lev* is not significantly associated with total accruals. *Loss* is negative as expected for total accruals but not for the two other discretionary accrual measures. The *Big5* variable is negatively but insignificantly associated with accruals. The sign of the coefficient is consistent with the theory that *Big5* is associated with higher quality audits. Finally, year-end (*YE*) is negatively related to discretionary accruals measured by the Jones Model and the Modified Jones Model, which contradicts previous studies that suggest that audit quality is lower during the busy season (López and Peters 2011, 2012). However, the result for *YE* is insignificant for the total accruals model. To further examine whether multicollinearity exists, we compute the variance inflation factors (VIFs) as $1/(1-R^2)$, where the R^2 for this calculation is from a regression for

which one of the independent variables is the dependent variable and the remaining independent variables are the independent variables. The VIFs are reported in Table 4, column (4). Since all VIFs are less than 10, we conclude that multicollinearity does not appear to be a problem in this study.¹⁶

Additional Test

Big 5 Versus Non-Big 5

Having controlled for the Big 5 and non-Big 5 firms in the regressions, we note that the coefficients are negative. This is expected because Big 5 firms have ‘more to lose,’ since they typically have a bigger number of large portfolio clients and, consequently, greater reputation risk from performing poor quality audits (DeAngelo 1981). Reynolds and Francis (2001) find that the Big 4 auditors are more conservative toward larger clients because they carry higher litigation risk, which creates an incentive for

¹⁶ As suggested by Neter et al. (1983), a VIF that is greater than 10 can be taken as a sign of multicollinearity.

Table 4 Regression testing where the dependent variable is audit quality proxied by Total Accruals, Jones_DA, and ModJones_DA

Dependent variable = predictors	Predicted sign	(1)		(2)		(3)		(4)
		TA		Jones_AbAcc		ModJones_AbAcc		
		Coefficient	t stat	Coefficient	t stat	Coefficient	t stat	
<i>Intercept</i>		0.0078	(0.33)	0.0337***	(4.86)	0.0221***	(3.32)	
<i>NClient</i>	+	0.0007*	(1.77)	0.0006***	(3.16)	0.0012***	(3.66)	1.84
<i>LnAT(Adj)</i>	-	0.0034**	(2.26)	-0.0070**	(-2.49)	-0.0081***	(-2.80)	3.80
<i>LnAT(Adj)²</i>	+	-0.0001	(-0.11)	0.0002	(0.54)	0.0007	(1.27)	1.60
<i>ROA</i>	-	-0.0070	(-1.40)	-0.0012	(-0.21)	-0.0023	(-0.35)	1.16
<i>Lev</i>	+	0.0164	(0.49)	0.0724***	(3.86)	0.0567***	(2.61)	1.42
<i>Turnover</i>	-	-0.0051	(-0.38)	-0.0067	(-0.89)	-0.0080	(-1.00)	1.46
<i>Growth</i>	+	0.3047***	(5.75)	0.0566***	(2.70)	0.0483**	(2.37)	1.08
<i>CI_ia</i>	+	-0.0443	(-1.38)	0.0058	(0.76)	0.0116	(1.45)	3.02
<i>Loss</i>	-	-0.0310***	(-3.83)	0.0159***	(3.07)	0.0170***	(3.00)	1.40
<i>YE</i>	+	0.0001	(0.01)	-0.0073***	(-2.91)	-0.0062*	(-1.73)	1.10
<i>Big5</i>	-	-0.0049	(-0.50)	-0.0017	(-0.34)	-0.0010	(-0.22)	1.68
No. of years		4		4		4		
Clustered by firm and year		Yes		Yes		Yes		
Industry dummy		Yes		Yes		Yes		
<i>N</i>		2803		2803		2803		
Adjusted <i>R</i> ²		38.41 %		36.02 %		31.40 %		
<i>F</i>		6.0458		457.8780		481.6408		
<i>p</i>		0.0000		0.0000		0.0000		

***, **, and *, respectively, refer to significance at the 1 % level, 5 % level, and 10 % level, two tails

auditors to protect their reputation. Furthermore, Big 4 audit firms tend to be more conservative by issuing more modified audit opinions (Francis and Krishnan 1999). Consequently, based on this reasoning, we expect that non-Big 5 auditors are associated with auditor busyness.

In this additional test, we evaluate the association between Big 5 audit firms and *NClient*. The results in Table 5 show a negative association between Big 5 firms and *NClient* (significant at the 1 % level), implying that non-Big 5 audit firm partners have more clients.¹⁷ In other words, the non-Big 5 firms are associated with auditor busyness. We also compute the VIFs for the independent variables in Table 5. Column 2 shows that all VIFs are less than 10, suggesting that multicollinearity is unlikely to be a problem.

Conclusion

Previous corporate governance studies find that director busyness relates to the performance of the directors (Fich and Shivdasani 2006). Auditing researchers have recently

focused on the new area of determining the relationship between auditor busyness and audit quality. This topic has emerged in the current auditing literature as an important area of research, but there are relatively few studies on this in emerging markets. Some recent studies have documented that busy auditors are negatively associated with audit quality in developed countries, where litigation costs are higher than developing countries. However, in emerging markets, such as in Malaysia, litigation against auditors is virtually non-existent and shareholder protection is minimal.

This study, using total and discretionary accruals as the measure of audit quality, finds that auditor busyness is associated with lower audit quality. Specifically, the number of clients an auditor handles in a year has a significant positive relationship with their client firms' total and discretionary accruals, thus suggesting that auditors with multiple clients perform poorer quality audits.

The results of this study may have policy implications for Malaysia's audit market. Similar to the work by Gul et al. (2014), the findings in this study suggest 'capping' the number of clients a signing partner can audit in a year as a way of improving audit quality. Policy makers and

¹⁷ We obtain similar results using Big 4 firms instead of Big 5 audit firms.

Table 5 Results of regression analysis where dependent variable is auditor busyness measured as *NClient*

Dependent variable = predictors	Predicted sign	(1)		(2)
		<i>NClient</i>		
		Coefficient	<i>t</i> stat	
<i>Intercept</i>		22.1577***	(12.90)	
<i>Big5</i>	(-)	-1.8948***	(-5.32)	1.52
<i>LnAT(Adj)</i>		1.1314***	(7.63)	2.71
<i>ROA</i>		-0.1817	(-1.59)	1.13
<i>Lev</i>		0.7074**	(2.01)	1.41
<i>Turnover</i>		0.1233	(0.98)	1.45
<i>Growth</i>		0.3445**	(2.11)	1.07
<i>CI_ia</i>		-17.1969***	(-13.75)	1.73
<i>Loss</i>		-0.1888	(-1.37)	1.39
<i>YE</i>		-0.4291***	(-2.91)	1.09
No. of years		4		
Clustered by firm and year		Yes		
Industry dummy		Yes		
<i>N</i>		2803		
Pseudo <i>R</i> ²		0.4176		
<i>F</i>		43.5600		
<i>p</i>		0.0000		

***, **, and *, respectively, refer to significance at the 1 % level, 5 % level, and 10 % level, two tails

practitioners should perhaps consider limiting the number of clients an auditor takes on. For accounting and audit researchers, this study provides evidence that the analysis of audit quality at the individual auditor level is important as audit quality varies for each individual auditor. In this way, this study adds to the growing body of literature on the role of individual auditors. Finally, this study adds to the literature on the ethical behavior of auditors by showing that auditors with multiple clients could be violating ethical pronouncements that require them to exercise due care and skill in conducting high-quality audits.

Limitations

This study is not without limitations. First, we measure accruals using total accruals, the Jones and the Modified Jones models. As suggested by McNichols (2000), earnings management measures based on aggregate accruals may incorrectly specify earnings management and result in misleading inferences about earnings management behavior as these models do not consider long-term earnings growth. In addition, prior research (e.g., Dopuch et al. 2012) suggests that if the firms in the industry are not homogeneous, then discretionary accruals estimated cross-sectionally can be noisy and bias the resulting tests (Gul et al. 2009).

Second, the time frame for the sample is four years. This time frame is relatively short and ideally a better and more reliable picture of auditor busyness may be obtained if the sample period is longer. Another issue relates to a declining trend among busy auditors in Malaysia. For example, in 2010, the maximum number of clients for an auditor in that year was 15, whereas the maximum number was 11 clients in 2013. The trend from 2010 to 2013 suggests that auditor busyness is declining somewhat. Whether this declining trend continues is an empirical issue for future research. Clearly, a better understanding of auditor busyness can be obtained if future research considers larger samples and longer time frames.

In addition, prior studies suggest that client complexity could affect audit quality (Gist 2008). However, data limitations preclude us from measuring client complexity.¹⁸ Thus, we cannot rule out the possibility that our results are affected by omitted variables such as client complexity. Finally, it is worth noting that the results may not be generalizable to developed countries but may be more applicable to other developing countries similar to Malaysia.

¹⁸ Compustat Global does not provide any data that are commonly used as proxies for complexity (e.g., the number of business segments, the number of consolidated subsidiaries, and foreign sales or foreign assets).

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Appendix 1: Variable Definition

<i>TA</i>	Measured by $TA_t = \Delta CA_t - \Delta Cash_t - \Delta CL_t + \Delta DCL_t - DEP_t$, where ΔCA_t is the change in total assets in year t ; $\Delta Cash_t$ is the change in cash and equivalent in year t ; ΔCL_t is the change in current liabilities in year t ; ΔDCL_t is the change in debt included in current liabilities in year t ; and DEP_t is the depreciation and amortization expense in year t .
<i>Jones_DA</i>	Absolute value of discretionary accruals (DA) derived from Jones Model (DA_{it}). It is the residual term of the equation $TA_{it}/A_{it-1} = \beta_1 (1/A_{it-1}) + \beta_2 [(\Delta REV_{it})/A_{it-1}] + \beta_3 (PPE_{it}/A_{it-1}) + \varepsilon_{it}$, where ΔREV_{it} is the total revenues of firm i in year t less the total revenues of firm i in year $t-1$, PPE_{it} is the gross property plant and equipment of client i in year t , and A_{it-1} is the lagged total assets for firm i .
<i>ModJones_DA</i>	Absolute value of discretionary accruals (DA) derived from Modified Jones Model. The only adjustment relative to the Jones Model is that the change in accounts receivable is subtracted from the change in revenues.
<i>NClient</i>	Number of clients handled by each individual audit partner in charge per year.
<i>LnAT(Adj)</i>	The natural logarithm of total assets at the end of the year adjusted by subtracting the sample mean of the natural logarithm of total assets.
<i>LnAT(Adj)²</i>	Square term of the natural logarithm of the adjusted total assets at the end of the year.
<i>ROA</i>	Return on assets, measured by net income over total assets at year-end.
<i>Loss</i>	Dummy variable for loss, 1 if a client observation reports a negative net income, 0 otherwise.
<i>Growth</i>	Total assets at the year-end minus total assets at the beginning of the year over total assets at the beginning of the year.
<i>Lev</i>	Total liabilities over total assets at the year-end.
<i>Turnover</i>	Total revenue over average total assets.

<i>CI_{ia}</i>	Client importance of the individual auditors measured by the client’s natural logarithm of total assets divided by the sum of an individual auditor’s client portfolio size, measured as the sum of the natural logarithm of total assets of all the clients handled by the auditor in year t .
<i>YE</i>	Year-end dummy, 1 if the client’s financial year-end is in December, 0 if otherwise.
<i>Big4</i>	Big 4 auditors dummy, 1 if the client is audited by a Big 4 accounting firm, 0 if otherwise.
<i>Big5</i>	Big 5 auditors dummy, 1 if the client is audited by a Big 5 accounting firm (includes BDO), 0 if otherwise.

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