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# The Malaysian market for audit services: ethnicity, multinational companies and auditor choice

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## Abstract

**Purpose** – The purpose of this paper is to investigate the extent to which ethnic association (i.e. Chinese and Bumiputra ownerships) and national issues (i.e. the presence of foreign corporations) influence the audit services market in Malaysia. Specifically, the paper aims to examine the effects of ethnicity and foreign ownership on choice of auditor.

**Design/methodology/approach** – Two logit models are used; the first is to test on ethnic auditor (Chinese/non-Chinese) choice while the second is related to the choice of quality-differentiated auditor. The data is obtained from annual reports of the population of the Bursa Malaysia listed companies for both the Main Board and the Second Board for the periods 1993-1995.

**Findings** – The logit regressions confirm our prediction of ethnic networking and preferential treatment on the auditor selection process.

**Research limitations/implications** – The first limitation lies on the auditor choice model where the model is developed from a demand perspective, assuming that the auditors are willing to supply services to any client even though it is very unlikely in the real world. The model also assumes that the audit engagement process for foreign-controlled companies is purely transacted in the Malaysian market. However, foreign multinational corporations might determine the selection of the auditor at the headquarter offices and the Malaysian subsidiaries might simply be directed to engage a given auditor. Another limitation relates to the results of the logit regressions as the study has documented an ethnic association between auditor and auditee rather than establishing a causal relationship.

**Practical implications** – An important implication of these findings relates to auditor independence. The Malaysian Institute of Accountants (MIA) has made rules prescribing the code of professional conduct and ethics of public accountants known as the MIA By-Laws (on Professional Conduct and Ethics) but it seems to neglect the diversity of local culture in addressing independence. Whilst the auditor is divorced from financial and familial interests, the ethnic sentiments might impair auditor independence especially in an audit conflict situation.

**Originality/value** – The paper provides important insights into the existence of Chinese business practices in Malaysia and auditor selection process in this country.

**Keywords** Ethnic groups, Auditors, Multinational companies, Malaysia

**Paper type** Research paper

## Introduction

As a developing country with a multi-racial society and diverse background, the issue of ethnicity is one of some note in Malaysia. In some countries, issues of ethnicity have had



political overtones and have resulted allegations of prejudice, discrimination, hostility and even violence. Whitley (1992) observed that ethnicity can impact on business systems and economic developments within East Asian countries. The major ethnic groups in Malaysia are Malays, Chinese and Indians; with a presence of Thais, Pakistanis and Europeans. In addition, there are various indigenous groups in the states of Sabah and Sarawak. However, the two main groups (i.e. the Chinese and Malays) play a role in much of the socio-economic and political environment of the country. Ethnic Malays (also known as Bumiputras) are said to control the political administration while ethnic Chinese has heavily influenced the economic environment. In 1969, inter-communal unrest occurred between Malays and Chinese that led the government to launch the New Economic Policy (NEP) with the objective of decreasing the economic gap among ethnic groups. The government policies, since 1970, have resulted in some change to practices in the Chinese business community in Malaysia. For example, the equity requirements of these policies have meant that Chinese business-persons benefit from positive interaction with their Malay counterparts in order to gain greater business opportunities (Hara, 1991; Heng, 1992). The government's effort to increase the participation of the Malays and other indigenous groups in the national economy has brought the Bumiputras into the capital market. It is noted, however, that the distribution of share ownership among Bumiputra shareholders is less clear.

On the other hand, the political stability and strong underlying economic fundamentals in Malaysia has also brought foreign investors into the country. Their presence was reduced to some extent as a result of the government's localisation policy in the 1970s and related equity restriction rule. However, the economic recession in the mid-1980s had forced the government to loosen its economic restrictions to stimulate economic growth. This subsequently draws foreign capitalists especially from Japan, the USA, Singapore and Taiwan to invest in Malaysia. Their presence is especially significant in the manufacturing sector (Jesudason, 1990; Ali and Wong, 1993) of which their capital accounts for about 60-70 per cent (Hara, 1991).

As discussed by Cheong (1990), Jesudason (1990) and others, corporate ownership in the Malaysian capital market can be clearly identified along ethnic and national lines; specifically Chinese, Bumiputras and foreigners. This unique pattern of segmented capital formation is argued to result in differences in business organisations that can, in part, be explained by the ethnicity of the owners. Eichenseher (1995) argues that ethnic divisions across publicly held corporations in Malaysia "... can be linked to plausible variations in agency costs and the demand for audit services" (p. 13). This might be due to differences in business practices (in terms of risk preferences and monitoring mechanisms) and/or investment goals (Muzaffar, 1989).

Whilst there are other studies that examine the issue of ethnicity or culture and other factors in Malaysia such as audit fee (Che-Ahmad and Houghton, 2001), disclosure (Haniffa and Cooke, 2002), and management (Abdullah, 1992), the issue of auditor choice receives less attention although auditor choice is very much related to business networking. Therefore, the purpose of this study is to examine the effect of ethnicity on the choice of auditor among Malaysian public listed companies and investigate the extent to which the presence of foreign corporations influence the audit services market in Malaysia. The results would provide market wide empirical evidence as to the existence of Chinese business practices in Malaysia and would give

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an understanding to the accounting profession, the business community, and Malaysian regulators with regard to the auditor selection process.

Malaysian companies incorporated under the Companies Act 1965 are required to prepare annual audited accounts in accordance with the Accounting Standards and pronouncements of the Malaysian Institute of Accountants (1997) (MIA). Listed companies face additional requirements set out by both the Bursa Malaysia (previously known as Kuala Lumpur Stock Exchange (KLSE)) and the Securities Commission (SC). The Accountants Act 1967 established the MIA and introduced the mechanism for the regulation of the accounting profession. Another professional body that is also actively looking after the interests of the local accounting profession is the Malaysian Institute of Certified Public Accountants (MICPA[1]). Similar to the environment in the English-speaking countries, the market for audit services for public companies in Malaysia is dominated by the international Big Four (previously the Big Six) audit firms. Che-Ahmad *et al.* (1996) report that the Big Six (and their affiliates) audited 75.9 per cent of the Bursa Malaysia (Main Board) listed companies in 1991.

This paper is organised as follows. The next section reviews the relevant literature on the subject, followed by research methodology, the results, and finally the conclusions and implications of the study.

### **Literature review and hypotheses development**

Previous studies have extensively used Agency or Contracting Theory to explain the voluntary demand for auditing (Watts and Zimmerman, 1983; Wallace, 1980) and the need for differential levels of audit quality (DeAngelo, 1981a; Simunic and Stein, 1987). The demand arises as a direct result of the conflicts between shareholders (principals) and managers (agents) and other entities (e.g. creditors) (Jensen and Meckling, 1976; Watts and Zimmerman, 1983). Chow (1982) found agency cost proxies to be associated with the decision to voluntarily engage external auditors. Hay and Davis (2001) noted that where audits are not compulsory, most entities do choose to have one and the choice of auditor quality is associated with size, debt and salaries, but not with donations and grants. Watts (1977) argued that even in a regulated economy, the manager still has an incentive to hire an external auditor to reduce agency costs (for example, to monitor the observance of debt covenants). In addition, Simunic and Stein (1987), Francis and Wilson (1988), DeFond (1992) and Firth and Smith (1992) provide support for a systematic relationship between agency cost variables and the choice of brand name auditors. Firth and Smith (1992) support the signaling theory with their evidence that shows that companies with little or no trading history are likely to choose quality-differentiated auditors to add credibility to the new issue. Various other studies focus instead on auditor change and factors associated with quality/independent issues (Chow and Rice, 1982; Williams, 1988; Beattie and Fearnley, 1995; Krishnan and Krishnan, 1997).

The inclusion of ethnic factor in auditor choice research in Asian countries would provide new insights into the auditor selection process in this region since in the context of such countries, ethnic affiliation is known to influence business conducts (Whitley, 1992; Redding, 1991; Hamilton, 1991; Backman, 1995). For the Chinese business community, effective utilisation of business networks is said to be one of their major strengths. Studies by Weidenbaum and Hughes (1996), Kao (1995), Kuo (1991) and Wu and Wu (1980), among others, emphasised that ethnic-Chinese businesspersons have indeed developed codes of conduct among themselves that

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monitor market information, provide capital, and share risks with its members (Lim, 1983; Hamilton, 1991; Jesudason, 1990; Heng, 1992). They also provide access to labour and market outlets and protect the business interests of its members from the threat of newcomers (Lim, 1983; Kuo, 1991). This does not mean that the Chinese entrepreneurs are not willing to link up with non-Chinese partners at all. As long as the venture is more profitable, the Chinese businesspersons will accommodate others (Backman, 1995). Taken together, this business practice promotes business efficiency and enlarges the “economic pie” for the participants in the market (Noreen, 1988).

The Chinese also have a powerful influence on the supply of services in the Malaysian audit market (Faaland *et al.*, 1990; Crouch, 1996) and the accounting profession is a difficult professional sector for the Bumiputras to penetrate. In fact, the percentage of Bumiputra participation in the accounting profession is the lowest as compared to those in other professions such as architecture and medicine. The Chinese also account for the majority of members on the councils of both professional bodies in Malaysia (i.e. the MIA and MICPA), partly due to the strong Chinese network of alliance in the auditing market. Also, like Chinese businesspersons in other sectors, as noted earlier, Chinese auditors are also willing to ally with non-Chinese partners if the relationship is perceived to be profitable (Backman, 1995). This is especially true in Malaysia where alliance with the Bumiputra could enhance business opportunities provided by the state (Crouch, 1996).

In terms of auditor/auditee relationship, it can be argued that Chinese auditors are likely to be more understanding of their fellow Chinese company directors or managers than auditors from other ethnic backgrounds. This mutual understanding is due to the shared values and cultural/language similarities. Furthermore, the roles of Chinese networks in monitoring market information, sharing risks and providing capital and business opportunities to the Chinese business community are likely to influence the process of auditor choice. This provides economic as well as social incentives for Chinese businesspersons to employ Chinese auditors. This leads to the following alternative hypothesis:

- H1.* Chinese-controlled companies are significantly associated with the choice of Chinese auditors.

Bumiputra affiliation is also likely to be present in the audit market although there is no theory that suggests that the ties will be as strong as the Chinese network. As discussed earlier, the government has consistently encouraged Bumiputra entrepreneurs to be united and form business alliances in order to penetrate new markets. Various agencies have been established since 1970s to provide training and to help develop entrepreneurial skills among Bumiputra entrepreneurs. Wherever possible, Bumiputra businesspersons are called to give priorities to their fellow ethnic Bumiputras in business dealings. Similarly, Bumiputra businesses are encouraged to employ Bumiputra auditors to increase Bumiputra participation in the auditing sector. To be in line with the government policies, most government agencies are likely to hire Bumiputra auditors for auditing and other services. As with their Chinese counterparts, Bumiputra businesspersons are also likely to form alliance with Bumiputra auditors due to shared values and culture/religion. This reasoning leads to the following alternative hypothesis:

- H2.* Bumiputra-controlled companies are significantly associated with the choice of Bumiputra auditors.

Unlike Chinese and Bumiputra-controlled companies, the case for foreign-controlled companies may not be tied directly to ethnicity; rather, it relates closely to the demand for audit quality as proposed in the auditing literature (DeAngelo, 1981a; Watts and Zimmerman, 1983; Simunic and Stein, 1987). The distance of the headquarters are likely to induce a higher level of management monitoring and this provides the incentive for the companies to hire quality-differentiated auditors. They are also more likely to choose the same auditors as the parent companies or the auditors that are prominent in their home countries. For these reasons, foreign-controlled companies are likely to choose quality-differentiated auditors or "brand name auditors" due to a perceived need of international standard (or high quality) auditing in these companies. This leads to the following alternative hypothesis:

- H3.* Foreign-controlled companies are significantly associated with the choice of quality-differentiated auditors.

Whilst there are many important economic and sometimes social factors involved in the selection of an auditor (Williams, 1988), it is argued that in Malaysia, for the reasons outlined above, the ethnic and national factors are of significance in this choice. Several other factors that may influence auditor choice are included in the model as control variables.

### Research methodology

#### *Sample and data*

Data is obtained from annual reports of Malaysian public listed companies for the periods 1993-1995, being the post-NEP period. During this period, the country was experiencing high economic growth and low unemployment rates. Several decisions by the government were also made to improve financial reporting practices in Malaysia including the introduction of mandatory audit committees for listed companies and the establishment of the Security Commission in 1993. Moreover, the inflation rate was restrained at a low level (below 5 per cent annually) throughout the periods of study, limiting the effects of inflation on the results. Nevertheless, the data is deflated based on the consumer price index (CPI) to avoid any effects of inflation (if any) on the financial data. The selection of the three-year period also avoid possible undue influence of the Asian currency crisis since mid-1997 on the regression analyses. In addition to economic solidity, the period was a phase of high political stability. Samples selected are shown in Table I.

	1993	1994	1995	Total cases
Total listed companies	413	478	529	1,420
Newly listed companies	(44)	(66)	(51)	(161)
Change in financial year-end	(15)	(13)	(17)	(45)
Companies under suspension	(1)	(1)	–	(2)
Incomplete data: no partner's name	(3)	(3)	(3)	(9)
No date of audit report	(5)	(7)	(9)	(21)
No lagged (1) audit opinion	(4)	(13)	(16)	(33)
Total companies selected	341	375	433	1,149

**Table I.**  
Sample selection

*Model specification*

This study uses a model that utilises logit regression to investigate the choice of auditors in Malaysia. The model accommodates dichotomous dependent variables and takes the following structural form:

$$\begin{aligned} \text{Prob}(\text{auditor choice}) = & \beta_0 + \beta_1\text{ETHNICVAR} + \beta_2\text{LAFEE} + \beta_3\text{LASSET} + \beta_4\text{SUBS} \\ & + \beta_5\text{INVREC} + \beta_6\text{LQUAL} + \beta_7\text{LEV} + \beta_8\text{ROE} + \beta_9\text{BSIX} \\ & + \beta_{10}\text{SPEC} + \beta_{11}\text{CHANGE} + \beta_{12}\text{MIN} + \beta_{13}\text{PLANT} + \beta_{14}\text{FIN} \\ & + \beta_{15}\text{BOARD} + \beta_{16}\text{BUSY} + \beta_{17}\text{LDELAY} + \beta_{18}\text{LNAS} + \nu \end{aligned}$$

where, Prob (choice  $j$ ) = the probability of a company using a Chinese auditor for the tests of  $H1$  and  $H2$  or the probability of a company using a quality-differentiated auditor for the test of  $H3$ ; ETHNICVAR = hypothesis variable related to ethnically controlled companies (Chinese (CC), Bumiputra (BC) or foreign (FC)); LAFEE =  $\text{Log}_{10}$  audit fee; LASSET =  $\text{Log}_{10}$  total assets; LSUBS =  $\text{Log}_{10}$  (number of subsidiaries plus 1); INVREC = proportion of inventory and receivables to total assets; LQUAL = lagged qualified audit opinion; LEV = ratio of long term debt to total equity; ROE = return on equity; BSIX = Big Six auditor (excluded for the test of  $H3$ ); SPEC = specialist auditor; CHANGE = auditor change; MIN = mining sector; PLANT = plantation sector; FIN = financial sector; BOARD = Bursa Malaysia board membership; BUSY = busy season; LDELAY =  $\text{Log}_{10}$  audit delay; LNAS =  $\text{Log}_{10}$  non-audit fee;  $\beta_0, \beta_1, \dots, \beta_{18}$  = constant term and Regression coefficients;  $\nu$  = error term assumed to be normally distributed with constant variance.

The logit model is estimated using cross-sectional data for each year from 1993 to 1995. The examination of the  $H1$  and  $H2$  is carried out separately with each hypothesis variable being included in the logit model one after another. The analysis of  $H3$  excludes the Big Six variable as a control variable since the variable is now the dependent variable for the test of  $H3$ .

*Variable measurements*

Except for the hypothesis variables, the other (control) variables are adopted from previous studies (Chan *et al.*, 1993; Butterworth and Houghton, 1995; Craswell *et al.*, 1995). There are two types of logit model. The first relates to the choice of Chinese/non-Chinese auditors ( $H1$  and  $H2$ ) and the second relates to the choice of quality-differentiated auditors ( $H3$ ). In order to test  $H1$  and  $H2$ , the dependent variable for logit model 1 is the probability of a company using a Chinese auditor (CA). The auditor is defined as Chinese in operation if the engagement partner is of Chinese descent (coded 1 and 0 otherwise). The name of the partner is provided at the end of the audit report in the corporate annual report. The dependent variable for logit model 2 is the probability of a company using a quality-differentiated auditor. The auditor is defined as a quality-differentiated auditor if it is one of the Big Six firms (coded 1 and 0 otherwise). Based on previous studies (Francis and Wilson, 1988), brand name auditors are surrogated by the international Big Six firms.

Testing  $H1$ - $H3$  require data concerning whether or not a majority of the substantial shareholding is Chinese, Bumiputra or foreign. Only substantial shareholders (as defined by the law) are considered for the purpose of this classification. A

shareholder (individual or institutional) who has an interest in five per cent (or more) of the voting shares is classified as substantial shareholder and the disclosure of this information is required by law (see Section 69 of the Companies Act 1965). The approach is similar to that of Chan *et al.* (1993) in the UK who also used 5 per cent of shareholding as a cut-off point for ownership control.

In order to test the hypotheses, the factors stated in Table II (explanatory variables) are controlled in the models. Note that the direction of the control variables is not predicted in the logit model 1 as the ethnicity model has never been tested before. The variables are included to control for possible variations in the auditor selection process due to them.

Variable	Description Dependent and hypothesis variables	Expected sign	
		Logit 1	Logit 2
CA	A dummy variable indicating whether or not the auditor is a Chinese auditor (1 if the engagement audit partner is ethnic Chinese, 0 otherwise)	d.v.	n.a.
BSIX	A dummy variable coded 1 if the auditee is audited by one of the Big Six (and affiliates) firms, 0 otherwise	±	d.v.
CC	Proportion of total Chinese substantial shareholding to total substantial shareholding	+	n.a.
BC	Proportion of total Bumiputra substantial shareholding to total substantial shareholding	-	n.a.
FC	Proportion of total foreign substantial shareholding to total substantial shareholding	n.a.	+
<i>Explanatory variables</i>			
LAFEE	Log <sub>10</sub> of published audit fees	±	+
LASSET	Log <sub>10</sub> of auditee's total assets	±	+
LSUBS	Log <sub>10</sub> of number of subsidiaries plus the holding company	±	+
INVREC	Proportion of inventory and receivables to total assets	±	+
LQUAL	A dummy variable is coded 1 if the audit report was qualified in the preceding year, 0 otherwise	±	+
LEV	Ratio of total long term debt (excluding deferred tax) to total equity	±	+
ROE	Proportion of net profit to total shareholders' equity	±	±
SPEC	A dummy variable indicating whether or not the incumbent auditor is a specialist in that client's industry	±	+
CHANGE	A dummy variable is coded 1 if the incumbent auditor is a new auditor, 0 otherwise	±	±
LDELAY	Log <sub>10</sub> of number of days from the accounting year-end to the date of the audit report	±	-
MIN	A dummy variable coded 1 if the auditee is in the mining sector	±	±
PLANT	A dummy variable coded 1 if the auditee is in the plantation sector	±	±
FIN	A dummy variable coded 1 if the auditee is in finance, banking or trusts sector	±	±
BOARD	A dummy variable coded 1 if the auditee is listed on the Main Board of the Bursa Malaysia, 0 otherwise	±	+
LNAS	Log <sub>10</sub> of published non-audit fees	±	±
BUSY	A dummy variable coded 1 if the financial year-end date is between 31 December and 31 March, 0 otherwise	±	±

**Table II.**  
Variable descriptions and expected sign of independent variables in logit models

**Note:** d.v. – dependent variable; n.a. – not applicable

LASSET measures auditee size. As the size of the companies increases, it is likely that the number of agency conflicts also increases and this might increase the demand for quality-differentiated auditors (Palmrose, 1984). LSUBS and INVREC capture auditee risks in terms of scope of operations and in respect of balance sheet composition (Chan *et al.*, 1993). LQUAL represents audit opinion shopping. Craswell (1988) found that companies that change auditors following the receipt of qualified opinion have been shown to receive “improved” opinion. LEV is closely related to client risk (Che-Ahmad *et al.*, 1996). The greater the leverage, the greater the potential for wealth transfers from debt holders to shareholders and hence, the greater the likelihood of a company to select a quality-differentiated auditor to mitigate the agency cost. ROE is another measure of risk and is included in the model to control for the possible association between financial loss and inclination toward certain auditor.

Craswell *et al.* (1995) provide evidence of a premium accruing to industry specialist auditors in the Australian market. A competitive audit market environment would result in a lower audit fee offered by auditors to new prospective clients in order to win new audits (DeAngelo, 1981b; Simon and Francis, 1988). The practice of low-balling was alleged to have occurred rampantly in some quarters of the accounting profession in Malaysia (Hamlin, 1993). Therefore, CHANGE is included to control for possible preference towards certain auditor during the three-year period. LDELAY is also a proxy for audit risk. In this study, indicator variables are also used to capture the effect of differences in business and legal structures as well as differences in risks specific to certain industries (Palmrose, 1986; Low *et al.*, 1990; Butterworth and Houghton, 1995; Gerrard *et al.*, 1994). The mining sector is not particularly active due to low demand of tin in the world market and the plantation sector is becoming less important to the national economy that places greater importance on industrialisation. On the other hand, the financial sector (which includes banks, finance companies and unit trusts) is monitored closely by the Bank Negara (Central Bank) under Banking and Financial Institution Act 1993 (BAFIA). An indicator variable is used to capture the effect of differences in board category. The requirements for reporting and disclosure are more stringent for Main Board companies. Other potentially significant variables are busy season, audit delay, and the provision of non-audit services. The variables are included in the model as explanatory variables (Table II).

## Results and discussions

### *Descriptive and univariate analyses*

Tables III and IV provides descriptive statistics and univariate test results for the variables, classified by the ethnicity of auditors[2] and by type of audit firms (Big Six/Non-Big Six).

From panel A, Chinese, Bumiputra and Indian auditors (as a whole) earned an average audit fees of RM145,250, RM196,220 and RM101,720, respectively, for the three-year period. The average total assets for auditees of Bumiputra auditors is about 2.5 times greater than auditees of Chinese and Indian auditors for the three-year period. As expected, Chinese-controlled companies are more likely to be associated with Chinese auditors. This is reflected in higher average ratios of RCSS and RCDIR for the auditees of Chinese auditors *vis-à-vis* other auditors. The *t*-test results[3] comparing the means of independent variables for auditees of Chinese auditors with that of non-Chinese auditors show that both RCSS and RCDIR are statistically significant at 1 per cent level.



**Table III.**  
Descriptive statistics and univariate test results of continuous variables 1993-1995 panel A: by ethnic backgrounds (RM'000)

Variables <sup>a</sup>	Chinese auditors (sample = 706)		Bumiputra auditors (sample = 315)		Indian auditors (sample = 123)		t-test <sup>d</sup> (two-tailed)
	Mean	SD	Mean	SD	Mean	SD	
Audit Fees (untransformed)	145.25	261.08	196.22	546.04	101.72	100.50	-0.887
Non-audit Fees (untransformed)	6.50	29.74	4.17	28.52	2.99	21.99	1.878*
Total Assets untransformed)	91,8952.89	2,557,623.04	2,345,282.90	7,550,503.73	9,23,697.33	3,195,314.02	-4.078***
SUBS	18.93	27.99	19.47	31.90	13.96	14.09	1.512
DELAY	113.65	33.43	111.51	49.66	116.67	38.69	1.852**
INVREC	0.33	0.22	0.23	0.20	0.29	0.23	5.791***
LEV	0.08	0.10	0.09	0.12	0.07	0.10	-0.244
ROE	0.27	0.36	0.30	0.34	0.30	0.38	-1.324
RCSS	0.58	0.37	0.31	0.41	0.32	0.37	11.894***
RBSS	0.24	0.30	0.54	0.42	0.43	0.38	-12.994***
RFSS	0.07	0.20	0.07	0.20	0.12	0.29	-0.984
RCDIR	0.54	0.22	0.35	0.28	0.35	0.30	12.856***
RBDIR	0.38	0.19	0.57	0.28	0.55	0.30	-12.910***
RFDIR	0.05	0.12	0.05	0.12	0.08	0.17	-1.091

**Notes:** \*\*\*Significant at 1 per cent level; \*\*Significant at 5 per cent level; \*Significant at 10 per cent level. <sup>a</sup>See Table II for variable descriptions. The definition of the other variables (that are not tested directly in the multivariate models) is as follows; SUBS, the number of subsidiaries plus the holding company; DELAY, the number of days from the accounting year-end to the date of the audit report; RCSS, ratio of Chinese substantial shareholding to total substantial shareholding; RBSS, ratio of Bumiputra substantial shareholding to total substantial shareholding; RFSS, ratio of foreign substantial shareholding to total substantial shareholding; RCDIR, ratio of Chinese directors to total directors; RBDIR, ratio of Bumiputra directors to total directors; RFDIR, ratio of foreign directors to total directors

Variables <sup>a</sup>	Big Six auditors (sample = 885)		Non-Big Six auditors (sample = 264)		<i>t</i> -test (two-tailed)
	Mean	SD	Mean	SD	
Audit fees (untransformed)	165.75	388.89	115.99	192.07	2.761***
Non-audit fees (untransformed)	4.97	29.69	7.61	25.20	-4.308***
Total assets (untransformed)	1,257,249.89	3,201,539.62	1,493,175.50	7,590,950.09	2.615***
SUBS	18.97	29.03	17.01	24.18	-0.833
DELAY	110.77	39.79	121.78	35.58	-4.352***
INVREC	0.28	0.22	0.36	0.23	-5.387***
LEV	0.08	0.10	0.09	0.09	-1.325
ROE	0.29	0.35	0.26	0.38	1.302
RCSS	0.44	0.41	0.60	0.34	-5.784***
RBSS	0.37	0.39	0.27	0.31	3.685***
RFSS	0.09	0.23	0.02	0.08	4.731***
RCDIR	0.44	0.27	0.56	0.23	-6.209***
RBDIR	0.46	0.26	0.41	0.23	3.049***
RFDIR	0.06	0.14	0.01	0.06	5.516***

**Notes:** \*\*\*Significant at 1 per cent level; \*\* significant at 5 per cent level; \* significant at 10 per cent level. <sup>a</sup>See Table II for variable descriptions. The definition of the other variables (that are not tested directly in the multivariate models) is as follows; SUBS, the number of subsidiaries plus the holding company; DELAY, the number of days from the accounting year-end to the date of the audit report; RCSS, ratio of Chinese substantial shareholding to total substantial shareholding; RBSS, ratio of Bumiputra substantial shareholding to total substantial shareholding; RFSS, ratio of foreign substantial shareholding to total substantial shareholding; RCDIR, ratio of Chinese directors to total directors; RBDIR, ratio of Bumiputra directors to total directors; RFDIR, ratio of foreign directors to total directors

**Table IV.** Descriptive statistics and univariate test results of continuous variables 1993-1995. Panel B: for Big Six/Non-Big Six auditees (RM'000)

Similarly, the average ratio of Bumiputra substantial shareholding to total substantial shareholding (RBSS) and the average ratio of Bumiputra directors to total directors (RBDIR) are high for the auditees of Bumiputra auditors and the differences are statistically significant at 1 per cent level. In other words, Bumiputra auditees are likely to be associated with Bumiputra auditors. Interestingly, Bumiputra- and foreign-controlled companies have a higher preference (i.e. higher percentage of RBDIR, RBSS, RFDIR and RFSS) for Indian auditors than Chinese auditors[4]. The inclination of Bumiputra companies towards Indian auditors as opposed to Chinese auditors might reflect the extent of ethnic business rivalry between the two large ethnic groups (i.e. Chinese and Bumiputra) in Malaysia. The Bumiputra businesspersons might perceive the Indians as more “friendly” to their businesses than the Chinese. The results also justify the classification of auditors into Chinese and non-Chinese in the analyses.

Hence, this preliminary result provides directional support for the ethnic association between Chinese auditors and auditees and between non-Chinese auditors and Bumiputra auditees. The means of most other variables are similar for the three groups of auditees.

In panel B (Table IV), the comparison of group means for the ratio of foreign substantial shareholding to total substantial shareholding (RFSS) and ratio of foreign directors to total directors (RFDIR) reveal a directional support for the association of foreign-controlled companies with the use of quality-differentiated (Big Six) auditors.

Companies using Big Six auditors, on average, have higher values for both variables RFSS and RFDIR. Note that the average RCSS and the average RCDIR are high for non-Big Six auditors. As shown in panel B of Table IV, Chinese auditors dominate non-Big Six firms (86.0 per cent). Hence, the association between Chinese-controlled companies and the non-Big Six auditors is argued to be a reflection of the ethnic networking. The *t*-test results confirm that the differences of means for RFSS, RCSS and RBSS are statistically significant at the 1 per cent level.

The comparisons of group means are less supportive of the association between agency cost related variables and the use of Big Six auditors. For example, the average ratio of inventory and receivables to total assets, and the leverage of the Big Six auditees are lower than that of the non-Big Six auditees. This may be due to the presence of ethnic networking. As expected, the mean audit fees of the Big Six are statistically higher than the mean audit fees of the non-Big Six auditors at 1 per cent level. This is likely to be due to the presence of the brand name (quality) premium.

Tables V and VI presents the descriptive statistics and univariate test[5] results for (dummy) variables by ethnic backgrounds. Like the previous *t*-test, the analysis in this table is related to the relationship between the auditees of Chinese and non-Chinese auditors in order to be consistent with the multivariate model.

Panel A (Table V) shows that the majority of Bumiputra (93.0 per cent) and Indian auditors (91.9 per cent) work in the Big Six firms. However, since a large percentage of auditors in Malaysia are Chinese, they formed the largest group in both Big Six (54.1 per cent) and non-Big Six (86.0 per cent) firms as shown in panel B. Also, about a quarter of Bumiputra auditors (78 cases) are industry specialist auditors. The number of Chinese industry specialist auditors is greater in number (92 cases) than Bumiputras but smaller in proportion (13.0 per cent). The Bumiputra auditors (i.e. 90.5 per cent of them) are also likely to audit the Bursa Malaysia Main board companies. Similar to the data in the previous tables (Tables III and IV), the ethnic association between auditors and auditees[6] is rather definitive with same ethnic auditor-auditee relationships

	Chinese auditors (sample = 706)	Bumiputra auditors (sample = 315)	Indian auditors (sample = 123)	Mann-Whitney <i>U</i> -test
BSIX	67.8	93.0	91.9	119,159.5 ***
SPEC	13.0	24.8	15.4	142,516.0 ***
CC	64.9	32.7	32.5	105,411.0 ***
BC	16.9	51.7	39.0	106,489.5 ***
FC	5.8	7.0	11.4	152,752.5
CHANGE	4.7	3.8	7.3	156,275.5
LQUAL	2.5	5.1	4.9	152,600.0 **
BOARD	74.6	90.5	86.2	133,674.5 ***
FIN	9.9	15.2	4.9	151,763.0
MIN	1.3	4.8	6.5	150,253.5 ***
PLANT	6.7	14.9	11.4	145,256.5 ***
BUSY	70.1	73.7	70.7	152,708.5

**Table V.**  
Descriptive statistics  
(percentage) and  
univariate test results for  
dummy variables  
1993-1995. Panel A: by  
ethnic background<sup>a</sup>

**Notes:** \*\*\* Asymptotic significance at 1 per cent level (two-tailed); \*\* asymptotic significance at 5 per cent level (two-tailed); \* asymptotic significance at 10 per cent level (two-tailed). <sup>a</sup>five cases are excluded from the above table since the auditors are from other ethnic backgrounds. Note that the five auditors work in non-Big Six firms

	Big Six auditors (sample = 885)	Non-Big six auditors (sample = 264)	Mann-Whitney <i>U</i> -test
CC	52.3	67.8	93,316.5***
BC	32.1	19.3	101,899.5***
FC	8.7	None	106,656.0***
CA	54.1	86.0	79,600.5***
SPEC	21.4	None	91,872.0***
CHANGE	5.1	3.4	114,862.5
LQUAL	3.8	2.3	114,897.0
BOARD	84.7	65.2	93,930.0***
FIN	10.6	12.5	114,625.5
MIN	3.4	0.8	113,745.0**
PLANT	10.7	4.9	110,032.5***
BUSY	69.7	75.4	110,206.5*

**Table VI.**  
Descriptive statistics (percentage) and univariate test results for dummy variables 1993-1995. Panel B: for Big Six/Non-Big Six audit firms

**Notes:** \*\*\*Asymptotic significance at 1 per cent level (two-tailed); \*\*asymptotic significance at 5 per cent level (two-tailed); \*asymptotic significance at 10 per cent level (two-tailed). <sup>a</sup>five cases are excluded from the above table since the auditors are from other ethnic backgrounds. Note that the five auditors work in non-Big Six firms

accounting for about 64.9 and 51.7 per cent of the clients of ethnic Chinese and Bumiputra auditors, respectively. These results provide support for the proposition of ethnic networking in the auditor selection process in the Malaysian business environment. The results of the Mann-Whitney *U*-test for the distribution differences between auditees of Chinese and non-Chinese auditors reveal that some of the explanatory variables are statistically significant. Hence, they need to be included in the multivariate model to control for the possible confounding effects.

A comparison of group percentages for each of the dichotomous variables is provided in panel B. Similar to results in panel B (Table IV), foreign companies (as measured by companies that have 50 per cent or more foreign substantial shareholdings) are associated with Big Six auditors. In fact, none of the foreign corporations choose non-Big Six auditors. The results clearly show the preference of foreign companies towards Big Six auditors. Interestingly, Chinese- and Bumiputra-controlled companies are also found to be significantly different between both groups of Big Six and non-Big Six auditees at 1 per cent level.

The correlations among independent variables are relatively low and they are not expected to affect the regression results. Gujarati (1995) suggests that multicollinearity is destructive if correlations between the independent variables are above 0.8. (Note: the Pearson Product Moment Correlations are reported in the Appendix. The Kendall's tau-b results as well as correlations for each year are available upon request).

#### *Multivariate analysis*

When taken together, the descriptive and univariate analyses support the proposition of ethnic networking in the auditor selection process among local Malaysian companies. Similarly, foreign corporations prefer quality-differentiated (i.e. premium) auditors in the Malaysian market of audit services. However, the descriptive analysis does not take into account any interrelationship among the independent variables and is, therefore, somewhat limited.

Table VII provides the results of logit regressions for auditor choice each year. The  $\chi^2$ -square statistics shows that the model is statistically significant at 1 per cent level for all regressions. The range of pseudo- $R^2$  is between 16 and 20 per cent indicating a moderately good fit. The pseudo- $R^2$  in the model is comparable with the pseudo- $R^2$  in other studies of auditor choice/change (Chow and Rice, 1982; Palmrose, 1984; Roberts *et al.*, 1990; Krishnan and Krishnan, 1997)[7].

The hypothesised variable is highly significant and positive in all logit estimations. The hypothesis is accepted for each data group, which suggest that Chinese auditees are likely to prefer Chinese auditors in audit engagements. The results confirm the presence of ethnic ties and also corroborate with other studies about the working of the Chinese business network in the Malaysian business environment (Jesudason, 1990; Hara, 1991; Heng, 1992).

The results of other explanatory (control) variables are mixed and a few of them seem to be time-sensitive. For example, the variable total assets is negatively associated with Chinese auditors for all three years but was only found to be significant for 1994, suggesting that Chinese auditors audit smaller clients. Given that Bumiputra-controlled companies tend to be strategic and large, this finding might be expected. However, the sensitivity of the variable to a particular year remains unexplained and may warrant further investigation.

Variable <sup>a</sup>	1995 (433 cases)		1994 (373 cases)		1993 (343 cases)	
	A		B		C	
CC	1.677	(5.59 <sup>***</sup> )	1.652	(4.95 <sup>***</sup> )	1.589	(4.66 <sup>***</sup> )
LAFEE	0.684	(1.31)	0.958	(1.55)	0.431	(0.70)
LASSET	-0.327	(-0.88)	-1.425	(-3.26 <sup>***</sup> )	-0.433	(-1.05)
LSUBS	-0.322	(-0.86)	0.104	(0.24)	0.117	(0.27)
INVREC	0.956	(1.50)	-0.091	(-0.13)	0.217	(0.31)
LQUAL	-0.120	(-0.17)	-1.278	(-1.83)	-0.558	(-0.95)
LEV	0.080	(0.07)	0.303	(0.24)	-0.220	(-0.16)
ROE	-0.276	(-0.80)	0.222	(0.54)	-0.055	(-0.12)
BSIX	-1.245	(-3.68 <sup>***</sup> )	-1.508	(-4.05 <sup>***</sup> )	-1.357	(-3.53 <sup>***</sup> )
SPEC	-0.122	(-0.36)	-0.623	(-1.69)	-0.233	(-0.72)
CHANGE	-0.060	(-0.11)	-0.118	(-0.23)	0.767	(1.13)
MIN	-1.266	(-1.69)	-1.946	(-2.54 <sup>***</sup> )	-1.121	(-1.42)
PLANT	-0.556	(-1.26)	-0.541	(-1.14)	-0.563	(-1.30)
FIN	0.156	(0.36)	0.267	(0.56)	-0.277	(-0.56)
BOARD	-0.453	(-1.27)	0.347	(0.85)	-0.048	(-0.11)
BUSY	-0.113	(-0.43)	-0.400	(-1.42)	0.190	(0.67)
LDELAY	-0.033	(-0.05)	-1.802	(-2.09 <sup>*</sup> )	0.174	(0.20)
LNAS	0.095	(0.33)	0.384	(1.24)	0.293	(0.98)
Constant	2.036	(0.90)	10.662	(3.83 <sup>***</sup> )	1.956	(0.72)
$\chi^2$ (18)	97.86 <sup>***</sup>		99.83 <sup>***</sup>		74.12 <sup>***</sup>	
Pseudo- $R^2$	0.1719		0.1992		0.1609	

**Table VII.**  
Results of logit regressions for auditor choice (Chinese/non-Chinese); (numbers in parentheses are z-statistics)

**Notes:** <sup>\*\*\*</sup>Significant at 1 per cent level (one-tailed for hypothesis variable, two-tailed otherwise); <sup>\*\*</sup>significant at 5 per cent level (one-tailed for hypothesis variable, two-tailed otherwise). <sup>a</sup>the dependent variable was auditor choice (CHOICE). A dummy variable coded 1 if auditor is ethnic Chinese and 0 otherwise

Table VIII provides the results of logit regressions for auditor choice concerning Bumiputra auditee and the choice of non-Chinese auditor for each of the three years.

From Table VIII, Bumiputra auditees prefer non-Chinese auditors (i.e. primarily Bumiputras). The variable of interest (BC) is statistically significant (at 1 per cent level) and negative for all data groups. The results are consistent with the earlier proposition that Bumiputra auditees are likely to align with non-Chinese auditors. Perhaps the government policies of encouraging the establishment of a Bumiputra business network contribute to this alignment. The results of other variables and the classification rates are similar to the results in Table VII, and hence, they are not reported here.

Table IX provides the results of the logit regressions for auditor choice concerning foreign auditee and the choice of quality-differentiated auditor for each year. The  $\chi^2$ -square statistic shows that the model is statistically significant at 1 per cent level for all regressions. The range of pseudo- $R^2$  is between 12 and 15 per cent indicating a moderately good fit and comparable to pseudo- $R^2$  in other studies of auditor choice/change[8]. The pseudo- $R^2$ s in this model are relatively lower than the pseudo- $R^2$  in Tables VII and VIII[9].

The results reveal the lack of support for the association of the agency cost variables with the utilisation of Big Six auditors, which is consistent with the earlier descriptive analysis. Large, complex, and highly geared companies are not statistically

Variable <sup>a</sup>	1995 (433 cases)		1994 (373 cases)		1993 (343 cases)	
	A		B		C	
BC	-2.108	(-6.67 <sup>***</sup> )	-1.619	(-4.71 <sup>***</sup> )	-2.107	(-5.72 <sup>***</sup> )
LAFEE	0.509	(0.96)	0.494	(0.82)	-0.051	(-0.08)
LASSET	-0.208	(-0.54)	-1.306	(-2.96 <sup>***</sup> )	-0.125	(-0.29)
LSUBS	0.002	(0.01)	0.511	(1.24)	0.516	(1.22)
INVREC	0.929	(1.43)	-0.186	(-0.26)	0.395	(0.55)
LQUAL	-0.197	(-0.27)	-1.361	(-1.97 <sup>**</sup> )	-0.486	(-0.79)
LEV	0.091	(0.08)	0.440	(0.35)	0.079	(0.05)
ROE	-0.314	(-0.89)	0.138	(0.34)	-0.139	(-0.32)
BSIX	-1.327	(-3.86 <sup>***</sup> )	-1.564	(-4.21 <sup>***</sup> )	-1.500	(-3.82 <sup>***</sup> )
SPEC	-0.071	(-0.21)	-0.431	(-1.21)	-0.211	(-0.64)
CHANGE	0.091	(0.16)	-0.098	(-0.19)	0.474	(0.70)
MIN	-1.037	(-1.32)	-1.790	(-2.27 <sup>**</sup> )	-0.593	(-0.72)
PLANT	-0.482	(-1.06)	-0.564	(-1.19)	-0.437	(-0.98)
FIN	0.244	(0.54)	0.291	(0.62)	-0.148	(-0.29)
BOARD	-0.684	(-1.88)	0.174	(0.43)	-0.316	(-0.69)
BUSY	-0.193	(-0.72)	-0.622	(-2.22 <sup>**</sup> )	-0.038	(-0.13)
LDELAY	-0.084	(-0.11)	-1.708	(-2.00 <sup>**</sup> )	0.314	(0.34)
LNAS	0.083	(0.28)	0.435	(1.40)	0.203	(0.66)
Constant	3.311	(1.39)	11.944	(4.25 <sup>***</sup> )	2.379	(0.84)
$\chi^2$ (18)	114.03 <sup>***</sup>		97.17 <sup>***</sup>		87.42 <sup>***</sup>	
Pseudo- $R^2$	0.2003		0.1939		0.1897	

**Notes:** <sup>\*\*\*</sup>Significant at 1 per cent level (one-tailed for hypothesis variable, two-tailed otherwise); <sup>\*\*</sup>significant at 5 per cent level (one-tailed for hypothesis variable, two-tailed otherwise). <sup>a</sup>BC is defined as Bumiputra-controlled companies (i.e. hypothesis variable that is expected to be negative). See in Table IX for the definitions of other variables

**Table VIII.** Results of logit regressions for auditor choice (Chinese/non-Chinese); (numbers in parentheses are z-statistics)

**Table IX.**  
Results of logit  
regressions for auditor  
choice (Big Six/Non-Big  
Six): (numbers in  
parentheses are  
z-statistics)

Variable <sup>a</sup>	Expected sign	1993 (343 cases)		
		A	B	C
FC	+	1.208 (1.04)	2.673 (1.93)**	2.912 (1.89)**
LAFEE	+	1.268 (2.12)**	1.551 (2.28)**	2.631 (3.50)**
LASSET	+	-0.168 (-0.39)	-0.440 (-0.95)	-1.244 (-2.40)**
LSUBS	+	-1.111 (-2.27)**	-0.823 (-1.61)**	-1.244 (-2.23)**
INVREC	+	-0.688 (-1.00)	-1.622 (-2.27)**	-2.107 (-2.87)**
LQUAL	+	1.173 (1.04)	0.535 (0.64)	0.206 (0.28)
LEV	+	-1.523 (-1.24)	-0.740 (-0.55)	1.700 (1.02)
ROE	±	0.182 (0.42)	-0.201 (-0.44)	-0.017 (-0.03)
CHANGE	±	0.388 (0.63)	0.922 (1.37)	1.282 (1.47)
MIN	±	0.532 (0.48)	0.817 (0.74)	n.a.
PLANT	±	0.331 (0.57)	0.568 (0.93)	0.862 (1.39)
FIN	±	-0.376 (-0.77)	0.017 (0.03)	0.566 (0.94)
BOARD	±	1.121 (3.15)**	0.667 (1.72)**	0.735 (1.62*)
BUSY	±	-0.126 (-0.43)	-0.321 (-1.06)	-0.426 (-1.28)
LDELAY	-	-2.028 (-2.22)**	-1.074 (-1.12)	-2.429 (-2.23)**
LNAS	±	-0.661 (-2.54)**	-0.555 (-2.02)**	-0.575 (-2.05)**
Constant		4.675 (1.74)	3.972 (1.39)	9.451 (2.88)**
$\chi^2$ (16)		55.71***	47.28***	55.07***
Pseudo-R <sup>2</sup>		0.1190	0.1174	0.1519

**Notes:** \*\*\*Significant at 1 per cent level (one-tailed where signs are expected, two-tailed otherwise); \*\*significant at 5 per cent level (one-tailed where signs are expected, two-tailed otherwise). <sup>a</sup>FC was defined as foreign-controlled companies. See in Table IX for the definitions of other variables; n.a. variable MIN is dropped since all companies in the mining sectors in 1993 were audited by the Big Six auditors. Note that variable SPECT (auditor industry specialist) is also dropped from all regressions since all auditor industry specialists are the Big Six auditors for the three-year period

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associated with the Big Six firms. In some cases, the variables that proxy for these factors (such as LASSET, LSUBS, INVREC and LEV) is negative and significant, implying the opposite relationship to that which agency theory would predict. Note that Palmrose (1984) and Simunic and Stein (1987) also report anomalous findings. Palmrose (1984) suggests that companies with higher debt/equity ratios may represent greater risk and may not be cost effective clients for quality-differentiated auditors. Similarly, Simunic and Stein (1987) speculate this inconsistency to the relative importance of audit service in reducing the agency costs of external equity rather than for reducing the agency costs of debt.

One possible interpretation of these (anomalous) findings is that the presence of local companies (that constitute more than 90 per cent of the sample) might influence the regression results. Local companies (both Bumiputra and Chinese companies) may well regard ethnic considerations (e.g. ethnic trust) to be more important monitoring mechanisms than quality factors. Also, large and highly geared companies tend to be local companies as indicated earlier. One way to control for this factor is to regress on the sample of foreign companies only. Unfortunately, this is not possible since all foreign companies (based on 50 per cent cut-off point of substantial shareholding) choose Big Six auditors.

Interestingly, LAFEE (audit fee) is significant (at  $p < 0.05$ ) and positive in all estimations indicating strong association between the increase in audit fee and the likelihood of using a brand name auditor; not an unexpected result given the common finding that quality auditors attract a fee premium. Other interesting findings are the results for the variables LDELAY that is significant and negative (at  $p < 0.01$ ) for 1993 and 1995 while LNAS is significant and negative (at  $p < 0.05$ ) for all years. As expected, Big Six auditors are associated with shorter audit lag. This might be due to the greater amount of resources owned. Similarly, large audit firms (i.e. the Big Six) might be able to charge lower non-audit services fees due to the presence of economies of scale in their firms. Also, the variable BOARD is significant in the expected direction for each data group. The Bursa requirements for reporting and disclosure are more stringent for the Main Board than the Second Board companies. Hence, companies listed on the Main Board (which tend to be bigger and their ownership structures more disperse than the Second Board companies) are likely to engage the Big Six auditors.

Of greater importance are the results for the experimental variable. The hypothesised variable (FC) is significant and positive in two of three logit estimations. The variable is significant at 5 per cent significance levels for both 1993 and 1994 data sets. The hypothesis that the variable FC is significantly associated with high audit quality firm is accepted for all years except 1995. The results suggest that the larger the substantial shareholding of foreign investors, the higher the probability that Big Six auditors were chosen for 1993 and 1994. The insignificant result for 1995 data set is unexpected, given that all foreign companies are associated with the Big Six auditors (panel B Table VI). It seems that the positive relation between the Big Six auditors and foreign shareholding might only be predictable above certain levels of foreign ownership (i.e. 50 per cent) in 1995.

### Conclusions and implications

The purpose of this study is to investigate the extent to which ethnicity (i.e. Chinese and Bumiputra ownerships) and national issues (i.e. the presence of foreign



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corporations) influence auditor choice in Malaysia. Two logit models are used in this study; the first is related to the ethnic auditor (Chinese/non-Chinese) choice while the second is related to the choice of quality-differentiated auditor. The first model has never been tested before. The second auditor choice model is designed to test the association of foreign-controlled companies and quality-differentiated auditors.

The results show an ethnic association between auditor and auditee rather than establishing a causal relationship. The results are consistent with the proposition that an ethnic structure of company ownership is one determinant in the auditor choice decision. Further tests should investigate whether changes in ethnic ownership structure precede auditor change. However, insufficient data on auditor changes limits the present analysis. Future research should use a larger time-period in order to obtain sufficient data on companies that switch auditors and have ethnic-ownership structure changes.

The logit regression results show that Chinese- and Bumiputra-controlled companies are associated with auditors from the same ethnic background. Likewise, foreign-owned companies are shown to be associated with quality-differentiated auditors. The results are robust to various measures of hypothesis variables and different sub-samples.

Limitations of the study lie on the auditor choice model where the model is developed from a demand perspective. As noted by Palmrose (1984), the model assumes that the auditors are willing to supply services to any client although it is very unlikely in the real world (Palmrose, 1984). The engagement process is likely to be more complex than implied in the model and is likely to undergo several stages (such as audit risk assessment, etc.) before an auditor makes the acceptance decision. Lack of data on audit risk assessment and cost functions of audit firms prevents us from pursuing the matter further in this study. Another limitation of the model is its assumption that the audit engagement process for foreign-controlled companies is purely transacted in the Malaysian market. It could be argued that foreign multinational corporations might determine the selection of the auditor at the headquarter offices and the Malaysian subsidiaries might simply be directed to select a given auditor. Lack of data on parent companies does not allow us to pursue this issue further, at least in the present study. However, the law (by virtue of section 172 of the Companies Act, 1965) stipulates that the auditor should be appointed by shareholders in the Annual General Meeting (AGM), which is likely to be held in Malaysia.

One important implication of these findings relates to auditor independence. The MIA rules on professional conduct and ethics of public accountants known as the MIA By-Laws (on Professional Conduct and Ethics) provides examples of situations that would impair an auditor's independence. In addressing the issue of independence, the By-Laws seem to neglect the diversity of local culture in Malaysia. Previous studies have shown that a country's cultural environment might influence financial reporting and auditing behaviour (Frank, 1979; Singhvi, 1968; Amernic *et al.*, 1983; Agacer and Douppnik, 1991; Jensen and Yiu, 1995). The ethnic feeling and obligation, particularly with the perceived threat from other ethnic groups, might potentially influence auditor objectivity and judgment. In an extreme case, this may mean that an auditor/auditee relationship where both are of same ethnicity might suggest a conflict of interest, although this has never yet been observed in private.

Further research should replicate this model to determine its validity in different environments and time periods. For example, comparative studies with other ASEAN

countries such as Thailand, Philippines and Indonesia (where there are sizeable Chinese business communities) might provide further insight to the theory proposed in this study. Future research may also replicate this study using non-listed or small-sized companies where the ethnic distinction of company ownership is more pronounced. The sample should also include both large and small-sized auditees to enable a researcher to ascertain the level of competition in the market. These limitations may motivate more research in the Malaysian market for audit services.

## Notes

1. The Malaysian Institute of Certified Public Accountants was formed under the Companies Ordinances, 1940-1946 on 26 July 1958 as The Malayan Association of Certified Public Accountants. The name was then changed to the Malaysian Association of Certified Public Accountants (MACPA) on 6 July 1964, subsequent to the formation of Malaysia. Then on 29 January 2002, the MACPA changed its name again to the MICPA (Arens *et al.*, 2003).
2. In this section, auditees audited by Indian auditors are analysed separately for comparative purposes. They are not examined in the univariate and multivariate analyses since the presence of Indian-controlled companies on the Bursa Malaysia is very small in number and not sufficient to be subjected to statistical analysis. Also, there are five auditees that are audited by other ethnic groups but they are excluded from the descriptive analysis.
3. The univariate analysis is made for the panel data. A year-by-year analysis of group means (Chinese/non-Chinese auditors, Bumiputra/non-Bumiputra auditors and Big Six/Non-Big Six auditors) for each of the related hypothesis variables strongly support *H1-H3*.
4. A one-way ANOVA analysis comparing the means of hypothesis variables (i.e. RCSS, RBSS and RFSS) for auditees audited by Chinese, Bumiputra and Indian auditors shows that differences of means exist among the auditees of these ethnic based auditors. A follow-up Tukey HSD test results reveals that the differences of variable RCSS lie between auditees of Chinese and Indian auditors and auditees of Chinese and Bumiputra auditors, and not between auditees of Indian and Bumiputra auditors. This shows that the partition between Chinese and non-Chinese auditors is reasonable for the analysis of Chinese auditor-auditee relationship.
5. The Mann-Whitney *U*-test is used for the purpose of comparing the average ranks of explanatory variables between auditees of Chinese and non-Chinese auditors. The test is the non-parametric counterpart of the groups *t*-test. The *t*-test assumes the mean differences to be normally distributed while variances of each variable can be equal or unequal while the Mann-Whitney *U*-test examines the hypothesis that the two variables have the same distribution. It makes no assumptions about the shapes of the distributions of the two variables (Jaccard and Becker, 1990). The other non-parametric test suitable for this purpose is the Wilcoxon Rank Sum test (Jaccard and Becker, 1990). Note that the results of the Wilcoxon Rank Sum test were identical to that of the Mann-Whitney *U*-test in terms of signs and the level of statistical significance. Similar results are obtained based on  $\chi^2$ -square independent tests.
6. The companies are classified based on the majority proportion of substantial shareholding (greater than 50 per cent) by a particular ethnic group in a given company.
7. The overall classification rates range from 68.8 to 71.4 per cent. The classification rates for Chinese auditors range from 69.1 to 73.0 per cent across the three-year period and the rates for non-Chinese auditors range from 69.6 to 69.9 per cent throughout the same period. The ability of the model to classify the auditor choice is therefore reasonably high.
8. For example, the pseudo- $R^2$  in Chow and Rice (1982) and Roberts *et al.* (1990) are 0.10 and 0.17, respectively.

9. The overall classification rates range from 66.74 to 68.63 per cent, which are relatively lower than the ones reported in Tables VIII and IX. Note that the ability of the model to classify the auditor choice is still reasonably good.

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	CC	FC	CA	CN	LASSET	LSUBS	INVREC	LEV	ROE	LDELAY
LAFEE	-0.04	0.02	-0.03	0.02	0.76**	0.78**	-0.06	0.18**	0.20**	-0.03
CC	1.00	-0.34**	0.33**	0.70**	-0.10**	0.13**	0.06*	-0.01	-0.01	0.14**
FC		1.00	-0.03	-0.25**	0.02	-0.24**	0.06**	-0.11**	0.13**	-0.21**
CA			1.00	0.65**	-0.12**	0.05	0.17**	-0.01	-0.04	0.06
CN				1.00	-0.07*	0.13**	0.14**	0.01	0.00	0.08**
LASSET					1.00	0.55**	-0.31**	0.27**	0.34**	-0.17**
LSUBS						1.00	-0.06*	0.20**	0.04	0.11**
INVREC							1.00	-0.19**	0.02	0.07**
LEV								1.00	-0.07*	0.02
ROE									1.00	-0.22**
LDELAY										1.00
FIN										
MIN										
PLANT										
BOARD										
LNAS										
BSIX										
SPEC										
BUSY										
LQUAL										
CHANGE										

	FIN	MIN	PLANT	BOARD	LNAS	BSIX	SPEC	BUSY	LQUAL	CHANGE
LAFEE	0.12	-0.12**	-0.18**	0.35**	0.17	0.08**	0.21**	-0.06*	0.00	-0.05
CC	-0.09**	-0.06*	0.00	-0.16**	0.03	-0.17**	0.02	-0.13**	-0.05	0.00
FC	-0.01	-0.06*	-0.05	0.11**	-0.04	0.14**	0.03	0.12**	-0.06*	-0.06**
CA	-0.05	-0.12**	-0.12**	-0.18**	0.06	-0.28**	-0.12**	-0.03	-0.06*	0.00
CN	-0.04	-0.11**	-0.07*	-0.18**	0.07*	-0.28**	-0.02	-0.06	-0.07*	-0.03
LASSET	0.37**	-0.18**	-0.07*	0.48**	0.23**	0.08**	0.23**	-0.04	-0.07*	-0.05
LSUBS	-0.02	-0.07*	-0.12**	0.27**	0.14**	-0.03	0.10**	-0.10**	0.06	-0.02
INVREC	-0.02	-0.06*	-0.29**	-0.34**	-0.01	-0.16**	-0.17**	-0.03	0.01	0.05
LEV	0.00	-0.08**	-0.09**	0.03	0.10**	-0.04	-0.03	-0.01	-0.04	-0.02
ROE	0.17**	-0.01	-0.03	0.11**	0.07*	0.04	0.04	-0.01	-0.10**	0.04
LDELAY	-0.16**	0.01	0.06*	-0.08**	-0.01	-0.13**	-0.09**	-0.05	0.08**	0.09**
FIN	1.00	-0.06*	-0.11**	0.14**	0.33**	-0.03	0.08**	0.09**	0.02	0.00
MIN		1.00	-0.06	0.08**	-0.05	0.07*	-0.08**	-0.02	0.08**	0.01
PLANT			1.00	0.16**	-0.04	0.08**	0.16**	-0.11**	0.00	0.01
BOARD				1.00	0.07*	0.21**	0.22**	-0.12**	0.05	-0.05
LNAS					1.00	-0.13**	0.03	0.03	-0.02	-0.03
BSIX						1.00	0.24**	-0.05	0.04	0.03
SPEC							1.00	-0.13**	-0.05	-0.02
BUSY								1.00	-0.02	-0.03
LQUAL									1.00	0.09**
CHANGE										1.00

Note: \*\*Significant at 1 per cent level; \*significant at 5 per cent level

Table AI. Pearson product moment correlations for 1993-1995 dataset (n = 1,149)

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