ENGAGEMENT RISK, AUDITOR CHOICE AND AUDIT FEE IN THE MALAYSIA AUDIT MARKET

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ABSTRACT

High risk of auditor litigation and audit market competitiveness motivate audit firms to place greater emphasis on the role of engagement risk in determining client-auditor relationship and audit cost (Johnstone, 2000; Johnstone & Bedard, 2004). Based on this development, this study examines the market structure and the impact of engagement risk on auditor choice and audit pricing in a low litigation risk setting. Drawing from the agency theory and its related hypotheses, the study anticipates that audit risk, auditor business risk and client business risk are significantly associated with auditor choice and audit fee. The samples of study consist of Malaysian public listed companies from 2008 to 2010. The descriptive analysis of 2,854 companies demonstrates that the Malaysian audit market can be described as a tight oligopoly. In determining the influence of risk on auditor choice and audit fee, some exclusion criteria were established. Using panel data analysis on 2,451 companies, it is found that engagement risk significantly influences auditor choice and audit fee. In particular, auditor business risk is more important than the other risks in auditor choice and it is positively associated with the choice of quality auditor whereas, audit risk elements are more dominant than the other risk factors in explaining audit fee. Auditors will charge higher audit fees for clients with higher audit risks. The engagement risk affects auditor choice and audit fee differently because of the different risk management practices by audit firms in establishing their client portfolio. Avoidance of small and risky clients among large audit firms would increase companies' difficulty to access the capital market and delay growth. This study contributes to the auditing literature by addressing the audit firm's risk management strategy in Malaysia, which is rarely investigated. The study also provides an insight into the regulator on factors that should be considered in enhancing the quality of an audit firm.

Keywords: engagement risk, auditor business risk, audit risk, auditor choice, audit fee.

ABSTRAK

Risiko litigasi juruaudit yang tinggi dan persaingan pasaran audit mendorong firma audit untuk lebih menekankan peranan risiko ikatan dalam menentukan hubungan pelanggan-juruaudit dan kos audit (Johnstone, 2000; Johnstone & Bedard, 2004). Berdasarkan perkembangan tersebut, kajian ke atas struktur pasaran dan kesan risiko ikatan terhadap pemilihan juruaudit dan harga audit dalam persekitaran litigasi berisiko rendah dilakukan. Berpandukan teori agensi dan hipotesis-hipotesis yang berkaitan dengannya, kajian ini menjangkakan bahawa risiko audit, risiko perniagaan juruaudit dan risiko perniagaan pelanggan berhubungan secara signifikan dengan pemilihan juruaudit dan yuran audit. Sampel kajian terdiri daripada syarikat awam yang tersenarai di Malaysia dari tahun 2008 hingga 2010. Analisis deskriptif ke atas 2,854 syarikat menggambarkan pasaran audit Malaysia sebagai oligopoli ketat. Bagi menentukan pengaruh risiko ke atas pemilihan juruaudit dan yuran audit, beberapa kriteria pengasingan sampel dilakukan. Kaedah analisis data panel digunakan untuk melihat kesan risiko ke atas 2,451 syarikat. Kajian ini mendapati bahawa risiko ikatan mempengaruhi secara signifikan pemilihan juruaudit dan yuran audit. Secara khususnya, risiko perniagaan juruaudit adalah lebih penting berbanding risiko-risiko lain dalam pemilihan juruaudit dan berhubung secara terus dengan pemilihan juruaudit berkualiti tinggi. Manakala unsur risiko audit lebih menyerlah daripada faktor-faktor risiko lain dalam menerangkan yuran audit. Juruaudit akan mengenakan yuran lebih tinggi kepada pelanggan yang mempunyai risiko audit yang tinggi. Risiko ikatan mempunyai kesan yang berbeza ke atas pemilihan juruaudit dan yuran audit disebabkan oleh kepelbagaian strategi pengurusan risiko yang diamalkan oleh firma audit dalam mewujudkan portfolio pelanggan. Keengganan firma audit besar untuk mengaudit pelanggan bersaiz kecil dan berisiko boleh meningkatkan kesukaran syarikat menembusi pasaran modal serta melambatkan pertumbuhan syarikat. Kajian ini menyumbang kepada karya audit dengan mengenal pasti strategi pengurusan risiko di kalangan firma audit Malaysia yang jarang dikaji sebelum ini. Kajian ini juga memberi maklumat kepada pihak pemantau audit tentang faktor-faktor yang patut dipertimbangkan dalam meningkatkan kualiti audit.

Kata kunci: risiko ikatan, risiko perniagaan juruaudit, risiko audit, pemilihan juruaudit, yuran audit.

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LIST OF ABBREVIATIONS

AoA	Articles of Association
AICPA	American Institute of Certified Public Accountants
ACE	Access, Certainty, Efficiency
AOB	Audit Oversight Board
APM	Audit Planning Memorandum
ASEAN	Association of Southeast Asian Nations
BLUE	Best Linear Unbiased Estimators
BMCGG	Bursa Malaysia's Corporate Governance Guide
BOD	Board of Directors
CCM	Companies Commission of Malaysia
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CPA	Certified Public Accountants
FRS	Financial Reporting Standard
GAFN	Global Audit Firms Network
GM	General Manager
IAASB	International Auditing and Assurance Standards Board
IFRS	International Financial Reporting Standards
IMR	Inverse Mills Ratio
IPO	Initial Public Offerings
ISA	International Standard on Auditing

ISQC	International Standard on Quality Control
MCCG	Malaysian Code on Corporate Governance
MFRS	Malaysian Financial Reporting Standards
MIA	Malaysian Institute of Accountants
MICPA	Malaysian Institute of Certified Public Accountants
MSA	Malaysian Standards on Auditing
NAS	Non-audit Services
NED	Non-executive Directors
NYSE	New York Stock Exchange
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PCAOB	Public Company Accounting Oversight Board
PIE	Public Interest Entities
PII	Professional Indemnity Insurance
PLC	Public Listed Companies
PwC	PricewaterhouseCoopers
ROA	Return on Assets
ROSC	Report on the Observance of Standards and Codes
RM	Ringgit Malaysia
UK	United Kingdom
US	United States
SC	Securities Commission
SOX 2002	Sarbanes-Oxley Act 2002

CHAPTER 1: INTRODUCTION

1.1   Background of the study

The audit service industry commenced the second millennium with an unpleasant episode, which was the collapse of Enron and Andersen[1] in the United States (US) in the year 2001. The downfall of Andersen, one of the largest audit firms,[2] was regarded as a major event in the development of the US audit market (Doogar, Sougiannis & Xie, 2003). This was followed by other major business failures within and outside the US, such as in the Netherlands (e.g. The Royal Ahold case) and in Italy (e.g. the Parmalat case). The failures are not confined to developed or Western countries, as there were also business failures in Asia, such as in Japan (e.g. the Kanebo case) and in India (e.g. the Satyam Computer Services case). In Malaysia, similar financial scandals include Megan Media Holdings Bhd., Transmile Group Bhd. and Welli Multi Corporation Bhd.

Seven years after Enron, the US economy was affected again, but this time by the subprime mortgage crisis.[3] The crisis resulted in financial problems and a huge

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[1] Andersen was the auditor for Enron. There was major asset write-down for Enron in 16 October 2001. On 15 June 2002, Andersen was convicted for shredding Enron's documents. Following this incidence, on 30 July 2002, Sarbanes-Oxley Act 2002 (SOX 2002) was introduced during the administration of President George Bush. The failure of Andersen and Enron resulted in other clients' of Andersen experiencing negative market reactions and the shareholders downgrading the audit quality of Andersen (Chaney & Philipich, 2002).

[2] Arthur Andersen discontinued its forename in March 2001 and starts to use "Andersen". As of 2002, there are four largest audit firms after the demise of Andersen due to firm's role as the auditor for Enron. Andersen's business in Malaysia merged with Ernst & Young and after the merger, the firm carried the name of Ernst & Young. The largest four firms, also known as Big Four firms, consist of Deloitte Touche Tohmatsu or Deloitte, Ernst & Young or EY, PricewaterhouseCoopers (PwC) and KPMG. Prior to 2002, Big Four are referred to as Big Eight, Big Six and subsequently Big Five or sometimes, as large firms. The terms are used interchangeably throughout this thesis.

[3] The crisis arises mainly due to the easiness of getting housing loans without considering the risk of loan default in the future (Nissanke, 2010).

economic recession. The crisis witnessed the failure of several large financial institutions, such as Wells Fargo & Co. and Washington Mutual. Inevitably, the downturn of the US economy also affected Malaysian economies. For instance, the export of manufactured goods from Malaysia dropped by 4.3% from 78.1% in 2007 to 74.1% in 2008 (Nambiar, 2009). The number of Malaysian wound-up companies was also reported as having increased dramatically by 39% from 2008 to 2009, as compared to 14% increment rate from 2007 to 2008 (Companies Commision of Malaysia [CCM] Annual Report 2008, 2009).

One of the observable impacts of the business failure is the changes in audit market structure (Cassell, Giroux, Myers & Omer, 2013; Gietzmann & Pettinicchio, 2013; Xu, Carson, Fargher & Jiang, 2013). After the Enron case, the rate of audit clients changes from large to smaller firms in the US has almost doubled (62%) as compared to the period before (Landsman, Nelson & Rountree, 2009). Also, there were more Big Four audit firms' resignations in 2003 than in 2001 (Rama & Read, 2006). Apart from these effects, Rama and Read (2006) reveal that fees charged by audit firms for newly accepted clients were higher in 2003 (post-Enron) than in 2001 (pre-Enron) due to auditor resignation rather than dismissal.

To prevent business failures and to be more effective, audit firms need to re-adjust their business procedures and strategies by enhancing their risk monitoring and control process. The International Standard on Quality Control 1 (ISQC 1) - Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements requires audit firms to set up policies and procedures regarding acceptance and continuance of client relationship. Bedard, Deis, Curtis and Jenkins (2008) suggest that the most important part in risk monitoring and control process is the selection of a client and the risk assessment of

the portfolio. The establishment of client acceptance and continuance procedures reduce the association of audit firms with clients who lack intergrity (ISQC 1, Paragraph 26 (c)). Meanwhile, by focusing on risk assessment, the firm would minimise the violation of auditing standards, while adopting proper risk management practices in considering auditor and auditee relationship (Bedard et al., 2008).

Re-adjustment of business procedures and strategies, including risk management, is in line with modern auditing practices. In the modern auditing environment, audit firms, especially the larger ones, focus on risk based auditing[4] in their audit processes (Green, 1999; Cohen, Krishnamoorty & Wright, 2002; Blokdijk, Drieenhuizen, Simunic & Stein, 2006; Brown & Johnstone, 2009). The same recommendation is voiced out by a partner of Ernst & Young Malaysia who suggests that auditors should consider the risk factors, other than tangible factors, to make sure that the audited financial statement demonstrates the true financial situation of their clients (Yap, 2010).

The role of risk in auditing process can be seen in the process of client acceptance prior to engagement. The auditor needs to evaluate the possibility of the audit firm facing loss before deciding whether to accept the client or not (Johnstone, 2000).[5] Auditor's concern on risk is important as it would cause loss of future revenue from the audit service (Pong & Whittington, 1994). The audit firm's reputation will be damaged if the auditor produces low quality of service (Watkins, Hillison & Morecroft, 2004).

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[4] Risk-based auditing is the audit approach that incorporates risk assessment prior to acceptance of client (Huss, Jacobs & Patterson, 1993). It emphasises on the problematic part of the companies and the auditor will perform extensive audit as it is argued that those identified problems would affect client and audit firms as a whole (Green, 1999; Johnstone & Bedard, 2003). Whereas, traditional audit approach is to begin the process of risk assessment once the client is accepted and mainly concentrating on error or material misstatement of financial reporting (Huss et al.,1993; Knechel, 2007).
[5] The loss arises due to lawsuit or reputation damage or lack of profitability (Johnstone, 2000).

Low audit quality causes the financial statement users to lose confidence in the auditor's credibility. Watkins et al. (2004) argue that low quality audit affects the product of audit quality in two ways. The first effect is on information credibility - where the users may have low confidence in the financial information; while the second effect is on information quality - where financial information does not truly reflect the current economic situation. Since low quality of audit is associated with low financial statement credibility and does not portray the current state of clients' financial position, it does not facilitate the investor to make sound investment decisions. As a result, this may inhibit the flow of capital into the market.

Previous studies also suggest that low audit quality is associated with low earnings forecast accuracy and high forecast dispersion (Behn, Choi & Kang, 2008), earning management activities and financial restatement (Chen, Lin & Zhou, 2005; Abdullah, Mohamad Yusof & Mohamad Nor, 2010; Francis, Michas & Seavey, 2013) and inability to issue the right going concern assessment (Francis, 2004). As such, there is high possibility that low audit quality could lead to audit failure (Choi, Kim, Liu & Simunic, 2008; Rasso, 2014). This failure motivates financial statement users or shareholders to take action against auditors, including legal lawsuits. The purpose of the litigation is to recoup the losses caused by reliance on incorrect information provided by the auditor.

1.2   Motivation of the study

While litigation is common in Western countries, such as in the US, it is less common in Asia, including in Malaysia, due to the adoption of different legal system and principles (Shailer, Willett, Yap & Wade, 2001; Seetharaman, Gul & Lynn, 2002; Guedhami, Pittman & Saffar, 2014). Differences of legal system and practices make

the behaviour of financial statement users and auditors different from users and auditors in other countries, for e.g. the way they act on risk of engagement.

According to Raghunandan and Rama (1999), there is a high inclination for lawsuits in the US because the amount of settlement is influenced by the ability of defendants to pay. This induces the plaintiff to initiate the lawsuit especially when it involves large audit firms since the firms are considered wealthier than small firms. Seetharaman et al. (2002) suggest that the US regulations do not favour the auditor. According to them, punitive damages[6] represent a huge amount of total awards and class action suits[7] are widespread in the US. Further, due to the huge gains arising from auditor litigation, the practice of those losers in the lawsuit having to pay legal expenses to the winner, is ineffective in ensuring only high merit cases are brought to court. These differences in legal practice have supported the argument forwarded by Choi et al. (2008) that in a country with a strong legal regime, the legal liability is more likely to be borne by the auditor.

Although cases of suing and being sued are less common in Malaysia, nowadays, the situation is slightly different (Ali, Lee, Yusof & Ojo, 2007). The case of auditor lawsuit has become a major issue in the Malaysian accounting profession (Han, 2012). This could be due to the number of financial scandals involving auditors being on the rise in recent years (Krishnan, 2011). A recent case involved legal action taken by a company (Silver Bird Group Bhd. and its subsidiaries) against their external auditor, Crowe Horwath, in 2012.

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[6] Additional compensation from actual damages paid to the plaintiff with the aim to punish the defendant due to the defendant's careless action.
[7] An agent from a group of individuals brings the lawsuit action on behalf of the group members.

With growing number of financial scandals and increased shareholder right activism (La Porta, Lopez-de-Salines, Shleifer & Vishnny, 1998; Krishnan, 2011; Morris, Pham & Gray, 2012; Chen, Ke & Yang, 2013), it is not impossible that in the future, many more users of financial statement may initiate lawsuits against their auditors. As a result, auditors might take precautionary action in deciding their relationship with high risk clients.

Apart from threat of litigation, there are other reasons that make auditors reconsider their relationship with risky clients. For example, high risk clients are those who will have financial trouble (Choi, Doogar & Ganguly, 2004). Financial distress may cause the companies to be unable to pay audit fees, and high amounts of unpaid fees can impair auditor independence (Shu, 2000). High risk clients are also associated with client business failure (Pong & Whittington, 1994). Clients' business failures may attract business media to link it with the companies' auditor. Excessive attention from the media will be likely to damage auditor reputation.

Studies on the influence of risk in audit and accounting have been long documented and until now, the role of risk in audit profession is still being discussed. Prior studies reveal that risk assessment is associated with the level of discretionary accruals (Manry, Mock & Turner, 2007), companies' proposed accounting reporting practices (Chang & Hwang, 2003), accounting adjustment (O'Donnell & Schultz, 2005), auditor-auditee negotation process and its outcomes (Brown & Johnstone, 2009), audit planning (Krishnan & Krishnan, 1997; Cohen, Krishnamoorthy & Wright, 2007) and audit staff allocation (Asare, Cohen & Trompeter, 2005; Kim & Fukukawa, 2013). Also, client business and audit risk affect the audit timing and procedures (Chow, Ho & Mo, 2006), audit quality (Khurana & Raman, 2004) and audit opinion (Krishnan & Krishnan, 1997; Lam & Mensah, 2006).

The role of risk is not only pronounced during the performance of audit procedures. The risk factor is considered before commencing any audit work. For instance, audit fee was estimated before the current year field audit start. Auditor needs to ensure that the clients informed about the basis of audit fee determination and how the audit costs will be treated (Malaysian Institute of Accountants [MIA] Recommended Practice Guide 7 (Revised), 2010a). The audit fee estimation, usually, is based on unaudited figure of financial statement together with firm's risk engagement of the company. The finalize audit fee might be different to the estimated fee subject to unexpected audit findings.

There are studies that offer evidence on the relationship between risk and audit engagement decision. Krishnan and Krishnan (1997) propose that the firm's client portfolio can be adjusted by the auditor becoming more demanding in client selection process and abstaining from high risk audit engagement. Sharma, Boo and Sharma (2008) demonstrate that companies are more likely to be accepted when they have good corporate practice, which implies the companies are having low control environment risk. Similarly, the level of client's risk (e.g. management's integrity) also highly influences the client acceptance decision, where a high risk client is less likely to be accepted and vice versa (Asare et al., 2005).

Since the above mentioned studies provide insight that risk has a significant effect on the audit engagement decision, it motivates the present study to examine the role of risk in Malaysia.

1.2.1   *Justification for choosing Malaysia as a study location*

There are several reasons why the study is suitable conducted in Malaysia. First, audit fee and market share of the large audit firms are relatively low. According

to Mohamed Raslan Abdul Rahman, KPMG Malaysia's Managing Partner, the fee is among the lowest in the region (Ng, 2011). Rahmat and Mohd Iskandar (2004) show that fee premium for Big Five firms are 9%. It is much lower compared to studies in other countries, such as in the UK. Low audit fee could be associated with low quality of audit service. Further, Big Four firms' market share is not extremely large. On average, large audit firm's market share between 2004 to 2008 was 65.2% (Yaacob & Che-Ahmad, 2012), whereas in Canada, Italy, New Zealand, Norway and Spain, large firms controlled at least 90% of the market (Hope, Kang, Thomas & Yoo, 2008). This makes the competition among small and medium firms to get the remaining share in the market to be very stiff (Muhamad Sori, 2009). According to Carson, Simnett, Soo and Wright (2007), the high percentage of companies that hire non-Big Four firms permits examination that is more reliable on fee differences across auditor types. In the market where large audit firm's share is relatively low, companies pay for fee premium only if they think that the audit quality received could justify the amount of premium paid (Chaney, Jeter & Shivakumar, 2004).

Second, the company ownership is mostly held by family members and government-related agencies (Mohd Ghazali, 2010). The Listing Requirements of Bursa Malaysia Securities Berhad prescribe that 25% of shares issued need to be subscribed by the public. This would leave certain people, especially those inside companies or executive people, to exert power on important business decision making process (Pascoe & Rachagan, 2005; Abdullah et al., 2010). As the public does not hold a majority of the shares, companies are having less pressure to hire a quality auditor.

Third, the tendency of companies not to appoint a quality auditor can be influenced by the country's legal institution. An effective institution has an influence

on audit fees, demand of specialist auditor and specialist premium (Srinidhi, Lim & Hossain, 2009). Malaysia is regarded as a country with less effective legal institutions and limited scrutiny of regulators on audit firms (Johl, Jubb & Houghton, 2007; Srinidhi et al., 2009).

1.3   Research problems

Recent studies on auditor switching shows that about 300 companies switched auditors from 1990 to 2008 (Syed Mustapha Nazri, Smith & Ismail, 2012a,b). This is higher than the earlier study such as Joher, Ali, Shamsher, Annuar and Ariff (2000), who found 135 auditor switchings from 1986 to 1996. This increased switching rate possibly indicates misalignment of auditor-client relationship.

This auditor change could affect the audit market and stock market in several ways. The changes will enable the top tier audit firms to gain additional market share (Beattie & Fearnley, 1995), increase audit firm's market concentration (Beattie & Fearnley, 1995; Beattie, Goodacre & Fearnley, 2003), increase exposure of audit firms to litigation (Hogan & Martin, 2009) and allowing client portfolio adjustment (Landsman et al., 2009).

These changes come with some social costs. The costs are high initial start-up for auditors (the need to understand client's business), the transaction cost of changing the auditors (costs incurred in searching for a suitable auditor) and the uncertainty of future auditors'quality (Francis, 2004). Apart from these costs, the changes may impact the independence of the auditor, if the purpose of the change is to shop for audit opinion. Thus, the implication of auditor switching lies in its effect on impairment of audit quality and auditor independence (Lu, 2006).

Due to the dynamics of business nowadays, coupled with a series of unpredicted economic crises, the pattern of the audit market continues to change (Chia, Lapsley & Lee, 2007; Hogan & Martin, 2009). There are several factors contributing to changes in the Malaysian audit market structure. Among them are the amendment to the Companies Act 1965, and the revision of the Malaysian Code on Corporate Governance (MCCG) which took place in 2007. Three years later, the ISQC 1 became effective and the Audit Oversight Board (AOB) was established. Also, in the 2000's, there was increased public scrutinisation against the auditor, allegedly due to numerous financial scandals caused by the failure of auditors to report the actual financial condition of their clients (Krishnan, 2011).

Inspection by the AOB reveals that one of the major problems faced by audit firms is limitation of resources. The firms face shortage of talents due to the inability of the firm to offer competitive salary, as well as heavy firms partner's workload, which lead to inefficiency of supervisory function on their subordinates. Another main challenge of local firms is high number of cross-country transactions and audit pricing pressure (AOB Annual Report 2011). With such challenges and various audit developments, it is not surprising that audit cost and liability have been affected (Deng, Melumad & Shibano, 2012; Barua & Smith, 2013; De George, Ferguson & Spear, 2013). In fact, the AOB seriously urges the audit firms to assess their ability before making decision to accept any new audit engagement (AOB Annual Report 2011).

Since the market continues to develop from year to year, one might question the current trend and state of Malaysian audit market. Despite several number of studies on audit market have been carried out in many countries, such as in Korea (Behn, Lee & Jin, 2009), France (Piot, 2007), the UK (McMeeking, 2007), the US

(Numan & Willekens, 2011; Evans Jr & Schwartz, 2014), their audit approach may not be applicable in Malaysia. This is due to differences in term of economy development, culture and belief, and corporate rules and regulations. For instance, the use of joint-auditor is a common practice in France but in Malaysia, only one auditor must be appointed by a company in a financial year. Similarly in Korea, under Omnibus Cartel Repeal Act, it is allowable for audit firms to announce and competitively bid the initial audit engagement. This practice, according to Behn et al. (2009), might contributes to high competition which consequently leads to lower audit fees. Further, many of the audit market studies concentrate on big size audit firm's market share (e.g. Duxbury, Moizer & Wan-Mohamed, 2006; Pong & Burnett, 2006; Dunn, Kohlbeck & Mayhew, 2011; Siddiqui, Zaman & Khan, 2013). Nevertheless, the audit market of second tier audit firms is less examine, thus, the market strength of these firms cannot be recognized.

In the context of Malaysia, few studies have been done (Rahmat & Iskandar, 2004; Md. Ali, Sahdan, Harun Rasit & Lee, 2008; Ishak, Mansor & Sutan Maruhun, 2013). Those studies, however, not provide detail analysis on the market structure such as the effect of fee on companies' size, the level of audit market concentration, and market power for group of auditor and individual audit firm. Also, the study less emphasis on the audit firm's action in developing their reputation through auditor industry specialisation. Studies on audit firm specialisation in Malaysia received little attention (Mohd Iskandar et al., 2000; Md Ali et al., 2008) and it is reported only one third of listed companies audited by specialist firms (Dunstan, Kamarudin & van Zijl, 2010). As many of the companies did not receive audit services from the expert, it would adversely impact the quality of audited financial statement. Inability of those studies to discuss audit market structure in detail prevent them to highlight the

strategy undertaken by audit firms in managing client portfolio and building their reputation.

Ali, Haniffa and Hudaib (2006) argue that auditing practice in Malaysia mainly aims to meet legal requirements and to portray Malaysia as a modern economy. As the purpose of auditing is mainly to improve the economic status of the country rather than to protect the interests of business stakeholders, it appears that the risk factor is not being well recognised in the national accounting and auditing agenda.

The risk consideration is different between Malaysia and Western countries. The Malaysian legal system is based on common law and shares many similarities of legal institutions and traditions with British (Shailer et al., 2001). Since the legal systems are modeled after the United Kingdom (UK), which is characterised as not harsh to the auditor, and considered as a less litigious environment compared to the US, (Seetharaman et al., 2002; Khurana & Raman, 2004), risk is not a major threat to the audit profession.

The low level of risk might explain the low rate of audit fees (Carson, Simnett, Soo & Wright, 2012; Han, 2012; World Bank's Report on the Observance of Standards and Codes [ROSC] of Malaysia on Accounting and Auditing, 2012). With the low rate of audit fees, it is implied that the profit margin of the firm is small. This suggests that audit fees are more likely determined by audit cost and profit, and the auditor may not effectively price the expected costs of business risk even though the risk is always persistent in every auditing job (Latham & Linville, 1999). In fact, the practice of professional indemnity insurance (PII) in the accounting profession among Association of Southeast Asian Nation (ASEAN) countries is not well established (Favere-Marchesi, 2000). In Malaysia, PII was introduced in 1991 (Ali et al., 2007).

The MIA, in their Annual Report 2011, reveal the compliance rate for this regulation has still not been fully achieved despite 20 years of its introduction, where it is a must for members in public practice to maintain a policy of PII (By-Laws (on Professional Ethics, Conduct and Practice) of the MIA [MIA By-Laws], 2010b).

Recent developments, however, offer some indicators that the role of risk in Malaysia's auditing profession is gaining recognition. Effective 1 July 2012, the MIA has increased the minimum amount of PII to RM250,000 (MIA By Laws, Section 510.3 (1)). This is in line with the concern highlighted by the World Bank that the RM100,000 amount of PII is very low and needs to be reviewed (ROSC, 2012). Also, the prevalence of financial scandals and a case of auditor lawsuit, according to accounting practitioners, may increase audit fees (to reconcile with an expected increase of legal costs); thus the auditor has a critical task to ensure audit quality is up to standard (Han, 2012).

Because of these challenges and the need to align between commercialisation (i.e. profit) and audit quality, audit firms are motivated to develop risk management programmes to minimise the litigation risk (Raghunandan & Rama, 1999). There are two arguments about the impact of litigation risk on the tendency propensity of audit firms to accept clients following the resignation of the previous auditor. The first argument is based on wealth-at-risk or deep pocket effect (ability to pay) proposition. This argument asserts that since large audit firms have more to lose from an audit, the firm will chose to avoid clients with high litigation risk. The second view is diversification effect. This view suggests that as large audit firms have a huger client base, it enables them to spread the risk through diversification. Therefore, the magnitude of firm's loss against their assets is smaller than non-large firms. These make large audit firms be more likely to accept high risk clients.

The former view, however, is found to be more prominent in the current audit market trend, where large audit firms are avoiding risky clients (Abidin, Beattie & Goodacre, 2010; Kim & Park, 2014). For instance, the establishment of a second review partner in large audit firms in the client screening process is found to be an effective control mechanism to avoid risky client acceptance (Ayers & Kaplan, 2003). As Big Four firms are arguably more risk sensitive organisations and have tendency to disassociate themselves from risky companies, this forces the companies to find non-Big Four audit firms. Therefore, changes in large audit firm's portfolio raise the concern that the small audit firms might be exposed to high risk clients (Hogan & Martin, 2009).

Even though auditors actively adopt risk-based approach, such as client risk identification, companies also adopt almost similar practices. As for companies' managers or shareholders, they favour auditors who can accommodate their business agenda; thus, helping to avoid unnecessary risks. In the light of auditors actively screening the potential client and risk concern, the question arises whether the engagement risk assessment has an impact on companies' decision to select the auditor. This is because each type of audit firm has its own approach in the audit engagement decision process.

As risk always exists in audit, dealing with clients with high/low risk also affects the amount of audit fee charged. Market pressure and increased auditor business risk might impact the pricing of risk. As such, one might question if the engagement risk influences audit pricing, and if audit firms of different sizes do risk pricing differently.

Although several studies have been undertaken to study the effects of risk in the audit market, the association between risk and auditor fee and choice have not

extensively been investigated. Previous studies mainly focus on a certain type of risk, and emphasis on one aspect of audit process or behaviour, i.e. audit pricing or audit opinion issuance (Choi et al., 2004; Cassell, Drake & Rasmussen, 2011; Budescu, Picher & Solomon, 2012; Carson et al., 2012; Myers, Schmidt & Wilkins, 2013; Sun, Wu & Li, 2014).

For instance, Choi et al. (2004) examine the effect of audit litigation liability on financial riskiness of US large audit firm's clientele from 1975 to 1999. The study reveals that audit firms respond to the changes in litigation liability environment by adjusting the composition of their client portfolio. However, adjusting client portfolio is not the only option available in managing client riskiness. Other available strategies in managing client riskiness, according to Johnstone (2000), are adjustment of audit fee, changes the amount of audit evidence and recruitment of audit expertise. In the UK, Basioudis (2007) investigates the effect of audit firm alumni on audit pricing based on engagement risk theory. However, he did not fully consider the impact of audit firm alumni in selecting their alma matter as the company's auditor. By considering the auditor choice process, his study might able to explain on how the appointment of alma mater (former audit firm) lead to reduction of audit fees. This is because, Iyer, Bamber and Barfield (1997) argue that alumni are declining to offer benefits to their previous firm. As such, an examination on the impact of risk on audit market fee is incomplete without considering relevant risk factor and the effect of risk should be determined at various stage of audit process.

While there are other studies that have examined the effect of risk on audit choice and fees (e.g. Ireland & Lennox, 2002; Van Caneghem, 2009; Clatworthy, Makepeace & Peel, 2009), the risk variables are treated as small components in audit choice and audit fee models. For instance, study by Van Caneghem (2009) in Belgium

assumes client risk as a proxy for business risk and risk factor in the study mostly indicate by client business risk factor, such as profitability, solvency and liquidity. In addition, the risks are not properly classified into their respective groups and limited number of engagement risk proxies are examined (Chaney, Jeter & Shivakumar, 2004; Van Caneghem, 2009). As such, the impact of each risk on auditor choice and audit fees cannot be clearly identified. For example, assets composition, audit engagement timing and opportunities providing other audit services be regarded as a factor that possibly affect audit risk and auditor business risk (Johnstone, 2000). Further, studies such as Ireland and Lennox (2002) and Clatworthy et al. (2009) emphasise more on the research methodology aspect (i.e. the effect of selection bias on audit fee) rather than how the risk affect the auditor choice and audit fee.

Other studies, such as Johansen and Pettersson (2013) examine the association between directors interlocking on auditor choice and fees in Denmark. Despite using social network theory to explain the association, their study fails to consider the role of other corporate governance players, such as top management, in audit engagement. For instance, the Deputy Chief Executive of Securities Commission (SC) of Malaysia asserts that in reality, it is the Chief Executive Officer (CEO) or audit committee of CEO-chosen members who select the auditor (Anwar, 2003).

Similarly, some limitations found in Malaysian studies. There are at least five studies of auditor choice: Mohd Iskandar and Wan Abdullah (2004); Che Ahmad, Houghton and Mohamad Yusof (2006a); Wan Abdullah, Ismail and Jamaluddin (2008); Jaffar (2009) and Syed Mustapha Nazri et al. (2012a). Jaffar (2009) uses data from a survey, where the companies's Chief Financial Officers (CFO) are their main respondents. Jaffar's (2009) study involves companies' CFOs, which raises the question of validity of the study, since CFOs are not in key management positions to

decide the auditor selection process. The other studies (such as Mohd Iskandar & Wan Abdullah, 2004; Che Ahmad et al., 2006a; Wan Abdullah et al., 2008) employ data from financial statement with the old data set (between 1995 to 2003). While the study by Wan Abdullah et al. (2008) offers invaluable insight on auditor choice in the post-Enron era, it mainly emphasises on how corporate governance influences auditor choice. In addition, Wan Abdullah et al.'s (2008) study only covers 2003, and this precludes them from providing a better view of the audit market in. Moreover, those studies only test two categories of quality auditor: size of the firm and specialist auditor. On the other hand, Syed Mustapha Nazri et al. (2012a) employ a long period of study (18 years), an extension to Che Ahmad et al. (2006a), since the focus remains on the influence of ethnic on auditor choice. Also, the study only incorporates two financial factors (leverage and distress) and excludes key variables, such as audit opinion and profitability.

Studies on Malaysian audit fees that focus on risk, especially audit risk, are Gul (2006), Abdul Wahab, Mat Zain and James (2011a), Bliss, Gul and Majid (2011) and Bliss, Muniandy and Majid (2011). While their studies on politically connected companies contribute new insight on audit market literature, it is unable to provide understanding on the influence of risk on the Malaysian audit market as a whole. Another study that employs risk factor in audit fee determinants is Muhamad Sori and Mohamad (2008). The inclusion of risk factor in the audit fee model is based on the argument that a risky company is associated with high risk of audit failure. Nevertheless, risk of audit failure not only arises from client characteristics. The failure can also be associated with the approach taken by different types of audit firms in managing the risk. One comprehensive audit fee study is Rahmat and Mohd Iskandar (2004). However, it is a cross-sectional study (employs the company's

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financial data with year between 31 May 2000 and 30 April 2001); and thus, limits the generalisation of the findings of the study.

In the present study, the limitation of previous studies is addressed by identifying the current structure of audit market and examining whether the level of risk has an impact on the audit market. The study identifies the action taken by various type of auditor in their pricing strategy and strengthening power in the market. In order to examine the impact of risk on audit market, the study employs a more comprehensive engagement risk factor of audit choice and audit fee model. Further, it incorporates an appropriate group of key players in corporate governance, comprising the board of directors, audit committee, management and internal audit.

1.4 Research questions

This study focuses on the relationship between engagement risk and (i) auditor choice; and (ii) audit fee. To provide context, the relevant objective on the structure of the Malaysian audit market is developed.

In light of the research problems, generally, this study aims to answer the following research questions:

(i) What is the state of audit market structure in Malaysia?

(ii) Does engagement risk influence auditor choice?

(iii) Does engagement risk influence audit fee?

As for Malaysian audit market structure, the study develops specific research questions, namely:

(a) What is the effect of companies's size on the rate of audit fees?

(b) What is the level of audit market concentration?

(c) Which individual audit firm dominates the market?

(d) Which audit firm is specialist industry auditor?

Specifically, for auditor choice, the study addresses the following issues:

(a) Is there any association between audit risk and auditor choice?

(b) Is there any association between auditor business risk and auditor choice?

(c) Is there any association between client business risk and auditor choice?

Meanwhile, for audit fee, the study addresses the following research questions:

(a) Is there any association between audit risk and audit fee?

(b) Is there any association between auditor business risk and audit fee?

(c) Is there any association between client business risk and audit fee?

1.5   Objectives of the study

The main purpose of the study is to examine the effect of engagement risk on auditor choice and audit fee in Malaysian audit market from 2008 to 2010. Below are three main objectives of the study:

(a) To describe the audit market structure in Malaysia.

(b) To examine the relationship between engagement risk with auditor choice.

(c) To examine the relationship between engagement risk with audit fee.

The first main objective is developed since this knowledge is fundamental to assess competition in audit market, which relate to auditor choice and audit fee.

Below are the specific objectives of the study on Malaysian audit market structure:

(a) To determine the rate of audit fees per unit of size.

(b) To determine the level of audit market concentration.

(c) To identify individual audit firm that dominates the market.

(d) To identify specialist industry auditor.

As for auditor choice study, the specific objectives are:

(a) To examine the relationship between audit risk and auditor choice.

(b) To examine the relationship between auditor business risk and auditor choice.

(c) To examine the relationshop between client business risk and auditor choice.

Meanwhile, for audit fee study, the specific objectives are:

(a) To examine the relationship between audit risk and audit fee.

(b) To examine the relationship between auditor business risk and audit fee.

(c) To examine the relationship between client business risk and audit fee.

1.6   Contributions of the study

The study contributes to audit literature and practice in several ways. The risk examined is engagement risk since it is a source of risk for auditors and consists of a variety of risk proxies (Johnstone, 2000; Brown & Johnstone, 2009; Hogan & Martin, 2009). Different types of risk pose different threats to the auditor and the auditor's reaction probably depends on the type of risk that he or she has to face. By including various types of risk, the risk that highly influences auditor and auditee relationship can be identified. In addition, this study examines the impact of risk at two different audit engagement processes, namely the choice of auditor and audit pricing determination. Apart from that, this study begins with detail analysis on the structure of audit market and identifying audit firm's client portfolio. The analysis is important in providing a better picture of the role of risk in the audit process and explains how the firm's portfolio is associated with risk management strategy (e.g. client avoidance or audit billing). Therefore, this study is suggested able to reconcile on various conclusions derive from previous studies on the influence of risk on auditor choice and audit fee (Ireland & Lennox, 2002; Clatworty et al., 2009).

The present study also takes into account other characteristics of auditor quality (e.g. international audit firm's affiliations and specialist auditor) in auditor choice and audit fee model. By doing so, it reveals differences in risk management practices adopted by other types of auditors. According to Van Caneghem (2010) and Francis, Reichelt and Wang (2005), there could be fee differences between local and international firms, and specialist and non-specialist auditors.

Ireland and Lennox (2002) demonstrate that in a setting where fee premium[8] is high, large audit firms are able to attract high quality companies, therefore resulting in less audit effort and low audit fees. In addition, auditor choice studies suggest quality companies favour the appointment of a quality auditor (Titman & Trueman, 1986; Datar, Feltham & Hughes, 1991). However, whether the quality auditor can still attract good clients in a setting of low fee premium and low legal liability environment (e.g. Malaysia) is uncertain. This is because in Malaysia, Carlin, Finch and Laili (2009) show that the quality of audit service among Big Four firms is not satisfactory. While Carlin et al.'s (2009) study could be an isolated case, it might affect the ability of Malaysian large auditors to attract quality clients.

By covering longer periods and including large sample sizes, the study provides updated knowledge and details on Malaysia's audit market structure. This is because major developments of the audit profession happened between these periods and studies on Malaysian audit market have only been conducted up to year 2002 (Rahmat & Mohd Iskandar, 2004). Since then, no detailed study has been carried out.

Corporate governance factors that are expected to have an impact on audit choice and audit fee are also introduced. The inclusion of corporate governance items

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[8] Extra amount of audit fee incurred due to appointment of different types of audit firms (Cameran, 2005).

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is in line with the revised Malaysian Code on Corporate Governance (MCCG) on October 2007 and the amendments to the Companies Act 1965. The new tested variables are audit committee working experience in different sizes of audit firms, CEO ownership and internal audit function. In the amended provision of Bursa Malaysia Listing Requirements (paragraph 15.28), it is necessary for listed company to establish an internal audit function effective on 31 January 2009. Despite the internal audit function become importance in Malaysia (Mohamed, Mat Zain, Subramaniam & Wan Yusoff, 2012), the issue of internal auditor's objectivity was not extensively examined. It is worth to note that auditing standards requiring external auditors to consider objectivity of internal auditor if the external auditors would like to use the work of internal auditors.

Besides employing logistic regression and Ordinary Least Squares (OLS) to test the hypothesis, panel data analysis is also used. The use of panel data on audit market study in Malaysia is relatively new and limited. Among the advantages of panel data are that it would minimise the problem of variables omission and model misspecification, provide for more variability and degree of freedom and less collinearity (Baltagi, 1995).

In terms of practical contribution, findings from this study will help policy makers to improve relevant rules and regulations. The findings can help the MIA to formulate suitable minimum value of PII for its member in public practice.[9] Since businesses are becoming more complex, and various challenges are being faced by the

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[9] The amount of claim by Silver Bird Group Bhd against its former directors, an ex-general manager, several companies and its auditors is amounting to RM125.03million ("Silver Bird sues ex-directors, ex-GM, firms and auditors". The Star, 2 August 2012).

firm, it is indeed important for the regulator to consistently revise the current regulations. Reconsidering the minimum value of indemnity insurance would protect the future of Malaysian audit firms. As for audit standard setting and auditors, the finding of the study will provide input to them to develop a proper risk management programme. Failing to do so might affect audit procedures and the clients would bear high unnecessary audit costs.

1.7 Scope of the study

To understand the fundamental of Malaysian audit market structure, the study employs all the listed of Malaysia on stock exchange. Listed companies on stock exchange are chosen since stock exchange's performance is an indicator of the country's economic strength (World Federation of Exchanges, 2008). Study on the structure of Malaysian audit market focus on four important elements, namely rate of audit fees per unit of size, auditor concentration, individual audit firm's market share and industry specific concentration. The number of companies for Malaysian audit market study was 2,854.

The same companies in the Malaysian audit market study also included in study the impact of engagement risk on the audit market. However, further sample selection process is carried out, so that all the relevant data needed are available and the results can be fairly interpreted. The final sample size was 2,451 of companies.

Study on the impact of engagement risk on Malaysia audit market is classified into two areas. Firstly, the influence of engagement risk on auditor choice, and secondly the impact of engagement risk on audit fee. By doing so, it able to provides better knowledge on how the risk affect the market, particularly on auditor and auditee relationship; and cost of the audit. The study emphasises on three elements of

engagement risk, namely audit risk, auditor business risk and client business risk. In term of audit risk, the examined variables are subsidiaries, foreign subsidiaries, subsequent event, inventory and account receivables, and audit opinion. The tested variables for auditor business risk are busy season and non-audit services (NAS). For client business risk, this study investigates five types of client business risk, namely Return on Assets (ROA), loss, leverage, current ratio and financial distress.

This study employs Malaysian listed companies with the financial year end 2008, 2009 and 2010. This is because several business developments occurred around this period, which might affect the audit market structure (e.g. revision of MCCG, US subprime crisis and establishment of AOB). The study employs secondary data; mainly gathered from corporate annual reports and financial database.

1.8   Organisation of the thesis

In the next chapter, relevant literature on audit market, engagement risk and audit fees are presented. Chapter 3 formulates the hypotheses based on the relevant theories. Chapter 4 explains research methods and design, including techniques of data analysis, measurement of variables and sample selection. Results of the study are presented in Chapter 5. Chapter 6 summarises the study, discusses the implications and suggestions for future research.

1.9   Conclusion

In the first chapter of the study, the overview of the background and motivation of the study is presented. The need to carry out the study is discussed under the research problem section. Based on the research problems, research questions and research objectives are formulated. The last part of this chapter highlights the contributions and scope of the study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The main objective of this chapter is to highlight and discuss the literature regarding audit market, engagement risk, audit quality and audit engagement. Specifically, Section 2.2 presents the Malaysian auditing environment, auditor litigation and liability, risk in auditing, accounting guidelines and corporate governance. The next section explains the relevant theories in the study. Meanwhile, Section 2.4 provides some empirical studies on the audit market. Specifically, the area of empirical studies covered are audit market structure, Malaysian audit market, risk in audit market, audit quality indicators, auditor quality, engagement decision, auditor choice, audit fee and corporate governance.

2.2 Background

2.2.1 Malaysian auditing environment

Financial statements auditing in Malaysia already began more than hundred years ago, but the establishment of a local accounting body can only be seen over the last 60 years (Ali et al., 2006). The first local accounting body is the Malaysian Institute of Certified Public Accountants (MICPA), which was established in 1958. Ten years later, another accounting body was set up under the Accountants Act 1967, which is now known as the Malaysian Institute of Accountants (MIA).

MIA is a national accounting statutory body and has regulatory power. The Institute is responsible for safeguarding the accounting profession in Malaysia. MIA's commitment in promoting audit quality could be seen in the mid 1980's. Before this period, the development of the auditing profession was slow and neglected since the

government was more focused on transformation of the country's socio-economy and political matters as a result of the racial riots in 1969 (Ali et al., 2006). After 1986, the auditing profession was revived. For instance, in 1987, the Investigation and Disciplinary Committee was set up, and three years later, MIA's Code of Ethics was introduced. At the end of the 1990's, the International Standards on Auditing (ISA) were replaced with the Malaysian Standards on Auditing (MSA).

In order to improve audit quality and auditor independence, in 2002, MIA required audit firms to rotate the lead audit partner for listed companies once in five years. MIA also asked the audit firms that provide NAS not to accept audit appointment for the same clients if providing NAS could impair their independence. In 2004, the MIA established Practice Review with the purpose of assisting the audit firms to evaluate and increase audit quality.

In 2006, MIA adopted the ISQC 1, which was issued by the International Auditing and Assurance Standards Board (IAASB). ISQC 1 became effective on 1 January 2010. Another development was the amendment of the Companies Act 1965 in 2007, where auditors of public companies can be found to be criminally liable if they fail to report fraud or dishonest activities to the regulator.

In 2010, the government, through the SC, established the AOB. The main functions of AOB are to improve the framework for monitoring audit firms, increase audit quality and regulate the audit firms. The establishment of the AOB is to enhance audit quality and complement MIA's role in promoting audit quality. An almost similar body was also establlished in the US in 2002, known as the Public Company Accounting Oversight Board (PCAOB). The creation of the PCAOB as an independent regulation body was mostly motivated by the Enron case to protect public and shareholders' interest. The main role of the PCAOB is to oversee

accounting firms that audit public companies, which includes to register, to review firm's performance and to take enforcement and disciplinary action against the auditor (Bather & Burnaby, 2006; Church & Shefchik, 2012; Abbott, Gunny & Tracey, 2013; Gunny & Zhang, 2013).

In Malaysia, the AOB is responsible for monitoring the auditors of Public Interest Entities (PIE). PIE consist of public listed companies (PLCs), insurance and takaful companies, capital market intermediaries and the banking sector (Schedule 1 Securities Commission Act 1993). The establishment of the AOB in Malaysia is consistent with Favere-Marchesi's (2000) suggestion that governments in Southeast Asian countries must take appropriate action to improve the quality of their audit. The body can ensure that audit firms follow ISQC 1 requirements (Kang, 2010), and assess the extent of the firms' compliance to ISQC 1, which was hard to determine prior to its establishment (Yusoff, 2010). Since the AOB is still in its infant stage, the influence and its effects on audit quality in the long run remain unsure.

2.2.2 Auditor's litigation and liability

The risk in an audit job is in the form of potential lawsuits by various groups of financial statement users. The cause of lawsuits can be grouped into two: audit failure (including material misstatement, omissions or misleading financial statements) and non-audit failure (Palmrose, 1988; Stice, 1991; Lys & Watts, 1994). Lawsuits made on the grounds of audit failure indicate there are deficiencies in the financial statements. In the case of non-audit failure, the auditor will still be sued even though the financial statements show true and fair view. This situation can be explained by the deep pocket hypothesis (Palmrose, 1988; Stice, 1991). The deep

pocket hypothesis assumes that larger audit firms have better wealth than smaller auditors do, and this causes large firms to be more prone to lawsuits.

Since auditors can be sued either for audit failure or non-audit failure, the next issue is whether it is the auditee's or auditor's characteristics that lead to lawsuits. According to St. Pierre and Anderson (1984), Latham and Linville (1998) and Heninger (2001), auditee's characteristics associated with a lawsuit include public companies status, industries classification, financial distress, new audit clients, abnormal accruals, company's size and type of audit firm. However, making legal claims against an auditor based on auditee's characteristics is open to doubt since determining elements of merit in legal cases is a complicated task (Palmrose, 1997).

Based on anecdotal evidence of the previous studies (Shailer et al., 2001; Kallunki, Sahlstrom & Zerni, 2007), it is clear that auditors in Malaysia operate in a low litigation risk environment. According to Shailer et al. (2001), reasons for low auditor's litigation risk include complexity and inefficient legal system and out-of-court settlement. In addition, since it is common that the company's directors (auditees) and shareholders (third parties) are the same individual, this might discourage the shareholders from taking action against company directors as there is a possibility that the director had also acted negligently.

The Malaysian legal system framework, historically, is based on the UK's legal system. Unlike the US, the UK and its former colonies are regarded as countries with low litigation environment (Seetharaman et al., 2002; Khurana & Raman, 2004; Lam & Mensah, 2006). According to Seetharaman et al. (2002), the differences exist because the US legal system is based on fraud market principle, where it suggests that even without going through the financial statement, shareholders can sue the negligent auditor. In contrast, the UK legal system requires that the element of duty of care

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must be existing in order to proceed with lawsuits. Apart from complexity of legal framework, other factors that contribute to low litigious environment include the fact that remedies provided to the plaintiff are limited, and the process of filing complaints is complicated (Fuerman, 1998; LaSalle, 2006).

These suggest that the system, including legal system and ownership structure, has more prominence than the people (auditor or auditee or shareholders) in explaining the absence of legal cases against the auditors. The system can determine the extensiveness of protection given to the auditor and the rights conferred to the financial statement's users (Latham & Linville, 1998).

As mentioned above, cases of auditor litigation in Malaysia are very limited (Favere-Marchesi, 2000; Shailer et al., 2001; Johl et al., 2007). According to Ali et al. (2007), the first case against an auditor happened in the mid 1960's which was just immediately before the enforcement of the Companies Act 1965. A group of investors from Kiwi Dry Cleaners Ltd. took to court an audit firm, Peat, Marwick, Mitchell & Co., due to their unhappines on the losses incurred. Since then, there has been no major issue regarding auditing litigation. However, in 2012, there was another case of auditor litigation. Silver Bird Group Bhd. and its subsidiaries took legal action against their audit firm, Crowe Horwath. The companies argued that the auditor had breached its duties and negligence, where the firm had failed to reveal and detect financial irregularities (Thean, 2012).

The absence of legal cases does not mean that the auditors are not responsible or liable to any party (e.g. management, shareholders and creditors) that rely on audited financial statement. In general, auditor's liability can be classified into three categories: civil liability (liability towards contracted party); criminal liability

(auditors' criminal act against those outside the contract); and professional sanctions (liability against regulators and professional bodies) (Favere-Marchesi, 2000).

Studies show that Malaysian auditors are more concerned with liability to shareholders than to management and statutory authorities (Shailer et al., 2001). Lack of auditors' concern of their liability towards regulators is reflected in the low number of enforcement actions taken by regulators (such as SC, Bursa Malaysia and MIA) against them. From 2004 to 2009, there were only three cases involving actions against audit firms by the SC (Oh, 2009). For Bursa Malaysia, there have been no press releases of enforcement actions from 2007 to March 2010 against auditors. Similarly, the MIA, through its Disciplinary Committee, heard 10 cases from 1 July 2008 to 30 June 2009, and only three of those cases involved auditors (MIA Annual Report 2009). Despite expectation that the existence of MIA would increase auditors' liability, the evidence suggests that this has not been the case. This could be due to lack of enforcement action power under the Accountants Act 1967 (Oh, 2008); or stern action by the MIA could negatively hamper government's aspirations to develop the economy (Ali et al., 2006).

While Malaysia is not a highly litigious environment, auditors' concerns on their liability against shareholders indicate that there is potential auditor litigation threat by company owners. Further, with increased auditor involvement in financial scandals, it probably would change the way Malaysian auditors perceive the impact of risk on audit engagement.

2.2.3 *Risk according to auditing and accounting guidelines*

The role of risk in audit procedures and audit pricing is covered in several accounting and auditing standards. Among relevant guidelines are ISQC, ISA and MIA By-Laws.

(i)   Auditor appointment

ISQC 1 is issued as part of the ISA and must be complied with by all audit firms. The main objective of ISQC 1 is to guide every audit firm to set up a solid system to monitor job quality. By doing so, perhaps, it would enable the firms to comply with relevant regulatory requirements and produce appropriate audit output. The ISQC 1 has set six elements of quality control, and client acceptance is one of them. Another five quality control systems are: (i) leadership responsibilities for quality within the firm; (ii) relevant ethical requirements; (iii) human resources; (iv) engagement performance and (v) monitoring. Specific to client acceptance and continuance, ISQC 1 requires all audit firms to set up relevant policies and procedures (ISQC 1, Paragraph 26). Among factors that need to be considered are firm's competency, ability to meet ethical requirements and client's integrity. Further, the auditor also needs to consider the professional and legal responsibilities factor in the engagement (ISQC 1, Paragraph 28 (a)).

Apart from ISQC 1, the issue of audit firm appointment is also covered by MIA By-Laws. Section 210 of the By-Laws on Professional Appointment, requires the incoming auditor to consider that the appointment would not affect their integrity and the auditor be able to safeguard the audit profession. However, if the auditor has difficulty in reducing threat of professionalism, the appointment should not be accepted.

(ii)   Audit procedures

While the above standards and regulations do not directly discuss the risk, the role of risk in auditing profession is clearly expressed in the ISA. At least three auditing standards explain about the risks in performing audit job. The first auditing standard is ISA 315 (Revised) - Identifying and Assessing the Risks of Material Misstatement through Understanding the Entity and Its Environment. Based on this standard, the auditor needs to identify and evaluate the risks of financial misstatement in the companies. If such risks are present, the auditor is required to determine whether any of those risks is significant. To identify which of the risks are significant, according to paragraph 28, the auditor has to consider: (i) whether the risk is a fraud risk; (ii) whether the risk is due to surrounding business developments; (iii) business complexity; (iv) related party transactions; (v) subjectivity of financial measurement; and (vi) unusual business transactions. If any of the risks is significant, the auditor must get understanding about companies' internal control associated with that particular risk.

Another relevant auditing standard pertaining to financial misstatement is ISA 240 - The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements. According to this standard, the auditor is responsible for ensuring the financial statement is free from material misstatement. Since there is a chance that financial misstatements may have occurred and not detected, the auditor always needs to apply professional skepticism, evaluate management's integrity, and apply and design proper audit procedures to detect fraud. Finally, under ISA 330 - The Auditor's Responses to Assessed Risks, the auditor needs to prepare and carry out the audit procedures where the nature, timing and extent of procedures must correspond to the assessed risk.

(iii)   Audit fee

According to MIA By-Laws under Section 240 - Fees and Other Types of Remuneration, the auditor should quote appropriate fee when negotiating audit services. It is not unethical if the quoted fee is below other firms. But according to MIA By- Laws, quoting low fee may lead to threat of compliance with fundamental principles of professional ethics (intergrity, objectivity, professional competence and due care, confidentiality and professional behaviour). This would result in ineffective audit. MIA By-Laws suggest that in charging the rendered audit services, the charge must reflect the value of work. Factors, such as skill and knowledge, training and experience, duration of engagement, the level of responsibility and job's urgency shoud be incorporated in fee formulation.

To further facilitate audit fee determination, MIA also issued a recommended practice guide as a basis to establish a reasonable level of auditor remuneration, which known as Recommended Practice Guide 7 (RPG 7). RPG 7 offers two basis of audit fee computation, namely time-based and value-based principles. Time based principle refers to the time spent by audit personnel in completing the audit assignment, meanwhile value-based principle indicates the value of advice (including the knowledge, skills and the benefit) provided by audit personnel. Due to several flaws of time-based principle, such as erronous of time sheet, risk of "under-cut" audit fee, putting equal value of information and knowledge for all type of audit clients, MIA suggests audit firm to implement value-based principle.

Apart from two principles above, MIA also provides other audit fee computation methods in the case of members having difficulty in audit fee negotiation with the clients. Nevertheless, these methods should be applied as a final option and it is a merely a guidance for audit firm. Those methods are audit charge-out rates and

audit fees extrapolation. Calculation based on audit charge-out rates should include economic time charge (labour cost, opportunity cost, profit element), net working hours, total labour cost actual wage, training cost, gratuities) and overhead recovery rate. The latter approach determines audit fee by multiplying company's total assets or gross turnover (or in some cases total operating expenditure) with the coefficient percentages. The coefficient percentage rate is decreasing with the increment of every ringgit of total assets or gross turnover or total operating expenditure. It is important to note that the use of fee computation coefficient needs to be evaluated against the time charge. The higher figure will be selected as a basis to determine audit fee. (Detail formula of audit charge-out rates and table coefficient percentage rate can be referred in Appendix A).

It is unfortunate that those guidelines and regulations do not discuss in detail about risks as an important factor that should be considered in audit engagement decision and fee pricing. Instead, the role of risk, especially risk of financial misstatement, is emphasized more when performing audit procedures, such as under ISA 315 (Revised) and ISA 240. The omission of risk factor provides an avenue for audit firm's discretion on how to manage the risk during client acceptance process and this would influence the amount of fee charged.

2.2.4 *Corporate governance*

The Organisation for Economic Co-operation and Development (OECD, 1999) defines corporate governance as:

> "the system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as, the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs."

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The definition clearly shows that corporate governance is associated with how the company is being managed by adapting transparency and accountability practices to achieve company's aspirations.

According to Cohen, Krishnamoorthy and Wright (2010), client's corporate governance is an important factor in audit engagement. It has an influence on audit demand, audit pricing and quality of financial statement (Beasley, 1996; Larcker & Richardson, 2004). In deciding whether to accept or reject client engagement, the auditor needs to assess the client's corporate governance practice status (Bell, Bedard, Johnstone & Smith, 2002). The evaluation of client's corporate governance, would determine the amount of audit fees. For example, Cohen and Hanno (2000) document that the management control philosophy and governance structure (i.e. board of directors and audit committee) not only influence audit planning, but also influence audit pre-planning judgments (e.g. client acceptance decisions). Cohen, Krishnamoorthy & Wright (2002) further argue that understanding corporate governance can assist the auditor to evaluate client risks, and subsequently develop effective and efficient audit plan (e.g. determination of audit sample size and the extent of substantive test). Specifically, companies with weak board of directors (BODs) require the auditors to increase their audit effort (Cohen et al., 2007). Bedard and Johnstone (2004) also argue that high corporate governance risk is associated with audit effort when there are elements of accounting manipulation (e.g. high earnings manipulation risk).

The presence of corporate governance in Malaysia's business landscape can be traced back to 1985, when the Malaysian Central Bank or Bank Negara required financial institutions to establish an audit committee. The issue of corporate governance became dominant only in the early 2000's with the introduction of the

MCCG in March 2000. Prior to 2000, there was no specific guideline available for companies to follow and the practice of corporate governance among companies varied. The reasons why the MCCG was introduced was because of business competitiveness around the world, and also to change the way business organizations were being governed. The Code consists of three parts, whereby the first and second parts are also included in the Listing Requirements of Bursa Malaysia Securities Berhad. In 2007, the Code was revised. The revised Code has strengthened the BODs' responsibilities, audit committee and internal audit function.

Table 2.1 summarises the content, target, status and enforcement action for each part of the Code.

Table 2. 1
Content, target, status and enforcement action of MCCG

Part	Content	Target	Status	Enforcement action
1.	Principles of corporate governance - Directors - Directors' remuneration - Shareholders - Accountability and audit	Public listed companies	Must be included in narrative statement of corporate annual report	Bursa Malaysia can take action on companies and directors if they are unable to meet the requirements.
2.	Best practices in corporate governance - the Board of Directors - Accountability and audit - Shareholders	Public listed companies	Voluntary; company must explain the extent of compliance.	
3.	Principles and best practices for other corporate participants.	Shareholders and auditors.	Voluntary.	-

2.2.4.1   Corporate governance mechanisms

Cohen, Krishnamoorthy and Wright (2004) list five players or internal mechanisms that contribute towards high quality financial statements. Other than external auditor, the other four players are audit committee, BODs, management and internal audit. Similarly, Bell et al. (2002) include BODs, management and internal audit as organisational factors that need to be considered in an audit firm's client acceptance and continuance of risk assessments. In fact, Cohen et al. (2002) reveal that there are interactive relationships between management, BODs and audit committee in the audit process. The reason an auditor needs to work closely with these players is to ensure that stakeholders' interests are protected by receiving the highest quality of audited financial statements.

(i)   Board of directors

The appointment of directors is necessary for any company incorporated in Malaysia. Section 122, Companies Act 1965 requires companies to appoint at least two individual directors, and the Act is silent on the maximum number of BODs. There are six primary responsibilities of the Board as stated in MCCG (2012): (i) evaluate and adopt strategic planning; (ii) monitor business conduct; (iii) identify and manage the risk; (iv) succession planning; (v) formulate and execute investor relations policy; and (vi) review the internal control. The Code also provides the characteristics of an effective board, i.e. the separation of chairman and CEO, appointment of non-executive director, one third of the Board comprises independent non-executive directors (NEDs), there is a representative of non-significant shareholders, establishment of nomination committee, suitability of board size and provisions for directors' training.

(ii)   Audit committee

All Malaysian listed companies must establish audit committee. Four main duties of the audit committee as outlined by Bursa Malaysia's Corporate Governance Guide (BMCGG, 2013) are to: (i) assess risk and control environment; (ii) monitor financial reporting; (iii) assess internal and external audit process; and (iv) review conflict of interest, including related party transactions. In terms of committee composition, the MCCG requires the company to appoint at least three members in the committee, the committee chairman to be independent and majority of the members to be independent directors.

(iii)   Management

Management is responsible for the administration of the company. They are key players to ensure the company's efficiency and competitiveness (MCCG, 2012). The management executes the policy and procedures that have been developed by the BODs. The CEO leads the company's management. MCCG (2012) states that the CEO is responsible for meeting the company's objectives that have been developed together with the BODs.

(iv)   Internal audit

The internal auditor is responsible for enhancing the company's value by providing consulting services to the company so that the company can achieve its objectives (DeZoort, Houston & Peters, 2001). The role of internal auditors is not just to ensure that companies are complying with rules and regulations; their scope of work goes far beyond this. The internal auditors provide recommendations for improvement to the companies, are actively involved in assurance services and consulting areas (e.g. risk management and corporate governance) (Rittenberg, 1999;

Ahlawat & Lowe, 2004) and ensure companies have an effective internal control system (Carcello, Hermanson & Raghunandan, 2005; Abbott, Parker & Peters, 2010).

2.3   Underpinning theory and related hypotheses

In this section, theory related on auditor and auditee relationship is discussed. The theory explains the association between auditor and auditee in the context of audit engagement. Specifically, agency theory and its relevant hypotheses are employed in explaining the concept of auditor choice, audit fee and engagement risk.

It is worth to note that, there is no single theory that comprehensively explain the relationship between both auditor and auditee (Schwartz and Menon, 1985; Wallace, 1984). This might be contributed by the fact that audit engagement is a complicated process (Johnstone; 2000; Basioudis, 2007). Despite no single theory to explain auditor and auditee relationship or the theories are overlap (e.g. stewardship theory) (Wallace,1984), the argument from agency theory is widely used in auditing literature (DeFond, 1992; Hay & Davis, 2004; Dedman, Kausar & Lennox, 2013).

2.3.1   Agency theory

One of the requirement in incorporation of the company is the company must issues the share and the share must be subscribed. Those having a share are considered as the owner of the company. The shareholder usually has the power to control and manage the company. However, the problem in managing the company is arising when there is separation between ownership and control. While the shareholder has tendency to fully manage the company for their economic benefit, the separation is hardly to avoid. This is due to business's complexity and the capital structure of companies becomes more sophisticated (Berle & Means, 1932). As a

result, a team of management rather than the shareholders manages the company. The shareholders delegate the power to control the company to the management (Jensen & Meckling, 1976). By doing so, it is expected that the company can be managed effectively and provide maximum return to the various type of shareholders. This relationship between principal and agent is the main premise in explaining an agency theory. The theory, in general, can be described as the appointment of other party to act on the behalf of the principal. The appointment comes together with the power to manage and making business decision (Jensen & Meckling, 1976).

Nevertheless, the implication of power delegation is the possibility of the management (agent) not to act in the best interest of company's owner (principal). Hence, the interest of the principal is threatened. The issue of principal and agent relationship led to emergence of agency problem. To minimize the agency problem, some remedial actions need to be done. The principal, for instance, need to be selective in appointing management team and set the performance indicator that need to be achieved by management. Apart from remedial actions as stated above, the agency problem can be mitigated by having a mechanism to supervise the agent's action, such as appointment of auditor.

2.3.1.1   The need for audit

Wallace (1985) identifies three factors for audit demand, namely agency demand, information demand and insurance demand. Agency demand is built on the premise that the shareholder owner has appointed a group of managers to manage the company. The shareholders need reliable audited financial information for business decisions. High quality of audited financial statement minimizes reporting errors or mistakes (Behn et al., 2008), gives better audit assurance (Cahan, Emanuel & Sun,

2009) and boosts users' confidence on the financial statement (Autore, Billingsley & Schneller, 2009).

As for information demand, it is implied that the management selects good auditors to show management's integrity and quality. The information demand factor explains that the management wants to let the users know that the financial statement prepared is highly reliable and objective.

Insurance demand indicates that users of financial statements, such as shareholders, can cover their losses of investment from auditors and not necessarily from the companies. The company can avoid reputational damage, as the auditor is the sole party responsible for examining the financial statement. The insurance demand factor is more relevant in countries where the rights of shareholders are heavily protected. This in turn, results in the auditor becoming the main target of litigation by users and the company bearing low insurance cost.

2.3.1.2   The influence of the legal system on audit demand

The level and demand of audit is different among countries. The source of differences arises due to the country's commercial legal system (Cahan et al., 2009). La Porta et al. (1998) classify the commercial legal system into two categories, i.e. common law and civil legal system. According to them, common law is a legal system modeled from English law, and was developed through judiciary decisions in legal proceedings. Meanwhile, civil law is based on Roman law and is a written legal code prepared by legal scholars.

Based on discussions from La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997), La Porta et al. (1998), La Porta, Lopez-de-Silanes and Shleifer (1999) and

Cahan et al.(2009), Table 2.2 shows differences for level and demand of audit under common law and civil law.

Table 2. 2
The differences for level and demand of audit under civil and common law

Characteristics	Common law	Civil law
Company ownership	Dispersed ownership	Concentrated ownership.
Agency problem	Existence of information asymmetry between shareholders and managers is more likely	Existence of information asymmetry between shareholders and managers is less likely.
Shareholders' protection	It is an important issue and the shareholders are protected	It is not a major issue and shareholders are less protected.
Demand for audit	High	Low.

Table 2.2 shows demand for audit is higher in common law compared to civil law countries. In discussing the level of audit demand in Asia, the company ownership specific factor must be taken into account. Many companies in Asia are associated with concentrated ownership structure (La Porta et al., 1999; Fan & Wong, 2005 and Yatim, Kent & Clarkson, 2006), and large audit firms' presence is prevalent in this part of the region (Fan & Wong, 2005). By hiring large firms, the company's management can use it as a sign to the users (i.e. information demand factor) (Yardley, Kauffman, Cairney & Albrecht, 1992). Management or the company wants to claim that even though there is problem on principal-agent relationship (i.e. the owners and managers are the same individuals), its financial statements remain credible.

2.3.1.3   Auditor choice

The reasons for a company choosing certain types of auditors are various, and it is a complex decision (Knechel, Niemi & Sundgren, 2008; Francis, Richard & Vanstraelen, 2009). A number of hypotheses, within the scope of agency theory, are utilised to discuss the demand for audit service. The hypotheses are: (i) monitoring demand hypothesis, (ii) signaling hypothesis; and (iii) substitution hypothesis.

(i)   Monitoring demand hypothesis

Williams (1988) employs agency demand as a main source to develop the theory of auditor choice. His argument is based on the premise that there is a conflict of interest between managers and shareholders and other parties that have dealt with the companies (such as financial institutions). Since the managers are responsible for managing company's affairs and have better access to company's information than shareholders (information asymmetry), it is argued that the managers will use this position for their personal gain and it would adversely affect the shareholders. To monitor and minimise agents' opportunistic behaviour, an external auditor must be appointed.

(ii)   Signalling hypothesis

Under the theory of auditor choice, Williams (1988) suggests that managers are involved in the process of auditor selection. To ensure the auditor can provide good service, the shareholders expect the managers to select a quality auditor. As for managers, in making auditor choice decisions, two elements are considered. Firstly, the managers prefer to choose auditors who can help them to build positive image as a "good servant" to the shareholders. Secondly, the selected auditor should be able to provide reliable assurance on the fairness of the financial statement to the shareholders. The process of auditor choice is not easy since managers have to ensure

that the appointed auditor is able to protect their interests and shareholders' interests at the same time.

According to Copley and Douthett (2002) and Bewley, Chung and McCracken (2008), the signalling hypothesis does not necessarily indicate the real quality of audited financial statements. Under this hypothesis, managers are trying to tell the outsiders that they are concerned about the quality of financial information, so that the outsiders can trust the managers. Financial statements audited by Big Four firms are regarded as having high quality (due to their reputation), whereas statements audited by non-Big Four firms as having low audit quality. For instance, a quality auditor is employed for initial public offering (IPO) companies to inform about the true value of the IPO, and minimise its underpricing (Bewley et al., 2008). On the other hand, it is expected that companies with less favourable information or riskier firms choose low quality auditors and the quality of financial information conveyed is less precise (Copley & Douthett, 2002).

(iii)   Substitution hypothesis

Internal control can be a substitute for external auditing (Thornton & Monroe, 1993). The substitution is another form of monitoring, where internal governance mechanism is used to substitute the need for a external mechanism to monitor the manager's action. For instance, better internal control, i.e. high objectivity of internal audit, may reduce the need for strong external audit monitoring. Johl, Subramaniam and Mat Zain (2012) also suggest that based on the demand side argument, strong governance mechanism, such as BODs, can be an alternative to extra audit effort. The strong mechanism of corporate governance can lead to improved quality of accounting information. However, according to Abidin (2006), the substitution

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hypothesis has received little empirical support; thus, audit quality might not be well substituted with other governance mechanisms.

2.3.1.3.1   *Audit quality*

The discussion on audit choice infers that there is a need for audit quality. By incorporating the audit quality aspect in auditor choice, it would explain why certain companies prefer different types of auditors (Williams, 1988).

Audit quality is defined as the auditor's possibility both to: (i) discover a breach (e.g. material misstatement) in the accounting system; and (ii) report the breach (De Angelo, 1981). For the first part of the definition, it is associated with the auditor's competence or ability, while the second part is related to the auditor's independence (Watkins et al., 2004; Knechel, Krishnan, Pevzner, Shefchik & Velury, 2013). Similarly, Chaney (2003) states that audit quality is about the auditor's ability to identify the violations or irregularities in financial reporting, and truthfully report it to the users.

Based on De Angelo's (1981) definition, Watkins et al. (2004) further refine it into two components: auditor reputation and auditor monitoring strength. Auditor reputation explains about the public's perception on auditor's competence and independence; whilst auditor monitoring relates to the extent of auditor's competence and independence. The reputation and monitoring strength influence the quality of information produced.

Audit quality is subjective in nature. According to Lai and Gul (2008), the problem associated with audit quality is how to measure it objectively, since the quality is difficult to observe (Francis, 2004). Francis (2004) states that only audit report which is usually in standardised form, and audited financial statements can be

observed. However, the report does not provide enough information to capture the extent of the auditor's competency and independence. By only referring to the audit report, it cannot be conclusively asserted that the auditor has acted objectively. In addition, the process of issuing audited financial statement and audit report are unknown by the users and they only can evaluate audit quality after experiencing the audit products.

2.3.2   *Audit fee*

Appointment of auditor must be acknowledged by the company. Since the auditor is appointed and hired by the principal (e.g. shareholder), there is a cost in auditor appointment. The cost, which is known as audit cost or audit fee, is part of agency cost (Leventis, Weetman & Caramanis, 2011). This costs perhaps can minimize the management's opportunistic behavior in preparation of financial statement.

A large number of audit fee studies, which started over thirty years ago, are based on Simunic's (1980) seminal work. The cost of audit, according to Simunic (1980) and Simunic and Stein (1996), consists of: (i) cost of resources which are used in the effort to carry out the audit process; and (ii) expected cost of future loss or litigation due to audit failure.

2.3.2.1 Insurance hypothesis and audit fee

According to Schwartz and Menon (1985), the purpose of insurance in the audit profession arises from the threat or exposure of auditors to liability in the case of corporate failure. The insurance hypothesis expects high audit fees since the regulations permit the shareholder to sue the auditor (reliance on misstated audited

financial statement) for compensation (Wallace, 1987). This hypothesis is derived from the fact that auditors use due professional care in their jobs unlike the managers (Wallace, 1987), and this infers that the management can limit their liability exposure and share the liability together with the auditor (Schwartz & Menon, 1985).

Schwartz and Menon (1985) explain that the selection of an auditor (mainly large audit firm) in giving this insurance rather than insurance company is based on several arguments. Auditors are regarded as having deeper pockets and due to their wealth status, a large audit firm has more capability to offer this insurance. Also, the audit firms can diversify or spread the risk to their large client base. As such, the overall impact of risk against the audit firm can be minimised. In addition, a large audit firm is better equipped with audit support facilities, such as good in-house legal counsel and competent assurance services that make them able to offer audit services even to complex and problematic clients. Meanwhile, as for the auditor, the insurance can be used as a mechanism to reduce the impact of client's business failure. For instance, bankrupt clients may initiate lawsuits against the auditor on the basis of the auditor's failure to identify financial reporting deficiencies. The allegation may impact the audit firm's reputation. Schwartz and Menon (1985) further add that while insurance can be used to cover the losses, high demand for insurance could also lead to high audit fees.

In line with the above explanation, Houston, Peters and Pratt (2005) also argue that the role of the auditor as insurance provider arises when there is audit fee premium charged by the auditor. This premium represents auditor compensation since the auditor needs to bear the residual litigation risk (i.e. if the level of litigation risk is beyond acceptable level). Thus, the role of the auditor as insurer is more pronounced when the auditor has to bear and price the litigation risk.

Nevertheless, according to Schwartz and Menon (1985), high audit fee (due to expansion of audit work and high insurance cost) may preclude risky companies from appointing large audit firms. This kind of situation is also faced by auditors. Since the firms need to incur high audit cost and realise that problematic or distressed companies have problems to pay for audit services, the firm might seriously consider and refuse to offer the service to such clients. On the other hand, some auditors may be keen to accept appointment by risky clients. This auditor perceives that the problem faced by that company may be temporary; in the long run, the company will be able to generate profit and be less likely to have problems to pay audit fees.

2.3.3 Engagement risk

The above discussion indicates that appointment of auditor is mostly motivated by the agency problem. Huss and Jacobs (1991) and Johnstone (2000) suggest that in order to make audit engagement decision, such as creating audit firm's portfolio, the audit firm needs to consider the engagement risk factors. Based on client acceptance model developed by Johnstone and Bedard (2003), the auditor incorporates the risk in client acceptance decision.

Incorporating risk factors when making the decision determines the type of client that should be accepted or rejected (Johnstone, 2000; Bell et al., 2002, Cohen et al., 2007; Brown & Johnstone, 2009; Casterella, Jensen & Knechel, 2010; Laux & Newman, 2010). Johnstone (2000) and Johnstone and Bedard (2004) claim that emphasising on the risk factor in audit engagement decision helps auditors in audit planning.

The auditor, for every efforts that they have put in accomplishing their audit planning, needs to be rewarded (i.e. audit fee). While the discussion on audit fee

determinants dictates that the fees are determined by audit effort and risk (Simunic, 1980; Hay et al., 2006), it is important to differentiate between the contribution of effort and risk towards increment of audit fees. According to Willekens (2011), this distinction leads to various audit results, such as different audit opinion, and the level of audit assurance produced.

Auditors' reaction towards risk has impact on audit fees adjustment, where high quality audit work on risky clients consequently leads to the adjustment of audit fees (Brumfield, Elliott & Jacobson, 1983; Pratt & Stice, 1994; Hoitash, Hoitash & Bedard, 2008; Elder, Zhang, Zhou & Zhou, 2010; Habib, Gong & Hossain, 2013). Charging clients high fees helps the firm to pay for damages if there is a claim in the future, since fees are one of the ways to reduce auditor business risk (Latham & Linville, 1998; Laux & Newman, 2010).

The results from risk assessment and expected audit costs, therefore, help the firm to manage the risk effectively. According to Bell et al. (2002), it is important to determine audit cost estimation at risk assessment stage to ensure the firm remains competitive.

Similarly, Houston, Peters and Pratt (1999) indicate that in the case error likelihood is high, audit risk dominates the audit effort and audit fee decision. In the case of high irregularity, it is dominated by business risk and the element of risk premium is incorporated in audit fee. They conclude that in order to decide whether or not risk premium should be included in audit fee, depends on the nature of the risk in auditing.

2.3.3.1 Importance of engagement risk evaluation

A large and growing body of literature has explained the significance of engagement risk in audit engagement decision. Due to audit fee factor and litigation risk, risk evaluation has become increasingly important (Johnstone, 2000; Cao & Narayanamoorthy, 2014).

Risk evaluation at pre-engagement process is important because of several factors. Among identified reasons are that the evaluation would determine the engagement decision (Huss & Jacobs, 1991; Jones & Raghunandan, 1998), and it is the first avenue available for auditors to minimize potential engagement risk (Johnstone, 1997). Moreover, the evaluation of risk influences audit effort (Beaulieu, 2001). Auditors can decide the amount and timing of test of control and substantive test that need to be done. It is also worthy to note that auditing clients with high business risks might expose the auditor to litigation, tarnish their reputation and make it difficult to obtain audit fees (Houston et al., 1999).

2.3.3.2 Type of engagement risk

Engagement risk consists of: (i) audit risk; (ii) auditor business risk; and (iii) client business risk (Huss & Jacobs, 1991; Johnstone, 2000). These components of engagement risks are interrelated, where high risk of client business risk and audit risk result in high auditor business risk (DeFond, 2004; Basioudis, 2007). Further, the risks affect the outcome of the negotiation process between auditor and auditee (Sahnoun & Zarai, 2009).

(i) Audit risk

Audit risk is the risk related to issuing unqualified audit opinions for materially misstated financial statements (Houston et al., 1999). Under audit risk,

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there are possibilities that the auditor is issuing incorrect opinion on the audited financial statement. Thus, the audit report cannot be relied upon. Since the risk is associated with incorrect issuance of audit opinion, audit risk could also affect auditor business risk (Bedard & Johnstone, 2004).

(ii)   Auditor business risk

Auditor business risk is the risk in which the audit firms suffer a loss from the engagement (Bedard & Johnstone, 2004). The loss can be translated to lack of audit firm's profitability and the potential damage due to lawsuits against the auditor.

(iii)   Client business risk

Studies show that client business risk is a critical factor in client acceptance decision (Huss & Jacobs, 1991; Johnstone & Bedard, 2003). According to Johnstone (2000), client business risk is the risk that negatively affects the client's economic condition, either in the short or long-terms. In Asia, client related risks factors[10] have been ranked as the most vital factor in client acceptance decision (Chow et al., 2006). This risk can affect the auditor business risk. Even though it has an impact on auditor business risk, unlike audit risk, the audited financial statement can still be relied on. DeFond (2004) and Houston et al. (1999) assert that the presence of high or low client business risk does not affect the credibility of financial statements, as the statements do not violate accounting and auditing standards. In addition, the auditor can manage client business risk, for e.g. through audit effort (DeFond, 2004).

The effect of client business risk against auditor can be seen in terms of the auditor's inability to collect outstanding audit fees and litigation risk exposure

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[10] Client related risk is the engagement decision risk that is solely associated with clients, i.e. client business risk and auditor's business risk (Johnstone, 2000).

(Johnstone, 2000; Chang & Hwang, 2003). As for association between client business risk and potential auditor litigation, Mock and Wright (1999) suggest that client business risk can capture the potential litigation risk against auditor. This contention is consistent with Palmrose's (1987) and Carcello and Palmrose's (1994) argument that the possibility of the auditor being sued will be high for failing firms. Due to close association between one risk and another, it is critical for auditors to evaluate overall risk in order to assess client's riskiness.

2.3.3.3   Risk management strategies

Risk management involves identifying information that would affect the engagement risk, and the approach taken by the auditor in audit planning activities (Bedard & Graham, 2002). The ways the firms assess the engagement risk can be categorised into two: classical approach and client portfolio approach (Huss et al., 1993). Under the classical approach, the firms assess the risks of clients individually before the engagement (Huss & Jacobs, 1991). However, under client portfolio approach, the risks are continuously assessed until the audit process is completed. The latter approach suggests assessment of risk on an individual client will affect all clients' portfolio, and is in line with the concept of risk management.

Risk is managed in four ways, namely: (i) risk avoidance; (ii) risk elimination; (iii) risk reduction; and (iv) risk acceptance (Bell et al., 2002); and each of the options has its own consequences. All of the strategies indicate that risk minimisation is the main aim of audit firms in the client acceptance process (Manry et al., 2007).

Risk avoidance means that the audit firm is refusing high risk clients' appointments. Meanwhile, risk elimination indicates the auditors do not want to continue their relationship with existing clients since the risk is unacceptably high.

Risk reduction indicates that the auditor business risk is alleviated through changes in audit procedures or transferring of risk (e.g. insuring the risk). As for risk acceptance, it indicates that after the risk is reduced, the auditor is willing to accept risk, which is equivalent to potential return and the level of auditor's risk tolerance (Manry et al., 2007).

From these four types of risk management strategies, only risk reduction and risk acceptance strategies show there is potential for audit engagement appointment. The other two strategies indicate there is termination of relationship or unwillingness of the audit firm to accept new audit appointment.

Therefore, audit firms' decision either to continue or discontinue their relationship with companies depends on the risk evaluation outcome (risk and return trade-off), and whether the potential client will be able to bring a desired profitability level to the firms (Johnstone, 2000; Johnstone & Bedard, 2003; Krishnan, Sun, Wang & Yang, 2013). If the rate of risk/return is at an acceptable level, the auditor will incorporate the risk in the audit cost. However, if the risk/return is not at an acceptable rate or is unprofitable, the auditor will reject the company or might not offer the service (Feltham, Hughes & Simunic, 1991; Johnstone & Beard, 2003; Read, Rama & Raghunandan, 2004).

In discussing the auditors' decision not to continue their relationship with auditee auditor or resignation of auditor, Shu (2000) offers two explanations. The resignation is motivated by: (i) clientele adjustment; and (ii) litigation risk factor.

(i)   Clientele adjustment.

According to Shu (2000), clientele adjustment happens because of changes in clientele and audit firm characteristics. Audit firms that specialise in certain industries may have certain types of client characteristics in their client portfolio. These client

portfolio characteristics, however, can be changed. The changes might be due to changes in client characteristics or audit firm characteristics themselves and those changes affect the cost and benefit attached for each client.

Shu (2000) cites two factors that can be associated with the changes in audit firm characteristics. The changes are caused by extensive usage of technology by audit firms and a wide array of NAS. In terms of technology, she argues that the usage of technology reduces the workload of the auditor and the job becomes less seasonal. As the job becomes less concentrated in particular months, the need to get a client outside the busy season is less. This is because the audit firm can do timely interim reviews before the financial year end and minimise year-end workload through computerised and technology-based audit procedures. With regards to NAS (such as taxation, information technology, management of human resource), Shu (2000) and Alexander and Hay (2013) argue that the demand for this service mainly comes for big or complex business operations. In order to get maximum benefit in audit engagement with large clients and to improve client's operational efficiency, the auditor might offer NAS to them. By doing so, the audit firm will have cost advantage, since the firm can utilize the knowledge from NAS engagement for statutory audit purpose or vice versa. Therefore, clients that need both audit and additional NAS are more profitable and preferred by audit firms, rather than clients that have low demand for NAS.

Shu's (2000) argument on clientele adjustment is in line with Matthews and Peel's (2003) justification on the presence of fee premium in the current audit market. Besides the current audit market being more complex, Matthews and Peel (2003) suggest that the presence of fee premium is due to various services offered by audit firms and better technical skills possessed by audit personnel. Various services

offered and high skills are needed because clients' business activity has become more complicated, and audit firms are expanding their market share.

Hogan and Martin (2009) also point out several factors that motivate changes in auditor-client relationship. Some of the possible factors, according to them, are resource limitations, audit pricing responses, characteristics of auditee and auditor, client preferences (e.g. reputation factor) and auditor objectivity constraints. Various motivations of auditor realignment, according to Hogan and Martin (2009), indicate that the audit market is volatile since auditee and auditor are consistently re-evaluating the market conditions and its effects.

Therefore, audit firms prefer to render the service for clients that can provide them with high returns, but at the same time, possess low risk. Similarly, auditees with complex business transactions and operations might favour audit firms that can meet their business goals and be able to offer various audit and NAS.

(ii)   Litigation risk

In the case of companies' failure, the auditor usually will be named as defendant by the parties that face the losses due to reliance on companies' audited accounts (Lai & Gul, 2008). The incidence of auditor litigation shows the potential liability of auditors (Shu, 2000).

According to Shu (2000), besides the lawsuit resulting in auditors incurring high payment of damage costs, it also leads to reputational damage and is time consuming due to the lengthy litigation process. Since reputation is closely associated with the level of audit quality, clients are willing to pay high audit fee for the firm that has less likelihood of audit failures. Nevertheless, the willingness to pay high fees may be affected if the client perceives there is a potential lawsuit against the auditor, since the lawsuit may imply audit failure. To minimise the cost of damages and

preserve the audit firm's image, the auditor may terminate the relationship with high risk clients (auditor resignation). The auditor may opt for resignation if the cost of litigation cannot be recovered by audit fees.

The level of litigation risk, however, can depend on audit firm size. This can be explained by deep pocket factor or low audit quality (Krishnan & Zhang, 2005; Lai & Gul, 2008). Krishnan and Zhang (2005) argue that due to deep pocket factor, the litigation risk is high for large audit firms compared to small audit firms. The small firm is considered to have limited resources to bear litigation risk. As a large audit firm is more likely to be sued, therefore, litigation is more costly to this firm since it would cause damage to the firm's reputation. Because of this, it may lead the firm to offer better audit services so that the firm's reputation is protected. Based on the assumption that Big Four firms are more likely to be associated with high quality audit, Khurana and Raman (2004) argue that if reputation is the concern of the audit firm, decreased potential of litigation would not affect audit quality. However, if litigation dictates audit quality, reduction in litigation risk would negatively affect audit quality. Findings by Khurana and Raman (2004) demonstrate that audit quality is more likely to be driven by litigation risk rather than by the auditor's reputation factor.

There are several ways to reduce auditor litigation risk, for instance, by limiting the personal liability of the audit partner and disallowing class action lawsuit (Lai & Gul, 2008). Other options available for audit firms are adjusting their client portfolios (becoming selective in audit engagements) and resigning from high engagement risk (Krishnan & Krishnan, 1997).

2.4 **Prior empirical studies**

2.4.1 *Structure of audit market*

Market structure is one of the components in the overall economic structure, other than market strategy and market performance (Yardley et al., 1992; Gramling & Stone, 2001). Gramling and Stone (2001) explain that: (i) market structure refers to the situation or the phenomena in the market (e.g. auditor, auditee, market share, entry barriers); (ii) market strategy is about how firm's policies (e.g. audit firm clientele portfolio, recruitment policy) are being used to help them to be competitive in the market; and (iii) market performance refers to the extent or how good/bad the audit firm is in managing its resources (e.g. audit fee, audit quality).

According to Abidin et al. (2010), the structure of the market is affected when there are changes in auditor's characteristics (e.g. merger, demise and new entrants), changes in auditee's characteristics (e.g. insolvencies) and realignment/switching (e.g. resignation and dismissal). In Malaysia, most of the studies on audit market structure focus on the effect of audit firms merger and auditor switching.

2.4.1.1   Changes in auditor characteristics

In the case of changes in auditor's characteristics, the merger of audit firms has minimal impact on Malaysia's audit market structure. Following the merger of Price Waterhouse with Coopers & Lybrand (creating PricewaterhouseCoopers or PwC), 73% of listed companies in 1999 were audited by the Big Five firms, which is similar during pre-merger of the firms (Hariri, Abdul Rahman & Che Ahmad, 2007). Further, they show that the merger of these two firms did not significantly influence the audit fee market. However, the impact is different for the merger of Ernst & Young and Andersen in 2002. This merger is different from PwC's merger as the

merger between Ernst & Young and Andersen resulted from a case of audit failure. In fact, after year 2002, the large firms' market shares had been reduced by about 4% from 73% (in 2002) to 69% (in 2003) (refer Table 2.4). A study by Dunstan et al. (2010) shows that big firms' market share between years 2005 to 2008 is slightly lower, around 65%. Hence, it infers that due to the effect of audit failure, big audit firms disassociate themselves from public companies.

2.4.1.2   Changes in customer characteristics

Changes in audit customer characteristics also have influence on Malaysia's audit market structure. Mohamad and Joher (2006) reveal that 18% of newly listed companies have changed their auditors. On the other hand, more than three quarters of the companies have retained the same auditors before going public.

2.4.1.2.1 Switching

The incidence of auditor switching provides an opportunity for another firm to be appointed, and it can increase their market share. However, as for auditors who resign from the office, the incidence of switching decreases their market share. The following table reveals the number of switching of audit firms.

Table 2. 3
The incidence of auditor switching in Malaysia

Author (s) / (Year)	Period of study	Number of switching (%)	Average switching per year
Joher et al. (2000)	1986 to 1996	135 companies	12
Ismail, Joher Aliahmed, Md. Nassir and Abdul Hamid (2008)*	1997 to 1999	31 companies	10
Ismail, Haron, Ibrahim and Mohd Isa (2006)*	1990 to 1999	45 companies	5
Abdul Nasser, Abdul Wahid, Syed Mustapha Nazri and Hudaib (2008)	1990 to 2000	87 (29%) switching companies from the sample of 297	8
Che Ahmad et al. (2006a)	1993 to 1995	54 (4.7%) switching from 1,149 total companies. **	14
Kallunki et al. (2007)	1994 to 2003	65 (3%) switching from 1,935 companies	5
Abdul Wahab, Mat Zain, James and Haron (2009)	1999 to 2003	49 companies (12.5%) from 390 companies	12
Wan Mohamed, Ismail, Syed Mustapha Nazri and Hariri (2007)	1996 to 2004	42 auditor changes (8.4%) from 500 companies.	5
Syed Mustapha Nazri et al. (2012a)	1990 to 2008	300 companies	17

* Sample consists only Second Board listed companies
** 5.1% (3.4%) out of 885 (264) clients of Big Six (non-Big Six) auditors changed. Altogether, the number of companies that changed their auditor is 45 companies + 9 companies = 54 from 1,149 companies.

The auditor switching rate in Malaysia, from the Table 2.3, is very small. Low incidence rate of switching or longer tenure is a threat to auditor independence. The highest number of yearly switching, on average, is 14 (Che Ahmad et al., 2006a), and the lowest is five. It implies that most of the listed companies retain their incumbent auditor. Nevertheless, a recent study by Syed Mustapha Nazri et al. (2012a) shows the rate is increasing. High switching frequency could affect the Malaysian audit market structure.

For direction of switching, by way of contrast with studies in Western countries (e.g. Landsman et al., 2009), auditor switching in Malaysia is going upward. The companies prefer to change from small audit firms to large audit firms. For example, Abdul Nasser et al. (2008) find that switching from small to large audit firm (i.e. from non-Big Four to Big Four) is the most common (36 cases); and changing from large to small audit firm is the least common type of switching (9 cases). The favourable direction of switching to large firms is consistent with the general understanding that companies want to enhance the credibility of financial statements and shares marketability (De Angelo, 1981; Francis & Wilson, 1988).

2.4.2 *Malaysian audit market*

In Malaysia, there are several types of audit firms. The first group is local or national audit firms. The other group is international firms (such as large audit firms or Big Four firms) that link up with local firms (Johl et al., 2007). Some examples of the former group are KPMG Desa Megat & Co. is an affiliated firm with KPMG International (KPMG, 2010); an assurance unit of Baker Tilly Monteiro Heng is affiliated with Baker Tilly International (Monteiroheng, 2007-2008); and Deloitte KassimChan is a member of Deloitte Touche Tohmatsu Limited (Deloitte, 2011).

Even though the local firms are associated with international firms, the firms are independent and exist separately from the international firms. The separation does not affect their level of audit quality. In fact, the association could positively influence the audit quality of local affiliated firms. Cahan et al. (2009) point out those large international accounting firms are motivated to preserve high audit quality. They argue that a firm's tarnished reputation in one particular country can spread to other countries since their operations are globally integrated. Globally integrated audit firms

have more incentives and are aware about maintaining audit quality compared to non-globally integrated firms.

The dominance of large audit firms in the audit market is reflected by high percentage share in the market. Based on firm-year observation, from 1992 to 2004, the average market share for large firms in 37 countries was 68% (Hope et al., 2008). Countries where the firm's market shares are 90% and above are Italy (94%), Canada (93%), Spain (92%), Norway (92%) and New Zealand (90%). Meanwhile, in the US, the market share is 84% and in the UK, the firms control about 78% of the total audit market. Only eight countries show Big Four firms' market share is less than 50%, i.e. Israel (49%), Indonesia (48%), Portugal (44%), Greece (36%), Thailand (35%), the Philippines (31%), India (9%) and Pakistan (1%). The statistics indicate that most of the countries where the Big Four market shares are below 50% are the less developed countries. Hence, the status of a country's economy, whether developed or developing, could influence the presence and dominance of large audit firms in the market (Fargher, Taylor & Simon, 2001).

Categorising countries according to their legal liability regime also reveals differences in large audit firm's market share domination (Choi et al., 2008). The observation made from 1996 to 2002 shows that on average, the market share of large firms in strong legal regimes is 91%, whereas the share in weak legal regimes is much lower, i.e. 75%.[11]

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[11] The range of market share of large firms in countries with strong legal regime is between 87% and 96%. Share in those countries is as follows: Australia, 90%; Hong Kong, 95%; New Zealand, 96%; UK, 87% and US, 87%. As for weak legal regimes, the range is between 18% and 98%. Shares in these countries are as follows: Denmark, 69%; India, 25%; Ireland, 90%; Italy, 98%, Norway, 94%; Pakistan, 18%; Singapore, 91%; South Africa, 91% and Sweden, 88%.

With a very high percentage of large audit firms' domination, the audit market in developed countries is considered as oligopolistic rather than competitive[12] (Wang, O & Iqbal, 2009). In an oligopolistic market, audit firms' domination in the market is very high. Under this market, there is collaboration or collusion among firms, firms have incentive to increase profits and have power to allow/refuse new firms' entry into the market (Abidin, 2006).

2.4.2.1 Measurement of audit market share

To discuss details of the Malaysian audit market share, four common measurements of audit market share are employed. The measurements are: (i) number of audits; (ii) audit fees; (iii) total assets; and (iv) total sales, as used by Abidin et al. (2010).

2.4.2.1.1 Number of audits

Big Four firms audit most of the listed companies. Regardless of the period of studies and sample size, studies on audit market have confirmed the dominance of large firms in Malaysia. Table 2.4 presents big firms' market share based on number of audits.

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[12] In competitive market, the number of audit firms' rivals is higher than in oligopoly market (Abidin, 2006; Wang et al., 2009).

Table 2. 4
Large audit firms' market share from 1991 to 2003, 2005 and 2007

Author(s)/Year	Year of study	Sample size	% of share (number of audits)
Mohd Iskandar, Maelah and Aman (2000)	1991	290	58.7
Mohd Iskandar et al. (2000)	1992	324	59.9
Mohd Iskandar et al. (2000)	1993	328	63.5
Mohd Iskandar et al.(2000)	1994	354	63.8
Mohd Iskandar et al. (2000)	1995	363	66.9
Mohd Iskandar et al. (2000)	1996	278	65.1
Hariri et al. (2007)	1997	611	73
Hariri et al. (2007)	1998	657	72
Hariri et al. (2007)	1999	678	73
Rahmat and Mohd Iskandar (2004)	2001	679	65.4
Che Ahmad, Shafie and Mohamad Yusof (2006b)	2002	819	73
Yatim et al. (2006)	2003	736	68.8
Johl et al. (2012)	2005	559	68.5
Rusmin, Scully, Tower and Taplin (2009)	2007	105	62

Notes:
1. Study on large audit firms' market share in Malaysia for 2004 and 2006 could not be identified.
2. Yaacob and Che-Ahmad (2012) covered the study between 2004 to 2008 and they only disclosed the average market share of Big Four firms (i.e. 65.2%).

Table 2.4 indicates that on average, big audit firms audited about 67% of total PLCs. By looking at a study that employed the highest sample size (819 companies), Che Ahmad et al. (2006b) report that in year 2002, actual market share was 73%, which is 6% higher than the average large firms' market share.

Figure 2.1 provides a better view on the audit firms' market share pattern from 1991 to 2003, 2005 and 2007.
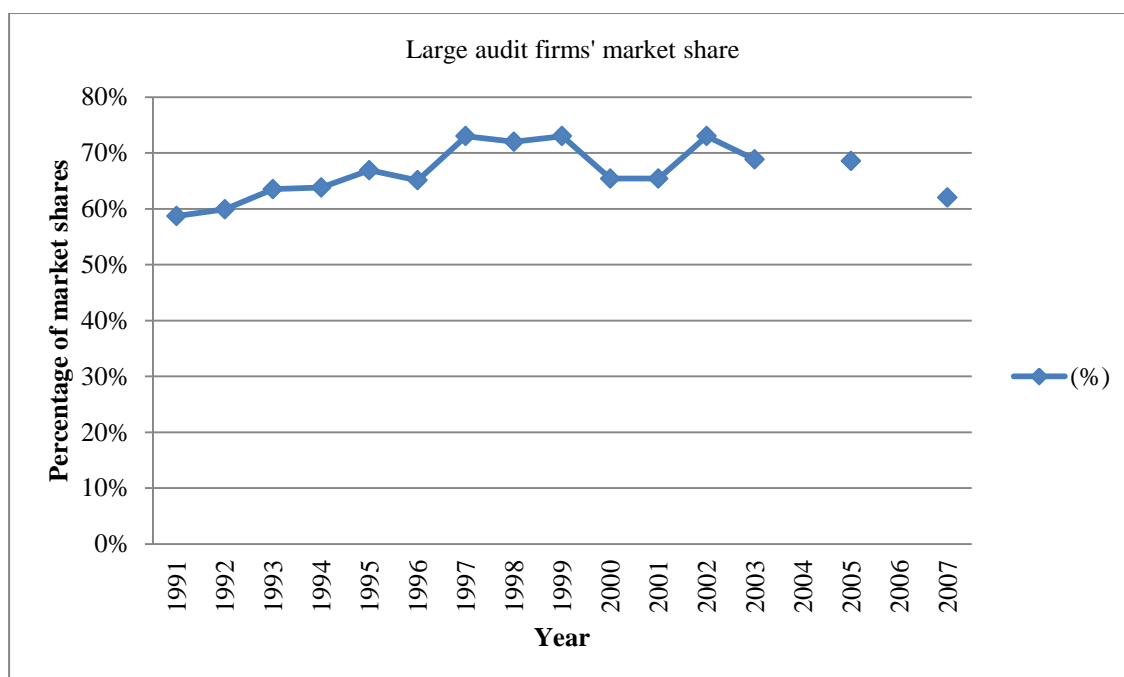
Figure 2. 1
Large audit firms' market share from 1991 to 2003, 2005 and 2007

This graph further indicates that big firms have consistently dominated Malaysian audit market share since 1991, with the lowest share being 58.7% (1991) and the highest at almost 74% (2005). From 1991 to 1997, Ernst &Young had the highest number of market shares (Mohd Iskandar et al., 2000; Hariri et al., 2007). However, in 1998, two other firms (Arthur Andersen and KPMG) also had similar percentage of audit market share (16%) with Ernst & Young (Hariri et al., 2007). Following the merger of Price Waterhouse with Coopers & Lybrand, three audit firms had the highest number of audits (17%) for the year 1999, namely, Ernst & Young, PwC and KPMG. The above table also shows that after the demise of Andersen, by using 2002 market share percentage as a benchmark, two out of three studies reveal large audit firms' market shares have been reduced. This implies that the demise of Andersen had a negative impact on the selection of large audit firms as companies' external auditor.

Despite those studies provide information about the share of audit firms, the studies did not further examine the rate of auditor concentration and individual audit firm's market share. Those studies mainly examine the dominance a group of auditor, which is large audit Firms. This type of studies is widely carried out in various audit market (e.g. McMeeking, 2007; Behn et al., 2009; Evans Jr & Schwartz, 2014). It is important to note that by examining the rate of concentration, it able to answer certain questions such as the extent of audit market competition and different audit pricing practice among large audit firms. This is because Big Four firms not necessarily dominate high concentration market share. In addition, those studies unable to explain whether there is economies of scale in Malaysian audit market. As such, the studies could not inform whether certain hypotheses relating to audit market (e.g. deep pocket hypothesis, signaling hypothesis), is applicable in Malaysia.

2.4.2.1.2 Audit fees

Every listed company is required to disclose the amount of audit fees. Table 2.5 shows the average audit fees paid by the listed companies to their external auditor.

Table 2. 5
Average audit fees paid by Malaysian listed companies

Authors/(Year)	Period of study (sample size)	Audit fees (RM)
Che Ahmad et al. (2006a)	1993 to 1995 (1149 companies)	140,870*
Hariri et al. (2007)	1997 (611 companies)	191,437
Hariri et al. (2007)	1997 (657 companies)	210,495
Hariri et al. (2007)	1999 (678 companies)	201,470
Che Ahmad et al. (2006b)	2002 (819 companies)	194,960
Yatim et al. (2006)	2003 (736 companies)	191,975
Abdul Wahab et al. (2009)	1999 to 2003 (390 companies)	282,200
Johl et al. (2012)	2005 (559 companies)	240,956
Rusmin et al. (2009)	2007 (105 companies)	185,480**
Yaacob and Che-Ahmad (2012)	2004 to 2008 (2210 companies)	212,532

* This amount is derived from sum of average audit fees for big and non-big firms, divided by two to
  get the average fees.
** The actual amount is USD54,553 (USD1= RM3.40).

Table 2.5 shows that the amount of audit fees paid by the companies is more than RM140,000 per financial year, and it is common for companies to pay fees above RM200,000. There is an increment of audit fees in studies conducted between 1993 to 1996, 1997 and 1998. The increments between the 1997 and 1999 period are probably because of the Asian financial crisis, which put companies in a high risk position. The auditor perceived client business risk as a threat to the audit firm's operations, and therefore, charged a high audit fee. Interestingly, there is fee reduction in 2003, but by a very small amount (RM3,000). Abdul Wahab et al. (2009) is the only study that shows audit fees of almost RM300,000 paid by the companies. With the exception of fees paid between 1993 and 1995 (Che Ahmad et al., 2006a), all studies conducted after that period reveal increment in audit fees. The increment could be due to clients' business growth and complexity. For instance, in Abdul Wahab et al.'s (2009) study, the mean of subsidiaries is 29, while Che Ahmad et al. (2006a) demonstrate that the mean is 19. In addition, the nature of companies' ownership probably influenced this high audit fees. Abdul Wahab et al.'s (2009) study indicates that on average, 12% of the company's shares are held by the institutional investors. As the institutional

investors are financially strong, they will invest a large amount of money and most of their investment is focused on big size companies. Unfortunately, Abdul Wahab et al.'s (2009) study does not represent the true picture of the Malaysian audit market fees scenario, as the sample size is smaller (390 companies) than other studies (between 611 to 1,149 companies).

2.4.2.1.3 Total assets

Total assets is an indicator of the size of companies. Rahmat and Mohd Iskandar (2004) reveal that companies audited by a non-specialist auditors have slightly higher mean total assets compared to companies audited by specialist auditors. Similarly, non-Big Six Firms' clients have significantly larger mean of total assets (RM1.49 million) than Big Six auditors (RM1.25 million) (Che Ahmad et al., 2006a). This study contradicts the general assumption that companies audited by large audit firms or high quality auditors are bigger in size (e.g. total assets). The number of clients could explain such contradiction for non-specialist auditors and non-Big Six auditors, which is lesser than specialist auditors and Big Six auditors. These small numbers of companies have contributed to high mean of total assets.

2.4.2.1.4 Total sales

By measuring the market share through total sales or client's revenue, Mohd Iskandar et al. (2000) disclose that majority of the big firms' clients consist of small clients (revenue below RM100 million). This could be due to the fact that majority of Malaysian listed companies at that time (1991 to 1996) fell under this group. However, there is a sign that big firms are increasing their share for medium (RM100 million to RM1 billion) and large clients (revenue more than RM1 billion).

Based on four measurements of audit market share, in sum, the Malaysian audit market is mostly dominated by big firms. This phenomenon is similar to other English speaking countries even though the Malaysian capital market is not as developed as them.[13]

2.4.3 Risk and audit market

It is contended that the audit market operates close to a state of equilibrium, which implies that audit firms are engaged with reasonable clients' portfolio and they are matched in terms of cost (risk) and benefits (benefits) (Hogan & Martin, 2009). According to them, the equilibrium will be affected if there is interference from external factors, such as the introduction of new laws that prohibit NAS and increased monitoring of audit firms by the government. Apart from this, the risk factor also affects the structure of the audit market. The existence of risk factors, like riskier clients, requires auditor and client to reconsider their relationship (Hogan & Martin, 2009).

Table 2.6 summarises the studies on the effects of risk on the audit market.

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[13] Malaysian stock exchange market is smaller than developed countries; the number of listed companies in Bursa Malaysia is 954 companies (as at 23 March 2011). As for market capitalisation, the value as of 31 December 2009 is RM1,275 billion or USD415.310 billion (USD1 = RM3.07) (Source: Website of Bursa Malaysia). In contrast, domestic equity market capitalisation at year end 2009, in USD, for New York Stock Exchange (NYSE) Euronext (US) is 11, 838 billion, Tokyo Stock Exchange Group 3,306 billion and London Stock Exchange 2,796 billion (Source: World Federation of Exchanges, 2009 Market Highlights).

Table 2. 6
Effects of risk on audit market

Author(s) & (Year)	Objective(s)	Period, sample, country	Findings
Jones and Raghunandan (1998)	To examine the audit firm's client risk and the change in audit market during high litigation cost period	1987 and 1994, manufacturing companies with total assets less than $50 million, 1675 (1987) and 1750 (1994) companies, US	During low litigation cost period, Big Six have more risky clients than Non-Big Six firms. In high litigation cost period, the Big Six market shares were reduced.
Choi et al. (2004)	To examine Big Six firms' portfolio for financially risky clients during the period of changes in auditor liability regime	1975 to 1999, 143,157 Big Six firms'client-year observations, US	1975 to 1999 was benchmark for other 3 periods. 1985 to 1989 was the period of high auditor litigation liability – high client riskiness for Big Six. 1990 to 1994 was the period rules to reduce auditor's liability were introduced – low client riskiness for Big Six. 1995 to 1999 was post-relief period – high client riskiness for Big Six.
Rama and Read (2006)	To examine resignation of Big Four firms before and after SOX based on the number of resignations and client characteristics	2001 and 2003, Big Four firms' resignation, 2001– 65 client resignation 2003– 76 client resignation, US	Before SOX:103 client resignations and after SOX: 140 client resignations. After SOX: Big Four charge high fees, resignation companies had lower probabilities of bankruptcies. There is no different between 2001 and 2003 on the appointment of Big Four as a successor auditor, where the Big Four eliminate risky clients and have already become conservative in client acceptance before year 2001.

Table 2.6 (continued)
Effects of risk on audit market

Author(s) & (Year)	Objective(s)	Period, sample, country	Findings
Ettredge, Heintz, Li and Scholz (2007)	To examine the effect of adverse opinion SOX Section 404 (material weaknesses in internal control over financial reporting) on auditor dismissal.	15 November 2004 to 31 December 2007, Companies that disclose SOX 404's adverse opinion in 10-K filing. US.	Auditors (companies) that associate with SOX 404 tend to resign (terminate) from the office.
Landsman et al. (2009)	The first study to examine whether the switching activities before and after Enron/SOX of Big N firms are motivated by client risk or misalignment.	1993 to 2001 (pre Enron) and 2002 to 2005 (post Enron), Big N firms' switching where: Pre Enron: resignation is 727, dismissal is 2774; Post Enron: resignation is 516, dismissal is 1361.Total switching is 5,378. US.	Big N firms are rebalancing their portfolio and switching activity is not strongly attributed to client risk. Pre-Enron period, the lateral/upward switching activities associated with client risk (audit and financial risk) and misalignment characteristics. Downward switching is associated with client risk or misalignment. Post-Enron period, lateral/upward switching is not sensitive to client risk and misalignment characteristics. Downward switching is sensitive to misalignment rather than client risk. Resignation is associated with client risk than dismissal in pre- and post-Enron.
Hogan and Martin (2009)	To examine the effect of switching activity in audit market specifically for "Second Tier" audit firms' risk characteristics.	2000 to 2004, New, departing and continuing clients, new and continuing clients = 2,107 companies, departing and continuing clients = 2,065 companies, US	The firms readjust their client portfolio composition. The market did not change much as only auditor business risks have increased. Client business risk and audit risk did not consistently changed during this period.

Table 2.6 (continued)
Effects of risk on audit market

Author(s) & (Year)	Objective(s)	Period, sample, country	Findings
Cassell, Giroux, Myers and Omer (2009)	To test the role of corporate governance in: determining auditor and client realignment (Big N and non-Big N firms) post-Blue Ribbon Committee (BRC 1999) and SOX (2002).	2000 to 2007, Clients change from Big N to non-Big N firms, 498 company year observation of auditor-client realignment companies, US	Post-BRC, companies with low corporate governance switch to non-Big N firms. Post-SOX, the association does not exist. Big N clients are associated with strong corporate governance rather than non-Big N clients, especially post-SOX.
DeFond and Lennox (2011)	To investigate the impact of SOX on small auditor exits and audit quality	2001 to 2008, 9,177 companies that received going concern opinion, US	More than six hundreds small auditors exit the market. These firms are perceived as having low audit quality due to avoidance of American Institute of Certified Public Accountants (AICPA) peer review or getting negative report on peer review and being unable to comply with PCAOB regulations. Clients of exiting auditor received high quality audit from new auditor.
Kim, Liu and Zheng (2012)	To study the impact of International Financial Reporting Standards (IFRS) adoption on audit fees.	2004 to 2008, 3,693 companies-year observation, European Union countries	Adoption of IFRS led to high audit fees. The FRS premium is low in the countries that have strong legal insitution.

The above table indicates that audit firms are responsive toward risks. The large audit firms are disassociated with risky clients during the period of high litigation liability. However, in the period of low litigation liability, large audit firms are more likely associated with risky clients and, thus, increase their market share. In the competitive audit market, it is pertinent for the firms to adapt to the environment, since it would enhance sustainability. Audit firms need to be dynamic (Folami & Jacobs, 2002), and acclimatise to the changes in the environment (Jeppesen, 2007). Some of the firms' policies or procedures need to be discarded, revised and improved. In fact, the assessment of risk is the main concern among large audit firms (Blokdijk et al., 2006), as it is suggested that increase in audit risk and client business risk lead to higher auditor business risk (Johnstone, 2000). For instance, the incidence of business failure has prompted the firms to be more responsive as compared to the period before the failure (Fafatas, 2006). Evidence in the US shows that after the collapse of Enron and Andersen, the process of client continuance decision has slightly changed, becoming more strict and meticulous (Hollinghworth, 2007). The finding of the above mentioned studies is in line with the concept of risk avoidance and risk elimination strategies. While the studies revealed that the firms are avoiding risky clients, not many of the studies examine the effect of this strategy. This effect is important since it will determine the survival of audit firms in the market due to reduction number of clients.

2.4.3.1 Malaysian audit firms' risk management

Studies on how audit firms in Malaysia manage risk are scarce. A few examples of such studies are Smith, Haji Omar, Sayd Idris and Baharuddin (2005), and Muhamad Sori, Mohamad and Karbhari (2006). The former looks at auditors'

sensitivity on fraud risk. Meanwhile, the latter study concentrates on audit firms' reputation, applying both questionnaire and interview survey methods.

In a study on the perception of auditors' reputation among auditors by Muhamad Sori et al. (2006), all of the respondents (auditors, loan officers and senior managers in PLCs) agree that Big Four firms are more reputable than non-Big Four firms. As for auditors, 65% of them agree that Big Four firms are able to resist management pressure, are more effective in detecting clients' going concern (68%), are more risk averse on damages due to corporate scandals and audit failures (74%), are more risk averse on auditors' litigation due to fraud or misstatements or irregularities (84%), and more independent (56%) than non-Big Four auditors. From the results, it can be said that auditors' reactions towards risk (risk on auditor's litigation and damages) are the most important factors in determining audit firms' reputation, in spite of rare auditors' litigation cases. Such perception maybe drawn from foreign auditing cases where reputation of the auditors is tarnished when they were involved in accounting scandals.

As a matter of risk prevention, auditors can minimise the impact of risks by identifying the signals or the source of risks. In assessing fraud risk indicators, auditors believe that the most important indicator is client's operational and financial stability (mean = 2.935), followed by management characteristics and their influence on the control environment (mean = 2.914), and finally, industry characteristics (mean = 2.496) (Smith et al., 2005). However, in ranking fraud risk indicators individually, the management influence component over the control environment (inability of management to show suitable behaviour on internal control) occupied the top rank out of the 25 fraud risk indicators. Therefore, risk derived from business operations, financial aspects and company management could be more severe than risk related to industry characteristics, and these influence auditor's client selection. Conversely, a

study in Western countries that used industry characteristics to measure the litigation risk finds the industry characteristics did influence the audit firm's market for risky clients (Jones & Raghunandan, 1998).

In another survey of 280 audit firms from 2004 to 2008, the MIA, in its audit firms' Practice Review Report (2009), reveals that most of the audit firms are unaware or have not much concern regarding the importance of risk management (Jayaseelan, 2010). The MIA's Practice Review Report (2009) also states that in many cases, audit planning memorandum (APM) was not prepared. Other weaknesses of audit practices are insufficient audit documentation, evidence obtained is not supported with other audit procedures and the usage of internally generated documents is commonly practiced. Another significant finding of the report is the decision on auditor appointment or continuance engagement was done informally. The audit appointment mostly done based on the firm partner's evaluation and formal assessment, such as evaluation on client's integrity and audit firm's capability, is less likely undertaken. This indicates that the firms do not assign specific strategy or policies to handle risk matters. The finding is worrying as the survey was carried out not long enough after the collapse of Andersen in 2002. Supposedly, the collapse will make the Malaysian audit firms to be more prudent in their audit tasks and emphasise risk management practices.

The above studies show Big Four firms are perceived to manage risk well, but the practice of risk management among many Malaysian audit firms is not well established. Studies on risk are not many, and most emphasise the role of risk on audit procedure, and lack emphasis on the initial part of audit engagement (e.g. auditor choice). Factors like size, expertise, threat of risk and litigation issues, might lead to different risk management practices between Big Four and non-Big Four firms.

2.4.4 Audit quality indicators

There are some available indicators of audit quality, such as firm size, audit fees and reputation (Copley, Doucet & Gaver, 1994; Fargher et al., 2001; Woo & Koh, 2001). Other indicators are reputation in domestic market, industry specialisation, and cross-city and cross-country differences (Francis, 2004). DeFond (1992) states that the common indicators for audit quality are: (i) auditor size; (ii) brand name reputation; (iii) auditor specialisation; and (iv) independence.

(i)   Auditor size

The differences of quality among groups of auditors can be viewed based on the audit firm's size (De Angelo, 1981). The size refers to large (Big Four) and small (non-Big Four) firms. It is well accepted that a large audit firm is associated with high quality audit service, and vice versa. Apart from differences in quality, according to Hunt and Lulseged (2007), both firms also differ in terms of: (i) client's characteristics (small audit firms' clients have lower financial strength than larger firms); and (ii) structure of the audit firm (structure of the small firms is less complex than large firms).

Quality service of large firms can be observed in terms of quality of financial reporting, audit opinion and the amount of audit fees. Clients of Big Four firms have less earnings management (Francis & Krishnan, 1999) and more value relevance of earnings and equity (Lee & Lee, 2013). Similarly, for IPO companies, Big Five firms are associated with less earnings management and provide more accurate financial information (Chen et al., 2005). As for audit opinion, Big Four firms are able to give assurance that is more reasonable on companies' financial position. Since the firms have more expertise to assess their clients' going concern, the firms would issue going concern opinion rather than an unqualified opinion in the case of financially troubled

companies (Reichelt & Wang, 2010). As for monetary value of audit quality, Palmrose (1986) suggests that large audit firms charge higher fees than smaller firms do. The fee differences indicate that large firms are providing high audit quality.

The close relationship between large audit firms and high quality can be attributed to better access to audit resources. The resources can be in terms of the extent of technology usage (e.g. audit software), and qualified and experienced audit personnel. In contrast, small firms have limited resources to equip their firms with proper facilities and develop human capital. Moreover, big firms are perceived to be competent due to their commitment to spending for audit training programmes (Behn et al., 2008). With additional resources, they are able to perform more audit procedures and tests, thus increasing audit quality (Dopuch & Simunic, 1982).

However, to conclude that audit quality is low among small firms is inappropriate since small firms also care about audit quality. For example, Hunt and Lulseged (2007) show that non-Big Five firms do not compromise on earnings management practices, and will issue audit opinion accordingly regardless of the client's size. In fact, Simunic (2003) stresses on the issue of audit quality and firm size to be re-examined. He argues that most of the audit failure in the early 2000's was associated with large audit firms and reduction in the number of large firms (from Big Eight to Six to Four) might affect a firm's behaviour. He also adds that audit quality differentiation hypothesis is unclear; the differentiation of audit procedures between large and small firms is ambiguous, and the quality of large firms can be driven by litigation and audit market factors.

The assumptions that audit quality can be associated with large firms, therefore, are open to question, as the positive association between audit quality and audit firm size is not always true.

(ii)   Brand name reputation

Brand name is a connotation about the characteristics or behaviour of a firm. The name is something that a firm is proud of and the firm will endeavour to protect it. The firm will ensure that rules and regulations pertaining to audit of financial statements are complied with, and unethical behaviours are avoided. Failure to meet ethical requirements and other auditing guidelines (e.g. destroying audit evidence, misstatement in financial information, concealing material information), would cause the auditor to be questioned or prosecuted by shareholders and regulators.

Large audit firms have become the main targets to be sued because of their ability to pay compensation compared to smaller firms (De Angelo, 1981; Dye, 1993). The litigation would expose firms into the public domain; notwithstanding the trial outcome, the perception towards the auditor is always affected. Since large audit firms have a higher reputation to preserve than smaller firms (De Angelo, 1981), Big Four firms are regarded as reputable firms (Cahan et al., 2009). For instance, a reputable auditor is associated with positive earnings forecast accuracy in Malaysian IPO companies (Ahmad-Zaluki & Wan-Hussin, 2010). Similarly, because of reputation factor, large firms are careful in issuing audit opinion for distressed companies (Reichelt & Wang, 2010).

In order to maintain audit quality and avoid high litigation cost, large firms have more incentives to reduce audit failure than smaller firms (Palmrose, 1988). Reduction of audit failure indicates firms are trying to minimise exposure to risk; therefore, the relationship between audit firm quality and litigation risk is negative.

The prevalent argument which states that audit firms are sued because of their deep pocket rather than low audit quality can be seen in the case of the collapse of the seventh largest accounting firm in the US; Laventhol and Horwath (L&H). Lai and Gul (2008) find audit quality of this firm was not poor and was comparable with other

types of audit firms. Hence, Palmrose's (1988) argument that larger firms are less likely to be involved in litigation than smaller firms is true in the context of audit quality and not deep pocket hypothesis.

However, reputation of audit firms can vary from place to place (Francis, Stokes & Anderson, 1999). Fargher et al. (2001) argue that the need for audit firm reputation is influenced by the extent of a country's economic development. Developed and developing countries not only differ in economic growth, but also in culture and social aspects. Developed countries have complex and high legal requirements (Fargher et al., 2001). Since these countries have strong legal structures, they look for rigorous audit procedures and high audit quality. For example, in Germany, where auditor liability is highly protected, investors perceive audit firm's reputation as important (Weber, Willenborg & Zhang, 2008). A similar argument is put forward by Simon, Teo and Trompeter (1992). They argue that other than companies' ownership structure, the insignificant existence of large audit firms in Malaysia and no Big Six audit fee premium could be influenced by local business law and regulations.

In terms of audit fees, the association between fees and brand name of auditor is positive, similar to the relationship between audit fees and size of audit firms. Craswell, Francis and Taylor (1995) suggest Big Eight firms' earning of more audit fee premium than non-Big Eight, is due to the high costs involved in building up audit reputation. High audit fee is the manifestation of reputation protection rather than economic dependence, as evidence shows that Big Five firms have treated their large clients (large clients contribute to high audit fees) stringently (Reynolds & Francis, 2000).

(iii)   Auditor specialisation

Using audit firm size and brand name as indicators of audit quality has some weaknesses. One of the pitfalls is inability to explain in detail about the individual audit firm. The indicators make a general assumption that all Big Four firms are providing higher audit quality compared to non-Big Four firms. In the case of audit firm's reputation, it is assumed that Big Four firms are homogeneous (Francis et al., 1999).

One of the ways to differentiate quality among audit firms is auditor specialisation. There are some benefits of audit specialisation. When the auditor becomes an industry expert, it would increase demand for audit and NAS, enhance efficiency, differentiate audit products and create barriers to market competition (Gramling & Stone, 2001). In addition, through specialisation, an auditor is able to increase profit (Hogan & Jeter, 1999; Francis et al., 1999) and reduce audit costs (Knechel, Naiker & Pacheco, 2007). With regards to financial statement quality, it is argued that a specialist auditor is able to detect earnings management (Reynolds & Francis, 2000), disassociate accounting restatement activities (Romanus, Maher & Fleming, 2008), limit management's tendency to change their earnings from what has been forecasted (Payne, 2008), improve earnings quality (Gul, Fung & Jaggi, 2009; Reichelt & Wang, 2010) and be conservative in audit opinion issuance (Lim & Tan, 2008).

The auditors need to consider some factors before developing their specialisation. Other than time needed to build specialty (Gul et al., 2009), additional costs are involved (e.g. investment in personnel development, technology) (Reichelt & Wang, 2010). To compensate the investment, it is not surprising that Big Eight industry specialists earn higher premium over non-specialist Big Eight (Craswell et

al., 1995) and large fees premium obtained is mostly due to their audit market domination (Chen, Su & Wu, 2007).

Studies on audit firm specialisation in Malaysia are still at an early stage. Specialisation among firms did not exist in Malaysia from 1991 to 1996 (Mohd Iskandar et al., 2000). The scenario changed slightly at the end of the 1990's. Md Ali et al. (2008) show there is audit specialisation and suggests the emergence of audit specialisation could be due to: (i) trade liberalisation; (ii) standardised audit approach taken among audit firms worldwide; and (iii) the likelihood of an audit firm to be a leader in certain industries.

In a similar vein, the number of Malaysian listed companies audited by specialist firms is low. For example, the presence of specialist auditor in Malaysia is not common compared to countries like Denmark, Spain, Hong Kong and Singapore (Srinidhi et al., 2009). Based on observations from 2005 to 2008, 34% of the samples are audited by specialist auditors, which indicate another 66% of sample observations are not audited by specialists (Dunstan et al., 2010). The figure implies that majority of listed companies did not receive audit services from the expert firm and this would have negatively affected the quality of the companies' financial statement.

There are some studies that have examined audit firm industry specialisation. These studies are Mohd Iskandar et al. (2000), Mohd Iskandar and Wan Abdullah (2004), Rahmat and Mohd Iskandar (2004) and Md. Ali et al. (2008). Table 2.7 below summarises studies by Mohd Iskandar et al. (2000) and Md. Ali et al. (2008) on audit firms' specialisation from 1991 to 2002.[14]

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[14] Rahmat and Mohd Iskandar's (2004) and Mohd Iskandar and Wan Abdullah's (2004) studies are not included in the table since the period of their study (i.e. 2000 and 2001) are also covered by Md. Ali et al. (2008).

Table 2. 7

Number of audit firms industry specialisation from 1991 to 2002

Industry/ Year	1991	1992	1993	1994	1995	1996	1999	2000	2001	2002
Consumer	3 (PM, PW, EY)	3 (PM, PW, EY)	3 (PM, PW,EY)	3 (PM, PW, EY)	3 (PM, PW,EY)	4 (CL,AA, PW, EY)	1 (AA)	0	0	0
Industrial	4 (CL, PM, PW, EY)	3 (CL,PM,PW)	4 (CL, PM, PW, EY)	5** (CL, PM, PW EY)	5 (CL,AA, PM, PW, EY)	5 (CL, AA,PM, PW, EY)	1 (KPMG)	1 (KPMG)	1 (KPMG)	1 (KPMG)
Construction	1 (PM)	3 (AA,PM,EY)	3 (AA,PM, EY)	3 (AA,PM, EY)	3 (AA,PM,EY)	3 (AA,PM,EY)	1 (KPMG)	0	1 (EY)	1 (EY)
Trading	2 (PW,EY)	2 (PW,EY)	2 (PW,EY)	3 (CL,PW, EY)	5 (CL,AA, PM,PW, EY)	5 (CL,AA, PM,PW, EY)	1 (PwC)	1 (AA)	2 (AA,PwC)	1 (AA)
Finance	2 (AA, PW)	3 (AA,PM,PW)	3 (AA,PM,PW)	2 (AA,PM)	2 (AA,PW)	2 (AA,PM)	1 (AA)	2 (AA,PwC)	2 (AA,PwC)	2 (AA,PwC)
Hotels	1 PM	2 (AA,PM)	2 (AA,PM)	2 (AA,PM)	2 (AA,PM)	1 (PM)	N/A	N/A	N/A	N/A
Properties	2 (PM, EY)	2 (PM, EY)	4 (CL,AA, PM,EY)	3 (CL,AA, EY)	2** (CL,AA, EY)	3 (CL,AA, EY)	1 (AA)	1 (AA)	1 (AA)	0
Plantation	3 (CL,PM,EY)	3 (CL,PM. EY)	2 (PM,EY)	3 (CL,PM,EY)	4 (CL,AA,PM EY)	3 (AA,PM, EY)	2 (AA,EY)	2 (AA, EY)	2 (AA, EY)	2 (AA, EY)
Trust	2 (CL,AA)	2 (CL,AA)	2 (CL,AA)	2 (CL,AA)	2 (CL,AA)	1 (CL)	N/A	N/A	N/A	N/A
Technology	N/A	N/A	N/A	N/A	N/A	N/A	2 (KPMG,PwC)	0	1 (AA)	1 (AA)

* Md. Ali et al. (2008) examine firm's specialisation from 1999 to 2002. Due to merger process between Price Waterhouse and Coopers & Lybrand in 1997 and 1998, they did not examine audit specialisation in these two years. Md. Ali et al. (2008) exclude five (closed-end funds, hotel, infrastructure project companies, mining and trusts) out of 13 industries because each of the industries has less than ten companies.

** There is inconsistency between number of the firms and name of the firms.

Notes:

1. From 1991 to 1999, the cut-off audit firm industry specialisation is 10% and from 1999 to 2002 the cut-off is 20%.

2. CL = Coopers & Lybrand, AA = Arthur Andersen, PW = Price Waterhouse, EY = Ernst & Young, PM = Peat Marwick, PwC = PricewaterhouseCoopers, KPMG = Klynveld Peat Marwick Goerdeler.

Mohd Iskandar et al. (2000) examined industry specialisation from 1991 to 1996 and working along the same lines as this study, Md. Ali et al. (2008) extended it for other years, i.e. from 1999 to 2002.

From 1991 to 2002, at least one of the Big Six/Five firms specialized in one industry, except for Deloitte Touche Tohmatsu. Deloitte Touche Tohmatsu's market share in any industry was less than 10% (from 1991 to 1996) and 20% (from 1999 to 2002). Starting from 2000, there is no audit firm industry specialisation for the consumer industry. This could be attributed to high number of companies in this industry as compared to construction, finance, hotels, plantations, mining, trust (Mohd Iskandar et al., 2000) and properties industries (Rahmat & Mohd Iskandar, 2004). In addition, consumer companies are not subjected to various types of rules and regulations unlike finance or trust companies. These factors make the industry the darling of audit firms. As many audit firms look forward to this industry, firm specialisation in this industry is not prevalent.

Nevertheless, audit firm industry specialisation is not consistent from time to time. The merger of audit firms can explain this. Prior to the firms' merger, Price Waterhouse or Coopers & Lybrand was the specialist in the consumer and industrial sectors; post-merger shows that they are no longer industry specialists. It infers that firms' merger does not always help in retaining their specialisation status. Based on 2000 and 2001 data, Rahmat and Mohd Iskandar (2004) reveal that Ernst & Young and Arthur Andersen were the only industry specialists. PwC, KPMG and Deloitte Touche Tohmatsu did not achieve the cut-off audit firm industry specialisation. According to Rahmat and Mohd Iskandar (2004), Ernst & Young specialized in one industry (plantation), while Arthur Andersen in three industries (properties,

plantation, trading & services). However, in the other merger exercise (between Ernst & Young and Andersen), Ernst & Young had increased the number of industry specializations (Md. Ali et al., 2008).

Studies on audit firm industry specialisation need to be carefully interpreted. Different studies employ different types of measurements (Mohd Iskandar and Aman, 2003; Md. Ali et al., 2008). Rahmat and Mohd Iskandar (2004) demonstrate that by changing the specialist cut-off level, non-specialists can also be a specialist firm. Also, there is a critic on the suitability of using number of audit to measure audit specialization. It is argued that having the largest number of clients does not necessarily mean the audit firm is getting highest audit fees in the industry (Lowensohn, Johnson, Elder & Davies, 2007). Auditors can still get the highest fees when they have a small number of very large clients as compared to other firms that have many small clients.

Another problem with studies of audit firm industry specialisation in Malaysia is the period of the study. The studies were conducted during Big Five era. However, there are some major events happened after 2002 (i.e. Big Four era), such as amendment of rules and regulations and the incidence of financial scandals. Further, due to economic growth and the importance of certain industries, this might change the contribution of certain industry on Malaysian economy. In order to be developed country, the contribution from industrial sector is more critical than plantation sector (Che Ahmad et al., 2006a). These events might affect audit firm's approach in determining their client portfolio and specialisation.

(iv)   Auditor independence

Auditor independence falls under the second part of audit quality definition - auditor's report on audited financial statement. There are two types of independence: independence in fact and independence in appearance (Hudaib & Haniffa, 2008; Fan, Woodbine & Cheng, 2013). The former refers to the willingness of auditors to express an opinion regarding the truthfulness of clients' accounts, whereas the latter is public perceptions towards auditors in maintaining their objectivity.

Some indicators of auditor independence are audit fees (Craswell, Stokes & Laughton, 2002; Ghosh, Kallapur & Moon, 2009), NAS (Ghosh et al., 2009; Markelevich & Rosner, 2013) and audit tenure (Stanley & DeZoort, 2007; Baber, Krishnan & Zhang, 2014). Audit and NAS fees are part of the audit firm's source of income, while audit tenure refers to how long the auditors serve their clients.

An audit firm's reliance on the income from a client and concentration on monetary gain would impair its independence (Chen, Elder & Liu, 2005). In the case of audit fees, auditors' independence would be affected when the firms consider a particular client is important for them (De Angelo, 1981). This is consistent with Ghosh et al.'s (2009) finding that audit fees are negatively effecting investors' perceptions of earnings. On the other hand, Craswell et al. (2002) show that audit fees dependence does not influence clean audit opinion issuance, which regardless of the amount of fees obtained, the auditor will report truthfully. Inconsistent results could be due to the different context of auditors' independence studies. Ghosh et al. (2009) investigate audit fees effect on the market participants' perceptions (independence in appearance), whereas Craswell et al. (2002) examine the effect on auditor reporting credibility (independence in fact).

Inconsistent findings also exist in NAS studies. For instance, DeFond, Raghunandan and Subramanyam (2002), Reynolds, Deis and Francis (2004) and Svanström (2013) find NAS fees do not necessarily impair independence; meanwhile, studies like Firth (2002), Frankel, Johnson and Nelson (2002) and Liao, Chi and Chen (2013) suggest that the fees impair independence. The explanation given by Schneider, Church and Ely (2006) could justify these inconsistencies. Based on review of literature on NAS and auditor independence, they suggest the inconsistency can be due to research design aspects, such as measurement of NAS and the setting of the study.

The appointment of specialist auditors can mediate the impact of the NAS fees on auditors' independence. These auditors can maintain independence in spite of providing NAS to their clients (Lim & Tan, 2008). In addition, Lim and Tan (2008) show that audit quality for clients who purchase NAS from a specialist auditor is higher than that of clients who purchase NAS from a non-specialist auditor. They suggest this is because of the specialist auditor's concern on reputation, litigation and the benefit of knowledge spillover, which induce them to offer high quality service.

Similarly, discussion on the effect of audit tenure on independence offers two different views (Chen et al., 2005; Stanley & DeZoort, 2007). Firms with short tenure[15] are claimed to be more independent and do not have the benefit of close relationship with clients, as compared to long tenured firms. However, short tenured firms take some time to build their understanding of their clients' businesses. As for

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[15] Short tenure is three years and less, while long tenure is five years and more (Stanley & DeZoort, 2007).

long tenured firms, it is argued that the firms are more efficient because they have dealt with or served the clients for several years. While the firms perform efficiently, their independence can be impaired because of long relationship with the clients. Stanley and DeZoort (2007) reject the proposition that long tenured audit firms compromise audit independence. They reveal that long tenure does not affect NAS fees and quality of financial reporting, in contrast to short tenure.

To ensure the independence is maintained and improved, regulators have restricted the audit tenure. Regulators in the US and Malaysia require the audit partner to be rotated after five years of serving the clients. The restriction is the sign of government interference in determining audit market structure. By choosing audit partner rather than audit firm rotation, the regulators are playing safe. The audit industry might react negatively if the policy requires audit firms' rotation since the policy would affect their revenue.

Based on prior explanation, studies on auditor's independence have produced mixed results, and sometimes, the degree of audit firm's tolerance on independence is not as bad as expected. This is in line with Hudaib and Haniffa's (2008) claim that the concept of auditor's independence is controversial and needs to be discussed.

2.4.4.1   Audit quality studies in Malaysia

In Malaysia, the number of audit quality studies is on the rise. The studies are not limited to only examining auditor's competence, but also look at the auditor's independence aspect.

Earlier studies on audit quality (using primary data), did not combine both components of audit quality (competence and independence) but they concentrated on

auditor's independence aspect. Teoh and Lim's (1996) is among the earliest studies on audit quality. They reveal that factors such as management consultancy services, audit committee, audit firm rotation, audit fees and disclosure of NAS fees affect the perception of independence. In addition, issues like competitiveness of audit firms, size of the audit firms, audit tenure and the existence of audit committee also influence financial statement users (Abu Bakar, Abdul Rahman & Abdul Rashid, 2005) and preparers' perception (Abu Bakar & Ahmad, 2009).

Jaffar, Mohd Ali, Selamat and Alias (2005) adopt a more holistic approach, whereby they examine factors that influence audit quality among audit partners, the audit committee and investment analysts. Four factors are found to be important: (i) technical knowledge of auditors; (ii) ability of auditor to inform about developments in accounting and auditing to the client; (iii) fulfillment of ethical conduct by auditor; and (iv) client's industry knowledge. Specifically, auditor's knowledge is the most important whereas providing NAS is the least important factor that affects audit quality. As such, auditor's competence is perceived to be superior to auditor's independence in audit quality.

A study by Ismail et al. (2006) among auditees' (PLCs) expectation on audit firm's service, shows that auditor's reliability (i.e. independence) characteristic is more important than tangible factors (i.e. audit facilities). As large firms audit most of the listed companies, the auditee might perceive large firms are having almost similar audit facilities. Therefore, intangible factors can differentiate one audit firm from the other firms. The study is inconsistent with Jaffar et al. (2005) that reveal independence is the least important factor influencing audit quality. The timing of the study could have contributed to the mixed findings. Jaffar et al.'s (2005) study was

conducted between November 2001 to January 2002, i.e. before Andersen closed down its business in August, 2002 (Abidin, 2006), whereas the study by Ismail et al. (2006) was carried out around 2005, i.e. three years post-Andersen's case. Hence, Andersen's concentration on NAS (Che Ahmad et al., 2006b) leading to the firm's collapse influenced respondents' perception on the importance of auditor's independence.

Other than primary studies, there are also several studies using archival data. These studies employ various measurement of audit quality. The following Table 2.8 shows some of the archival studies on audit quality.

Table 2. 8
Archival studies of audit quality in Malaysia

Author(s) & (Year)	Objective(s)	Period, sample and methods	Related findings on audit quality
Rahmat and Mohd Iskandar (2004)	To study the effect of auditor's brand name, industry specialisation and leadership on audit fees	31 May 2000 and 30 April 2001, 679 companies, regression.	Only industry market leader's auditor generates audit fee premiums.
Che Ahmad et al. (2006b)	To evaluate: the influence of NAS fees on audit fees the influence of NAS fees on audit opinion ratio of NAS fees to total audit fees	2002, 819 samples, multivariate regression analysis.	Audit and NAS fees is directly associated NAS fees is associated with audit opinion NAS fees has a high contribution to total audit fees
Johl et al. (2007)	To examine the relationship between earnings management and audit opinion	1994 to 1999, 298 pairs (596 observations), logistic regressions	Big Five auditors more frequently issue qualify audit opinion when there is high absolute abnormal accrual. Big Five firms audit majority of the companies with qualified opinion. Specialist auditor does not show significant relationship with earnings management.
Carlin et al. (2009)	To investigate the compliance level on the new Financial Reporting Standards (FRS) 136-Impairment of Assets among Big Four firms' clients.	2006, 34 companies from FTSE Bursa Malaysia Index, analytical structure	Audit quality among Big Four firms is not similar and the extent of compliance among companies on FRS 136 is low.
Abdul Wahab et al. (2009)	To examine the association between institutional investors and politically connected firms with audit fees (audit quality)	1999 to 2003, 390 companies, multivariate analysis	There is positive relationship between institutional investor and politically connected firms with high audit quality (audit fees). Politically connected firms with the presence of institutional investors paying high audit fees.
Shafie, Wan Hussin, Md. Yusof and Md. Hussain (2009)	To investigate the association between audit firm tenure with going concern opinion (auditor reporting quality).	2002, 187 distress companies, multivariate regression.	The longer audit firm tenure, the higher the quality of auditor reporting decision.

Table 2.8 (continued)
Archival studies of audit quality in Malaysia

Author(s) & (Year)	Objective(s)	Period, sample and methods	Related findings on audit quality
Rahmat, Mohd Iskandar and Mohd Salleh (2009)	To examine the characteristics of audit committee in financially distressed and non-distressed companies	2001, 146 matched-pair companies, logistic regression.	The higher the quality of auditor, the lower the probability of financial difficulties.
Dunstan et al. (2010)	To study the effect of audit tenure, NAS on earning conservatism	2003-2008, 2235 company-year, regression analysis.	Long tenure and high NAS are positively associated with earnings quality.
Abdul Rahman, Abdul Wahab and Mat Zain (2010)	To investigate whether politically connected firm has effect on auditor independence (NAS fees)	2001-2003, 379 company-years, multivariate analysis.	Politically connected firms have higher NAS fees as compared to non-politically connected firms.
Abdul Wahab, Mat Zain and James (2011b)	To test the relationship between corporate governance and audit fees after MCCG is introduced	1999 to 2002, 379 companies, seemingly unrelated regressions.	Corporate governance and fee are positively associated, but the relationship is weakening after MCCG is introduced. It suggests MCCG has reduced audit effort.
Mohamed et al. (2012)*	To investigate the contribution of internal audit quality to financial statement audits	73 listed companies, cross sectional.	Internal audit quality (competency and internal audit contribution) are associated with low audit pricing.

*This study employed public information data, matched with survey responses.

Except for Johl et al. (2007) and Carlin et al. (2009), results from Table 2.8 concur that audit quality, as proxied by audit firm's size, brand name, NAS and tenure are associated with quality of financial reporting, audit reporting, companies' performance and ownership.

However, these studies suffer some limitations. For example, one of the drawbacks of Carlin et al.'s (2009) study is their samples only consist of Big Four firms' clients and the size of their sample is small. Also, Che Ahmad et al.'s (2006b) concern on auditor independence impairment is made based on the 5% cut-off of NAS as stipulated in SOX 2002, and not MIA's guidelines. By using MIA's measurement, which is relevant to the local audit market, it would produce findings that are more meaningful.

Further, the above studies mainly examine the role of external audit quality mechanism (external audit firm) to minimize the agency problem. Other than Mohamed et al. (2012), there are not many studies examining the role of internal audit quality. The need for good internal audit function, including internal audit function provider objectivity, is getting recognition among Malaysia listed companies (Fadzil, Haron & Jantan, 2005; Listing Requirements of Bursa Malaysia Securities Berhad). As such, it is important to further expand the scope of audit quality study by including the internal audit components and examine its effects towards audit practice.

2.4.5   *Auditor quality and audit engagement decisions*

Francis et al. (1999) suggest that auditor quality (e.g. reputation and expertise) is one of the client's considerations in choosing an auditor. Evidence shows that market participants react positively when companies switch their auditor from low

quality auditor to high quality auditor (Knechel et al., 2007). As for auditors, they also would consider client's characteristics in audit engagement decision (Johnstone, 2000). The evaluation of client's characteristics helps them to decide whether they should establish or terminate relationship with the company. The engagement decision might be different between various types of auditor quality.

(i)   Auditor size

According to Gendron (2001) and Hay, Baskerville and Qiu (2007), different audit firms (e.g. large versus small audit firms) act differently in audit judgment. It is important to note that big audit firms have many branches, whereas small firms have limited branches across the country. This factor leads the big audit firms to decentralise or delegate the decision to the local branch office, including client acceptance and retention decisions (Hunt & Lulseged, 2007). In spite of the decision made at the lower level of the audit firm (e.g. city level), the decision is usually aligned with the upper level of the firm (e.g. national office level). Global audit firms also adopt similar practices. According to Carson (2009), there is co-ordination for business operations of the global audit firm's network (GAFN), including their quality control policies and procedures. The co-ordination results in consistent audit decision process. For instance, Andersen's operation is well integrated (e.g. audit training, accounting system, insurance, basis of profits sharing) and all their offices are linked to Andersen Worldwide (Cahan et al., 2009).

Prior evidence reveals that audit firms avoid high risk clients (Jones & Raghunandan, 1998; Choi et al., 2004). Choi et al. (2004) show that Big Six firms are increasingly averse to providing services to most financially risky clients. This is because clients' poor financial position contributes to audit failure (Pratt & Stice,

1994). After the year 2000, in the US, large audit firms adopted a conservative approach (i.e. the audit firm has become selective in accepting audit clients) in client portfolio management, and tend to end their relationship with these clients (Rama & Read, 2006; Stefaniak, Robertson & Houston, 2009).

Large audit firms' resignation causes the clients to find small audit firms (Bockus & Gigler, 1998). Large firms are less likely to accept clients whose predecessor auditor has resigned (Raghunandan & Rama, 1999) due to legal liability factors (Bockus & Gigler, 1998; Landsman et al., 2009). Since small clients are looking for small audit firms, the small firms cannot be selective as compared to large firms in client evaluation process (Stefaniak et al., 2009).

(ii)   Brand name reputation

Other than the liability factor, audit firm's reputation protection also influences audit engagement decision. According to Cahan et al. (2009), large international accounting firms have incentive for high audit quality because reputation damage in one country can spread to other countries. They point out that reputation damage occurred in US's Andersen in 2002 and spread out to and suffered by Andersen's offices outside the US. For reputable audit firms, the legal expenses incurred is not a major issue as they have enough resources, but, the effect of reputable damage is very costly and cannot be insured (Simunic & Stein, 1990). Since the repercussion of reputation damage is severe, it leads the auditor to apply stringent process in the client acceptance decision (Johnstone & Bedard, 2003; Hollingworth, 2007). Hunt and Lulseged (2007) argue that reputation not only matters to large audit firms, but also non-big firms. They demonstrate that non-Big Five firms have treated large clients in a stringent manner in auditor's reporting decisions. As large

companies contribute to high amount of audit fees, by treating them strictly, it indicates that the non-Big Five firms are very worried about the effect of reputational damage rather than fear of loss of income.

(iii)   Auditor specialisation

There are two views on the association between firm's specialisation and auditor's judgment. Gramling and Stone (2001) argue that auditors use their audit expertise as a marketing strategy tool. By specialising in certain industries, the auditors create competitive edge in performing audit tasks as compared to non-specialist auditors. Based on their clientele industry experience, specialist auditors can offer specific advice or suggestion to their clients that could not be offered by non-specialist auditors. The "specialist" factor induces high risk clients to appoint them. It is hence not surprising that there is tendency among audit firms to improve their level of specialisation because specialisation results in higher returns (Hogan & Jeter, 1999).

By contrast, competitive bidding (audit firms are competing with other firms in obtaining clients, in contrast to private negotiation with clients) is likely to occur when the bidding audit firm is not a specialist (Adams, Bedard & Johnstone, 2005). This infers that specialist auditors are not intensively looking for clients. There are some reasons to explain this scenario. Specialist auditors concentrate only on certain industries and do not simply bid for any client. If the firm accepts audit appointment for a client that is out of their area of expertise, the firm will find difficulties in accomplishing the job, and this might affect quality of audit.

(iv)   Auditor independence

Firm's independence, as another dimension of audit quality, also has an influence on audit engagement decision. Firms that depend on fees from large clients can influence audit judgment (Craswell et al., 2002; Reynolds & Francis, 2000). Reynolds and Francis (2000) argue that fee or economic dependence is beneficial for local offices of large audit firms. While local offices rely on this type of client, the firm is not fully responsible for reputation and litigation matters since it is shared by the entire firm. They explain that local offices of Big Five firms have more tendencies to retain and accept clients that are large in size (fee dependence). Other than audit fee, opportunity of providing NAS is also an attractive factor for audit firms to accept the client, especially risky clients. Risky client acceptances require additional audit efforts and provide an opportunity for audit firms to provide NAS.

2.4.6   Auditor choice

Based on auditor choice theory, shareholders expect company managers to appoint high quality auditors to ensure the reliability of financial information (Williams, 1988). As the audit appointments require mutual agreement between auditor and auditee, certain factors would influence their engagement decision. A company's decision on choice of auditor can be classified into auditee, auditor and audit characteristics (Beattie & Fearnley, 1999).

2.4.6.1   Studies on auditor choice in Malaysia

There are at least five published studies of auditor choice in Malaysia: four employ secondary data (Mohd Iskandar & Wan Abdullah, 2004; Che Ahmad et al.,

2006a, Wan Abdullah et al., 2008 and Syed Mustapha Nazri et al., 2012a); and one uses primary data (Jaffar, 2009).

Jaffar (2009) conducted a survey of 200 CFOs of listed companies on factors that influence their auditor choice. In her study, Jaffar (2009) discloses that CFOs should at least agree that firm's credibility, audit fee negotiation, ability of the firm to offer other than audit opinion, partner's knowledge, capability of auditor to carry out audit field work and effective interaction with audit committee, are the factors to be considered in audit firm's appointment. The least important factors are the location of audit firms and direct involvement of partner in the audit. Further, regardless of the type of auditor (Big Five or non-Big Five firms), it is of the opinion that the above said factors are important in auditor selection. However, she shows two significant factors that differentiate companies audited by Big Five and non-Big Five firms: credibility of audit firms and audit fee negotiation. Her study indicates that while the companies audited by large audit firms are concerned about high quality audit firms, the companies also would prefer to negotiate on audit cost charged by the firms.

The following Table 2.9 shows results on archival studies of auditor choice in Malaysia, namely Mohd Iskandar and Wan Abdullah (2004), Che Ahmad et al. (2006a), Wan Abdullah et al. (2008) and Syed Mustapha Nazri et al. (2012a).

Che Ahmad et al. (2006a) is among the earliest studies on auditor choice in Malaysia. They investigate the influence of ethnicity and foreign ownership on choice of auditor. Two types of auditors are examined - Chinese/non-Chinese auditor and quality differentiated auditor (i.e. Big Six and its affiliate firms). Companies that are owned by certain type of ethnic are linked to auditors from the same ethnic background. The similarity in values and culture create mutual understanding between

the companies and auditors. To further illustrate, foreign companies prefer quality auditors. Another important finding of Che Ahmad et al.'s (2006a) study is the significance of audit fee, where the higher the audit fee, the higher the tendency of companies to choose large audit firms.

Table 2. 9

Regression results on large auditor choice (risk factors)

Variable	Big Six/Non-Big Six *			Specialist/ Non-specialist **	Big Four/ Non-Big Four ***	Big Four/ Non-Big ****
	1995	1994	1993	2000	2003	1990 to 2008
Foreign companies	NS	+	+			
Audit fee	+	+	+			
Asset	NS	NS	-		+	
Sales				+		
Subsidiaries	-	-	-			+
Inventories and receivables over total assets	NS	-	-		+	
Qualified opinion	NS	NS	NS			
Leverage	NS	NS	NS	+	NS	+
Return on equity	NS	NS	NS			
Auditor change	NS	NS	NS			
Mining sector	NS	NS				
Plantation sector	NS	NS	NS			
Financial sector	NS	NS	NS			
Bursa Malaysia membership	+	+	+			
Busy period	NS	NS	NS			
Audit delay	-	NS	-			
NAS fees	-	-	-			
Financial distress (Z score)						+
Auditor specialist fee						+
R squared	0.119	0.117	0.152	0.289	0.119	0.38

* = study by Che Ahmad et al. (2006a), ** = study by Mohd Iskandar and Wan Abdullah (2004), *** = study by Wan Abdullah et al. (2008) and
**** = Syed Mustapha Nazri et al. (2012a).

Note:

1. NS = Not Significant

Among significant risk factors found in Table 2.9 are subsidiaries, inventories and account receivables, leverage, audit delay, NAS fees and financial distress. Variables, such as audit opinion, return on equity and financial year end are not significant. Despite the risk has effect on auditor choice, there has been no attempt to examine in detail on the influence of different types of risk (i.e. audit risk, auditor business risk and client business risk) on the choice. Thus, the importance on each component of engagement risk on auditor choice in Malaysia remains unanswered.

From the significant variables found in the above studies, only subsidiaries and NAS are consistently significant (both are in negative direction) as shown by Che Ahmad et al. (2006a). Nevertheless, in a later study by Syed Mustapha Nazri et al. (2012a), the subsidiary variable is negatively significant. This could be due to timing of the study and different measurement employed. The study employed the dummy variable (coded as "1" if the number of subsidiaries is over five) and was partly conducted during the Big Four era, whereas Che Ahmad et al. (2006a) used logarithm of number of subsidiaries, which was carried out during the Big Six era. Another interesting variable is leverage. Of the four studies, only two show it is positively significant (Mohd Iskandar & Wan Abdullah, 2004 and Syed Mustapha Nazri et al., 2012a). The other studies indicate the variable is not significant.

One of the limitations of these studies, is the exclusion of certain key variables. This is more pronounced for studies conducted after the Big Five era, such as Syed Mustapha Nazri et al. (2012a). While Syed Mustapha Nazri et al. (2012a) introduce financial distress as a new variable, the study fails to incorporate key financial performance indicators, such as proftability or loss in their model. In fact,

the study only tests a few risk factors, namely subsidiaries, leverage and financial distress.

Another limitation is most Malaysian studies still emphasise on the choice between big and small audit firms. Different types of auditor attributes, such as auditor affiliation, is less examined. It is importat to note that different types of auditors have different approaches in creating audit portfolio and engagement decision. Also, finding on auditor choice studies should be cautiously interpreted since it involves a several concepts, such as stewardship hypothesis and audit quality (Williams, 1998). By employing a number of relevant concepts, therefore, it provides better justification for any inconsistent of finding in the study.

2.4.7   *Audit fees*

Companies are required to pay the external auditor for audit services rendered. A related stream of audit fee studies indicate various factors determine audit fees, including the risk factor (Simunic, 1980; Palmrose, 1986; Craswell et al., 1995; Gul, 1999; McMeeking, Peasnell & Pope, 2006).

Studies show that fee is one of the mechanisms used by auditors when dealing with risky companies (Krishnan et al., 2013; Koh & Tong, 2013), and risk is positively related to audit fees (Pratt & Stice, 1994; Taylor & Simon, 1999; Seetharaman et al., 2002; Gul, 2006). Asthana, Balsam and Kim (2009) reveal that after SOX and collapse of Andersen, audit fees for public companies have increased (an average fee over total assets was 0.079 in 2001 and 0.107 in 2002), and the fee is higher for large and risky clients. There is suggestion that by charging high fees, Big Four firms will be able to induce small companies to find non-Big Four firms (Huang,

Liu, Raghunandan & Rama, 2007). It is consistent with Dopuch, King and Schatzberg's (1994) conjecture that changes in liability regime require the market agents, such as sellers, to adjust their product price. Table 2.10 shows some of studies on the effect of risk on audit fees.

Table 2. 10
Studies on the effect of risk on audit fees

Author(s) & (Year)	Period, sample, country	Results
Ettredge et al. (2007)	2003, 4944 companies, US.	Companies with high risk client characteristics tend to hire non Big Four firms to get lower fees.
Huang, Raghunandan and Rama (2009)	2001 and 2006, 3683 companies, US	Big Four firms did not offer high discount fee for initial year in post-SOX era.
Huang et al. (2007)	2000, 2001, 2003, 2004, 4610 companies, US	No specialist auditor fee premium for initial year in post-SOX era.
Carson et al. (2007)	1996 to 2004, 8028 companies, Australia	Fee for client risk is higher for large audit firms than non-large firms.
Ghosh and Pawlewicz (2009)	2000 to 2005, 23,273 companies, US	Audit fee increased about 74% after the enactment of SOX
Asthana et al. (2009)	2000 to 2002, 2,313 companies, US	Large companies were charged high fees and the rate of fees paid by high risk companies have increased.
Ebrahim (2010)	2000 to 2006, 31,983 companies, US	Large audit firms significantly increased the fees to compensate high cost of audit resources, especially when auditing small, high risk clients.
Charles, Glover and Sharp (2010)	2000 to 2003, 4,320 firm-year observations, companies, US	The auditor adjusted the audit fee in the presence of financial reporting risk.
Asthana and Boone (2012)	2000 to 2009, 14,796 companies, US	Large companies were charged high fees and the rate of fees paid by high risk companies have increased.

Results from the above studies indicate that the risk is positively associated with fee. Also, large audit firms charge higher audit fee for risky companies. The approach is in line with deep pocket hypothesis argument. However, whether the same results can be generalised in low litigation risk environment, such as Malaysia, is something interesting to investigate. In addition, the size of companies and capital market in Malaysia is relatively smaller than in the US. Therefore, audit firm's decision to charge high audit fee for risky clients in low auditor litigation liability setting should be supported with persuasive argument.

Charging high audit fees to clients is not fully agreed to by many accounting scholars. The transfer of risks, especially to the society, by charging higher audit fee or insurance cost, implies socially irresponsible and selfish behaviour of auditors (Green, 1999). In addition, the audit fees should not necessarily be increased as reduction in litigation cost is sufficient to cover the increment in audit fee (Narayanan, 1994; Simunic & Stein, 1996). It is argued that fee adjustment has an effect on audit market competition; thus, advantages and disadvantages of this approach should be considered (Brumfield et al., 1983). Empirical evidence shows that audit fees are not affecting large firms' client acceptance and continuance decisions (Johnstone & Bedard, 2004). Similarly, the suitability of fees adjustment for high risk clients is uncertain, as other auditors do not seem to have increased fees for risky clients after the Enron case (Fafatas, 2006). To avoid higher fees being charged to the company, Irving, Payne and Walker (2010) suggest auditor's liability be limited. This restriction encourages large firms to accept/continue with risky clients, and consequently limit audit competition (Simunic & Stein, 1996).

2.4.7.1   Studies of audit fees in Malaysia

Niemi (2005) categorises the development of audit fees into two phases:1980's and 1990's. For the first phase, the studies concentrated on developed countries, such as Australia, Canada, New Zealand, the UK and the US. In the second phase, the studies were carried out in developing countries, such as Malaysia.

There are a number of audit fee studies in Malaysia, such as Che Ahmad, Houghton and Derashid (1996), Rose (1999), Rahmat and Mohd Iskandar (2004), Nikkinen and Sahlstrom (2004), Che Ahmad et al. (2006b), Yatim et al. (2006), Gul (2006), Hariri et al. (2007), Abdul Wahab et al. (2009), Johl et al. (2012) and Abdul Wahab and Mat Zain (2013). These studies examine factors that determine audit fees. Below are some significant determinants of audit fees.

Table 2. 11
Determinants of audit fees

Author (s) / (Year)	Year, sample size	Auditee size	Client risk characteristic	Auditor characteristics	Adjusted R^2
Nikkinen and Sahlstrom (2004)	927 companies, 1992-2000	Assets (+)	Shares held by insider (-) Foreign sales to total assets (+) Quick ratio (-) ROI (-)	**Big Six (+)**	0.61
Che Ahmad et al. (2006b)	2002, 819 companies,	Assets (+)	Subsidiaries (+) Inventories and receivables/ total assets (+) Foreign directors (+) Chinese directors (-) NAS fess (+)	Big Five	0.72
Gul (2006)	1996 to 1998, 740 companies	Assets (+)	Current ratio (+) Liquidity (-) Year end Subsidiaries (+) Foreign subsidiaries (+) ROA (-) Altman Z (-)	**Big Five, BDO Binder and Kassim Chan (+)**	0.58
Rahmat and Mohd Iskandar (2004)	679 companies, 31 May 2000 and 30 April 2001	Total assets (+)	Subsidiaries (+) Current asset/total assets (+) Quick ratio (-) Long-term debt (-) ROA (+) Foreign subsidiaries (+) Audit opinion (+)	**Big Five (+)**	0.64
	184 companies, 31 May 2000 and 30 April 2001.	NA	Subsidiaries (+) Quick ratio (-)	Specialist auditor	0.56
	444 companies, 31 May 2000 and 30 April 2001.	Assets (+)	Subsidiaries (+) Current asset/total assets (+) Quick ratio (-) ROA (+) Foreign subsidiaries (+)	**Market leader auditor (+)**	0.65

Table 2.11 (continued)
Determinants of audit fees

Author (s) / (Year)	Year, sample size	Auditee size	Client risk characteristic	Auditor characteristics	Adjusted R^2
Salleh, Stewart and Manson (2006)	2002, 100 companies	Revenue (+)	Subsidiaries (+) NAS fees (+)	Big Five	0.63
Yatim et al. (2006)	2003, 736 companies	Assets (+)	Subsidiaries (+) Leverage (+) Receivables/total assets (+) Inventories/total assets (+) ROA (-)	Big Four	0.70
Hariri et al. (2007)	1997, 1998 and 1999. 1946 companies	Assets (+)	Local subsidiaries (+) Foreign subsidiaries (+) Long-term debt ratio (+) Mining (-) Technology (-) Year 1998, Year 1999 (+)	**Big Six other than PwC (+)**	*
Muniandy (2007)	2001, 447 companies	Assets (+)	Current asset/total liabilities (-) Loss (+)	Big Five	0.46
Abdul Wahab et al. (2009)	1999 to 2003, 390 companies	Assets (+)	Current asset/total assets (+) Liquidity (-) Foreign subsidiaries (+) Debt (-) Loss (+)	Big N **Auditor switching (+)**	0.44
Abdul Wahab et al. (2011a)	2001 to 2003, 382 companies	Asset (+)	Current assets/total assets (+) Liquidity (-) Debt (-) Foreign subsidiaries (+)	**Big N (+)**	0.47
Abdul Wahab et al. (2011b)	1999 to 2002, 379 companies	Asset (+)	Current asset/total assets (+) Liquidity (-) Foreign subsidiaries (+)	Big N	0.67

Table 2.11 (continued)
Determinants of audit fees

Author (s) / (Year)	Year, sample size	Auditee size	Client risk characteristic	Auditor characteristics	Adjusted R^2
Johl et al. (2012)	2005, 559 companies	Asset (+)	Leverage (+) Receivable/total assets (+) Inventories/total assets (+) ROE (+) Subsidiaries (+) Foreign subsidiaries (+) Loss (+)	**Big Four (+)** **Auditor tenure (+)**	0.62
Abdul Wahab and Mat Zain (2013)	1996 to 2006, 3003 firm-year observation	Asset (+)	Total receivables and inventory scaled by total asset (+) Loss (+) Debt (+) Liquidity (-)	-	0.63

* = from Seemingly Unrelated Regression (SUR) Analysis, R squared for year by year analysis is as follows: 0.67 (1997), 0.69 (1998) and 0.69 (1999).
Note:
1. Items in **bold** indicate the significance of audit firm characteristics

Results of the above studies acknowledge the role of size (assets or revenue) and risk (such as client complexity, ownership, leverage, subsidiaries and profitability) in audit fees determination. Studies in other jurisdictions, such as Australia (Ferguson, Francis & Stokes, 2003), Canada (Khalil, Magnan & Cohen, 2008), Finland (Niemi, 2005), Italy (Cameran, 2005) and UK (Basioudis & Francis, 2007; Giroux & Jones, 2007) also offer roughly similar findings.

With regards to the effect of audit firm characteristics in audit pricing, the results are mixed. While large audit firms are associated with high fees, not all studies show that large audit firms charge significantly higher fees than small firms do. Studies that find large audit firms charge different rates compared to small audit firms, among others, are Nikkinen and Sahlstrom (2004), Rahmat and Mohd Iskandar (2004), Gul (2006), Hariri et al. (2007), Abdul Wahab et al. (2011a) and Johl et al. (2012). In addition, audit market leaders and specialist auditors charge clients differently (Rahmat & Mohd Iskandar, 2004).

One noted observation from the above studies is the usage size of audit firm (small or large) as a proxy to auditor characteristic. The investigaton on other auditor characteristic (such as audit firm affiliation), however, is not getting much recognition. According to Johl et al. (2007), most of the big audit firms' operation in Malaysia are affiliated with the local audit firms. However, the affiliation is not only involved big audit firms. In fact, the affiliation also involved medium size of audit firms. Therefore, incorporating all type of audit firm affiliations (regardless of the firm's size) in audit fee studies will provide a new insight on the literature of Malaysia audit market. The finding can answer whether high audit fee charged by large audit firms also being practiced by affiliated firms; and whether affiliation activity is economically beneficial to the firms.

Also, it is found that the adjusted R^2 for some studies, for example Muniandy (2007) and Abdul Wahab et al. (2009; 2011a), are lower (around 40%) than studies conducted by Yatim et al. (2007) and Abdul Wahab and Mat Zain (2013) (above 60%). Inconsistency on the value of adjusted R^2 might be contributed by inability of those studies to properly incorporate risk factor in audit engagement process. This indicates that the role of engagement risk is less emphasis in Malaysia even though prior studies clearly suggested that the engagement risk has an important role in audit engagement decision (Johnstone, 2000; Hay et al., 2006).

2.4.7.1.1 Malaysian audit fee premium

The differences in audit market structure (e.g. competitive or oligopoly market) has an impact on audit fees. In the competitive audit market setting, according to Wang et al. (2009), high audit fee charged by large audit firms is associated with high quality audit, and not due to economic rents factor. Similarly, fee premium in a competitive market indicates return on investment of large audit firm's reputation for their high quality audit (Craswell et al., 1995; Palmrose, 1986). In addition, Clatworthy et al. (2009) agree that the existence of fee premium in the market, whereby the large audit firm's share is relatively low, is contributed by high quality of audit service rather than competitive factors.

In Malaysia, except for Rahmat and Mohd Iskandar (2004), Gul (2006) and Abdul Wahab et al. (2009), many studies do not disclose the extent of audit fee premium. According to Rahmat and Mohd Iskandar (2004), fee premium is available in two types of auditor characteristics, i.e. Big Five firms (9% premium) and Big Five industry market leader (5% premium). However, audit firms' specialisation does not lead to audit fee premium. The premium rates (i.e. 5% and 9%) are lower than other

studies, such as in the UK (19% to 53%) (Ireland & Lennox, 2002), China (228%), (Wang et al., 2009) and Hong Kong (63%) (DeFond, Francis & Wong, 2000).

A study by Abdul Wahab et al. (2009) from 1999 to 2003 also demonstrates the existence of low fee premium. They show that the premium for institutional ownership is 0.70% and politically connected companies pay slightly higher fee premium (1%) than non-politically connected companies, with the existence of institutional shareholders. Previous studies on politically connected companies reveal high fee premium of about 30% (Gul, 2006). According to Gul (2006), the presence of fee premium among these companies is associated with risk factor. The auditor might perceive that during financial crisis (between 1997 to 1998), politically connected companies (mostly linked with Bumiputras or sons of the soil) will have high audit risk. This could be due to high likelihood of business failure and misreporting of earnings. The premium differences between Abdul Wahab et al. (2009) and Gul (2006) indicate that the Asian financial crisis is one of the contributing factors in determining their clients' fees.

Even though the rate of fee premium is relatively low, to a certain extent, the findings in Malaysia are in line with Choi et al.'s (2008) analysis. Their country-by-country analysis demonstrates that large audit firm's premium is pronounced in countries with low legal regimes compared to strong legal regimes.

In comparing the absolute amount of audit fees between big and non-big firms, from 1991 to 1996, Mohd Iskandar et al. (2000) show that audit fees for Big Six firms are higher than for non-Big Six for every category of audit fee. They categorise audit fee size into three: (i) small (fee is less than RM10,000); (ii) medium (fees between RM10,000 to RM100,000); and (iii) large (fees are higher than RM100,000). In another related study by Che Ahmad et al. (2006a), from 1993 to 1996, the average audit fee of Big Six is RM165,750, whereas fee for non-Big Six

auditors is much lower than that (RM115, 990). The finding concurs with Jayaseelan's (2010) argument that more than a large portion of audit fees (i.e. 80%) are concentrated within the top ten largest audit firms, despite the existence of more than a thousand audit firms in Malaysia.[16]

The problem of many Malaysian audit fees studies, apart from Rahmat and Mohd Iskandar (2004), is the fee premium is examined only among different sizes of auditors. Other characteristics of auditors have hardly been tested. Such examination will provide the answer whether the premium, which also can be associated with audit quality, is only relevant for Big Four firms.

2.4.8   Corporate governance

The pattern of studies on auditor choice and fees changed in the year 2000. Around this period, the studies included corporate governance factors in the audit fee and auditor choice models. Apart from the influence of the economic crisis in Asia, a high number of financial scandals and the need for improvement of good business culture have contributed to the inclusion of corporate governance elements in the models.

2.4.8.1   Corporate governance and auditor choice in Malaysia.

There are at least three studies that examined the corporate governance factor and auditor choice, namely Mohd Iskandar and Wan Abdullah (2004), Wan Abdullah et al. (2008) and Syed Mustapha Nazri et al. (2012a). While Che Ahmad et al. (2006a) is among the first studies on auditor choice, they did not fully examine the role of

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[16] The number of audit firms as at 30 June 2010 is 1356 (MIA Annual Report 2010).

corporate governance players, such as BODs or audit committee. This might be due to lack of publicly available corporate governance data when the study was conducted (1993 to 1995).

Table 2.12 below shows detailed results of the corporate governance effect on auditor choice.

Table 2. 12
Regression results on large auditor choice

Variable	Specialist/ non- specialist*	Big Four/ non-Big Four **	Big Four/ non-Big Four***
	2000	2003	1990 to 2008
Audit committee independence	+		
Audit committee activeness	+		
Audit committee independence x audit committee activeness	+		
Audit committee literacy	NS		
Board independence	NS	+	
Executive director ownership		NS	
Non-executive director ownership		NS	
Financial institution ownership		NS	
Non-financial institutional ownership		+	
CEO duality		NS	
Management change			+
BODs' ethnicity			NS
Audit partner's ethnicity			NS

* = study by Mohd Iskandar and Wan Abdullah (2004), ** = study by Wan Abdullah et al. (2008) and *** = Syed Mustapha Nazri et al. (2012a).
Note:
1. NS = Not Significant

Mohd Iskandar and Wan Abdullah (2004) focused on the influence of audit committee on specialist auditor selection.[17] Their study reveals that audit committee independence and activeness has significant influence on auditor selection. When independence and number of meetings are interacted, it results in negative association

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[17] Audit firms are categorised as specialist when the percentage of their clients in the industry over total number of companies in the industry is 10% or more.

with specialist auditor selection. However, committee's financial literacy is found to not significantly affect auditor choice.

The other related study is by Wan Abdullah et al. (2008). The study examines the role of corporate governance on size of audit firm. From six elements of corporate governance tested (board independence, executive director ownership, non-executive director ownership, financial institution ownership, non-financial institutional ownership and CEO duality), two items are significant (i.e. board independence and non-financial institutional ownership). Both items are positively associated with quality auditor. Syed Mustapha Nazri et al. (2012a) further indicate that the choice is associated with clients' change of management, business complexity and financial risk. However, the role of ethnicity (both of BODs and audit partner) is not pronounced in the case of auditor choice, which contradicts Che Ahmad et al.'s (2006a) study. It suggests that business outcome is a concern in auditor choice, rather than social background of the business player. In fact, the quality of audit service and companies' management factor play dominant roles in auditor choice.

Apart from examining the impact of BODs, audit committee and management on auditor choice, another missing tested corporate governance player is internal audit function. Since internal audit has influence in strengthening companies' internal governance practice, this variable should be considered as to whether it can influence the type of external audit firm selection.

In addition, Wan Abdullah et al. (2008) is the only study that include companies' ownership variable. Given the unique business ownership stucture in Malaysia, this variable needs further examination in auditor choice studies. Inclusion the proxy of ownership variable, such as managerial ownership, could explain on the need of high quality auditor among companies with the same owner and manager. Another missing variable is audit committee. Only Mohd Iskandar and Wan Abdullah

(2004) examined this committee and since then, there is no study includes this variable in the model. As audit committee is responsible for auditing matters of the company, audit committee elements, for example membership expertise, should be given due consideration.

2.4.8.2   Corporate governance and audit fees in Malaysia.

Table 2.13 shows the association between corporate governance and audit fees.

Table 2. 13
Corporate governance relationship with audit fees

Author(s)/(Year)	Year, sample size	Components of corporate governance	Relationshp (+/-)
Nikkinen and Sahlstrom (2004)	1992 to 2000, 927 companies	Insider ownership	-
Gul (2006)	1996 to 1998, 740 companies	Politically connected companies	+
		Pre-financial crisis*politically connected companies	-
		Capital control*politically connected companies	-
Muniandy (2007)	2001, 447 companies	CEO duality	+
		Independence of directors on audit committee	NS
		CEO duality*Independence of directors on audit committee	-
		Non-Executive (independent) Director	NS
Salleh et al. (2006)	2002, 100 companies	Non-Executive Director	+
		CEO duality	NS
		Malay director	NS
		Malay chairman	NS
Yatim et al. (2006)	2003, 736 companies	Independent director	+
		CEO duality	NS
		Board size	NS
		Bumiputra ownership	-
		Risk management committee existence	NS
		Number of BODs meetings	NS
		Audit committee independence	NS
		Audit committee size	NS
		Audit committee expertise	+
		Audit committee meetings	+
Abdul Wahab et al. (2009)	1999 to 2003, 390 companies	Institutional ownership	+
		Politically connected firms	+
		Institutional ownership*Politically connected companies	+
Abdul Wahab et al. (2011a)	2001 to 2003, 382 companies	Politically connected companies	+
		Corporate Governance Index	+
		Institutional ownership	+
		Managerial ownership	NS
Abdul Wahab et al. (2011b)	1999 to 2002, 379 companies	Politically connected companies	+
		Corporate Governance Index	+
		Corporate Governance Reform	+
		Corporate Governance Index*Corporate Governance Reform	**-**
		Institutional ownership	+
Johl et al. (2012)	2005, 559 companies	Politically connected companies	+
		BODs' independence	NS
		BODs' meeting	+
		Audit committee independence	+
		Audit committee meeting	NS
		Audit committee financial expertise	-
		Bumiputra dominated audit committee	+
		Bumiputra CEO	+

Note:
1. NS indicates not significant.

Table 2.13 demonstrates that majority of corporate governance elements have a significant role in determining audit fees. This strengthens the argument from Western studies that corporate governance influences audit fee determination (O'Sullivan, 2000; Hay, Knechel & Ling, 2008; Chung & Wynn, 2014). Nevertheless, some elements of corporate governance require further investigation. For instance, out of three studies that employ CEO duality variables, only one study finds it to be significant. In addition, the influence of audit committee on audit fee determination needs further test since a limited number of studies (e.g. Yatim et al., 2006; Johl et al., 2009) has examined this variable. In terms of ethnicity, Johl et al. (2009) and Eichenseher (1995) indicate ethnicity has a positive influence on audit fees determination, whereas Salleh et al. (2006) show there is no relationship.

Further, most of the studies mentioned in the above table are not sufficiently differentiate the characteristic of governance practice among audit firms' client. By understanding different governance practices among Big Four and non-Big Four (or other type of audit firms) auditee, it could explains firms' approach in determining audit fee among poorly govern companies. This limitation precludes those studies to provide better explaination about Malaysian audit market, especially on the issue of corporate governance and audit fee.

2.5   Conclusion

In this chapter, three major discussions are presented. The first part explains about the background of the Malaysian auditing environment, corporate governance, auditor litigation, risk in accounting and auditing guidelines. It is followed by the discussion on the agency theory and its relevant hypotheses. The last part presents the empirical studies. This includes the structure of the Malaysian audit market, the impact of risk on audit market, audit quality and audit engagement discussion.

Further, the related studies on Malaysian auditor choice, audit fee and corporate governance are highlighted.

CHAPTER 3: RESEARCH FRAMEWORK AND DEVELOPMENT
OF HYPOTHESIS

3.1   Introduction

In this chapter, the discussion on theoretical framework and hypothesis formulation are presented. The development of theoretical framework is derived from agency theory and its related hypotheses that have been covered in Chapter 2.

Based on the review of literature in the previous chapter, twelve hypotheses on the auditor choice and audit fee are developed. The main tested variable is engagement risk and each of the hypotheses represents the components of engagement risk. The other variables are corporate governance, auditor characteristics, size of auditee and the Malaysian AOB.

3.2   Theoretical framework

The theoretical framework includes the engagement risk attributes and its association with auditor choice and audit fee.

3.2.1   Suggested theoretical framework

Prior studies, in general, have examined at the association between engagement risk and audit decision process. Nevertheless, the relationship between engagement risk with specific audit decision process; auditor choice and audit fee, are not extensively investigated.

In order to examine this relationship, two research frameworks are developed. The frameworks are based on auditing literature that investigated the association between engagement risks with audit decision process. The first framework exhibits

potential engagement risk factors that associated with auditor choice. Meanwhile, the second framework presents the linkages between engagement risk factors and audit fee. Both of the frameworks utilised the same tested variables. Figure 3.1 and 3.2 show the proposed theoretical framework for auditor choice and audit fee.

```
┌─────────────────────────────────────────────────────────────────┐
│  ┌──────────────────────────────────────────┐                    │
│  │ **Engagement risk**                       │                   │
│  │ Audit risk                                │                   │
│  │ Subsidiary (+)                            │                   │
│  │ Foreign subsidiary (+)                    │                   │
│  │ Subsequent event (+)                      │                   │
│  │ Inventory and receivables (+)             │                   │
│  │ Audit opinion (-)                         │                   │
│  │                                           │                   │
│  │ Auditor business risk                     │                   │
│  │ Non-audit services (+)                    │                   │
│  │ Busy season (+)                           │                   │
│  │                                           │                   │
│  │ Client business risk                      │         ┌──────────────────┐
│  │ Return on Assets (+)                      │         │ **Auditor quality│
│  │ Loss (-)                                  │────────▶│ choice**         │
│  │ Leverage (+)                              │         └──────────────────┘
│  │ Current ratio (-)                         │
│  │ Financial distress (+)                    │
│  └──────────────────────────────────────────┘
│  ┌──────────────────────────────────────────┐
│  │ **Control variables**                     │
│  │ BODs                                      │
│  │ Non-executive directors (+)               │
│  │                                           │
│  │ Audit committee                           │
│  │ Audit committee meetings (+)              │
│  │ Audit committee affiliations with audit firm (+) │
│  │                                           │
│  │ Management                                │
│  │ CEO substantial ownership (-)             │
│  │ CEO new (+)                               │
│  │                                           │
│  │ Internal audit                            │
│  │ Internal audit function provider (-)      │
│  └──────────────────────────────────────────┘
│  ┌──────────────────────────────────────────┐
│  │ **Size of auditee**                       │
│  │ Companies' size (+)                       │
│  └──────────────────────────────────────────┘
│  ┌──────────────────────────────────────────┐
│  │ **Audit oversight**                       │
│  │ Establishment year of AOB (-)             │
│  └──────────────────────────────────────────┘
└─────────────────────────────────────────────────────────────────┘
```

Figure 3. 1

Research framework of auditor choice

```
┌─────────────────────────────────────────────────────────────────────────┐
│  ┌────────────────────────────────────────────┐                          │
│  │ Engagement risk                            │                          │
│  │ Audit risk                                 │                          │
│  │ Subsidiary (+)                             │                          │
│  │ Foreign subsidiary (+)                     │                          │
│  │ Subsequent event (+)                       │                          │
│  │ Inventory and receivables (+)              │                          │
│  │ Audit opinion (+)                          │──┐                        │
│  │                                            │  │                        │
│  │ Auditor business risk                      │  │                        │
│  │ Non-audit services (?)                     │  │                        │
│  │ Busy season (+)                            │  │                        │
│  │                                            │  │                        │
│  │ Client business risk                       │  │                        │
│  │ Return on Assets (-)                       │  │      ┌──────────────┐  │
│  │ Loss (+)                                   │  │      │  Audit fee   │  │
│  │ Leverage (+)                               │  │      └──────────────┘  │
│  │ Current ratio (-)                          │  │                        │
│  │ Financial distress (+)                     │  │                        │
│  └────────────────────────────────────────────┘  │                        │
│  ┌────────────────────────────────────────────┐  │                        │
│  │ Corporate governance                       │  │                        │
│  │ BODs                                       │  │                        │
│  │ Non-executive directors (+)                │  │                        │
│  │ Audit committee meetings (+)               │  │                        │
│  │                                            │  │                        │
│  │ Audit committee                            │  │                        │
│  │ Audit committee affiliations with audit firm (-) │                    │
│  │                                            │  │                        │
│  │ Management                                 │  │                        │
│  │ CEO substantial ownership (-)              │  │                        │
│  │ CEO new (+)                                │  │                        │
│  │                                            │  │                        │
│  │ Internal audit                             │  │                        │
│  │ Internal audit function provider (-)       │  │                        │
│  └────────────────────────────────────────────┘  │                        │
│  ┌────────────────────────────────────────────┐  │                        │
│  │ Size of auditee                            │  │                        │
│  │ Companies' size (+)                        │  │                        │
│  └────────────────────────────────────────────┘  │                        │
│  ┌────────────────────────────────────────────┐  │                        │
│  │ Audit oversight                            │  │                        │
│  │ Establishment year of AOB (+)              │  │                        │
│  └────────────────────────────────────────────┘  │                        │
│  ┌────────────────────────────────────────────┐  │                        │
│  │ Auditor characteristic                     │  │                        │
│  │ Auditor quality (+)                        │──┘                        │
│  └────────────────────────────────────────────┘                          │
└─────────────────────────────────────────────────────────────────────────┘
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Figure 3. 2
Research framework of audit fees

The theory employed in development of theoretical framework is rooted from agency theory. Apart from this theory, the development of the framework also supported with other relevant concepts or hypotheses in the context of auditing. Detail explanation on these concepts has been discussed in the early part of Chapter 2.

For this study, the engagement risk is considered as the main driven of audit decision as suggested by Johnstone (2000; 2004) and Johnstone and Bedard (2003). The audit decision consist of auditor choice and audit fee. It is anticipated that the result of engagement risk evaluation determines the audit decision. In addition, different component of engagement risk pose different threat to audit firm. Thus, the audit firm should employ relevant strategy, so that each type of engagement risk can be managed effectively. The firm, in general, has an option either to continue or discontinue their relationship with the existing client. Such decision is influenced by clientele adjustment and litigation risk factor (Shu, 2000). As for auditee, they should alert with the strategy taken by auditor in handling risky clients. The strategy, to a certain extent, forces the auditee to reconsider their relationship with the incumbent auditor.

Since the engagement risk has an effect on audit decision, this leads to the question on the extent of engagement risk affects the auditor choice decision. This potential relationship is presented in Figure 3.1.

The purpose of auditor appointment is to increase the credibility of companies' financial statement. The needs of auditor in examining the statement is motivated by agency demand, information demand and insurance demand (Wallace, 1988). However, the level of audit demand is depending on the complexity of country legal system (Cahan et al., 2009). In making auditor choice decision, the companies actually fulfilling the interest of shareholder; where the auditor will ensure the management's behavior is consistent with the shareholders' interest (Wallace, 1988).

To ensure the management is acting (such as in the preparation of financial statement) on the best interest of shareholder, high quality auditor need to be selected. This is because, under audit quality concept, it is assumed that there is quality differentiated among audit firms. However, this audit firms might have set certain criteria and approaches in determining type of companies to be audited. Generally, the auditor would choose client with good financial performance that can contribute to high audit firm's revenue and has low engagement risk. By doing so, the audit firm can protect their reputation. This practice might be common among large audit firms and not for small audit firms due to limited resources availability. Meanwhile, for the companies' management, they are looking for the external auditor that can boost their image and enhance the credibility of financial statement (signaling hypothesis). In some cases, the need for quality differentiated auditor is lessen if the companies argued that they are having good internal monitoring mechanism (Thornton & Monroe, 1993). Good internal monitoring can substitute the appointment of high quality auditor.

The next issue to be examined is how the engagement risk affects the cost of audit. The association between engagement risk and audit fee is presented in Figure 3.2.

Dealing with risky clients requires the auditor to employ specific business strategy. This can be done, for example, through the adjustment of audit fee. The adjustment is to ensure that audit engagement is profitable, and most importantly, to cover the potential cost of lawsuit (insurance hypothesis). The possibility of auditor to be sued is higher when the appointed auditor is a big size firms (Big Four firms) rather than small audit firms (non-Big Four firms). This proposition is in line with deep pocket argument. Apart from engagement risk factor, firm is pricing policy most likely influenced by type of clients portfolio. The strategy implemented in creating portfolio determines the risk profile of their clients. Firms that implements risk

management strategies during the auditor choice process (such as risk avoidance or risk elimination) will have less risky client in their portfolio. Therefore, in determining the fee, the influence of engagement risk might be less as the firm already screened out risky clients. As a result, other audit firms have to accept these risky clients. In this situation, the engagement risk is claimed to be highly considered in audit fee determination.

3.3 Engagement risk

Engagement risk is mostly quantitative in nature or an accounting number. All types of engagement risk: audit risk, auditor business risk and client business risk, are tested.

3.3.1 Audit risk

Prior studies classify audit risk into several categories. For instance, Johnstone (2000) classifies it into five categories: (i) nature of industry; (ii) prior auditor-client relationship; (iii) extensiveness of audit judgment; (iv) management's behavior; and (v) internal audit department. Johnstone and Bedard (2003) categorise risk into risk of fraud (e.g. management's characteristics) and risk of error (e.g. client's control environment and complexity of transactions). Meanwhile, Johnstone and Bedard (2004) divide risk into three: (i) internal control effectiveness; (ii) financial reporting risk; and (iii) management integrity. Johnstone and Bedard (2004) developed 25 questions for three components of audit risk, i.e. one question for internal control effectiveness, 15 questions for financial reporting risk and nine questions for management integrity. Nevertheless, out of three sources of audit risk (internal control, financial reporting quality and management integrity), financial reporting risk is the only component that is consistently significant in all types of engagement

decisions (continuing, discontinued and newly accepted client sub-portfolio). The non-financial reporting aspects (internal control and management integrity) are excluded as part of audit risk discussion. Some examples of financial reporting risk are type of prior audit report, financial restatements, related party transactions, risky transactions and applicability of certain uncommon accounting treatments.

To meet the definition of audit risk, relevant financial reporting indicators that represent the audit risk are chosen. These indicators imply the auditor's capability to detect material misstatement or auditor's ability to use his or her judgment in performing the audit task. The indicators are: (i) subsidiaries; (ii) foreign subsidiaries; (iii) subsequent event; (iv) inventory and receivables; and (v) audit opinion.

3.3.1.1　　Subsidiaries

Subsidiaries refer to any entity that is under the control of another entity (i.e. parent) (Malaysian Accounting Standard Board, 2013). Accounting standards require the financial statements to be consolidated and audited. The company's parent auditor, however, does not necessarily audit the subsidiaries' accounts. The parent's auditor must be well versed in various business activities of clients, and ensure that the consolidated accounts prepared are consistent with accounting guidelines (e.g. Malaysian Financial Reporting Standards [MFRS] 127- Consolidated and Separate Financial Statements, MFRS 128 - Investments in Associates and MFRS 131 - Interests in Joint Ventures).

According to Thornton and Moore (1993), companies with higher complexity are expected to produce less accurate financial reporting. Similarly, companies with many subsidiaries are associated with high agency problem since it is difficult to monitor the management of subsidiaries (Woo & Koh, 2001). To enhance the accuracy of financial statements and reduce agency costs, the appointment of high

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quality auditor is needed. This service can be offered by large audit firms, which have sufficient number of staff (Choi, Kim, Kim & Zang, 2010). The argument is in line with Clatworthy et al.'s (2009) finding that the mean of subsidiaries of Big Four clients in the UK is significantly higher than non-Big Four clients.

In Malaysia, the mean of subsidiaries for a Big Six auditee is higher (19) than non-Big Six auditee (17) (Che Ahmad et al., 2006a). Syed Mustapha Nazri et al. (2012a) demonstrate a positive relationship between subsidiaries and auditor choice. Hence, it is anticipated that due to business complexity factors, the number of company subsidiaries are likely to be positively associated with quality auditor.

H1$_{choice}$: Number of subsidiaries is positively associated with the choice of quality auditor.

Chan, Ezzamel and Gwilliam (1993) argue that additional audit effort is required when the audit task is complex, including the number of subsidiaries. In auditing group accounts, the auditor must put in additional work to consolidate and eliminate intra-group transactions (Pong & Whittington, 1994). Other relevant accounting treatments in preparing consolidated financial statements, in accordance with MFRS 127, are to eliminate the carrying amount of parent company's investment and the parent's portion of equity in the subsidiary, identify minority interest and use standard accounting policies. These activities not only require more effort, but also, the auditor incurs extra costs (Chan et al., 1993). Failure to carry out those procedures make the users of financial statements be unable to figure out overall companies' performance. Chan et al. (1993) also assert that auditing different financial statements that are governed by different sets of rules and regulations, is costly. They opine that the benefit of economies of scale is not applicable in the case of auditing companies

with subsidiaries that have various business activities. This is because audit firms have to incur learning and expertise costs.

Basioudis (2007) supports the above contention that subsidiaries are positively associated with audit fees. Similarly, Ireland and Lennox (2002) also show subsidiaries are positively associated with audit fees. In Australia, Hamilton et al. (2008) disclose that subsidiaries are positively and significantly associated with audit fees.

Results using Malaysian data also concur with findings in Western countries. Yatim et al. (2006), Che Ahmad et al. (2006b) and Johl et al. (2012) demonstrate that subsidiaries are positively and significantly associated with audit fees, as per their prediction. The assumption of charging low audit fees for clients that have many subsidiaries, is only applicable in certain cases. For example, the majority of the subsidiaries are dormant/inactive or the subsidiaries are involved in a similar business area with the parent company. Based on the above discussion, it is predicted that the number of subsidiaries are likely to be positively associated with audit fee.

H1$_{fee}$: Number of subsidiaries is positively associated with audit fee.

3.3.1.2 Foreign subsidiaries

Audit task becomes more challenging, if the subsidiaries operate in various jurisdictions that are subjected to various company laws and accounting standards. Woo and Koh (2001) posit clients' business complexity will increase when their business operations are located in various geographic area. This complex auditing problem, for example, auditing foreign operations, leads to higher demand for a quality auditor (Thornton & Monroe, 1993). The same view is also pointed out by Francis et al. (2009), where companies that have more international operations (e.g. foreign sales) look for better quality auditor and appointment of large audit firm. The

companies' preferences for appointment of large audit firms, according to Chaney et al. (2005), are due to sufficient audit resources. This enables them to carry out audit efficiently. In addition, as compared to small audit firms, the large audit firms have wider geographical area coverage and are globally integrated (Carson, 2009; Clatworthy et al., 2009). The problems with local audit firms are limited knowledge of various business practices, inability to operate in different types of business environments, lack of audit expertise, lower reputation and inefficiency of audit procedures and processes (Carson, 2009).

Empirical studies reveal companies that are operating internationally are positively associated with quality auditors. For example, Ireland and Lennox (2002) and McMeeking (2006) show companies with many overseas subsidiaries have tendency to appoint large audit firms. Their finding is consistent with other studies, such as Chaney et al. (2004) and Clatworthy et al. (2009), where UK companies that record higher export sales choose large audit firms. In addition, Francis et al. (2009) show that French companies with higher foreign sales are mostly audited by Big Four firms, and this is in line with their argument that large audit firms have better audit expertise.

As for the Malaysian setting, Che Ahmad et al. (2006a) show foreign companies favour the engagement of large audit firms as their external auditor. They suggest that the appointment of a large audit firm for the companies could be decided by the main office (headquarters). Based on the monitoring demand hypothesis, it is expected that the number of foreign company subsidiaries is likely to be positively associated with the choice of a quality auditor.

H2$_{choice}$: Number of foreign subsidiaries is positively associated with the choice of quality auditor.

Simunic (1980) argues that business complexity contributes to loss of exposure, higher decentralisation and diversity of financial reporting practices. The complexity, according to him, requires the companies to increase their monitoring level. An almost similar argument is also put forth by Chan et al. (1993), that auditing foreign subsidiaries would affect the element of audit monitoring and cost. They suggest that foreign subsidiaries require higher level of monitoring, since the auditor needs to widen the scope of audit. In addition, the parent auditor needs to consider different audit cost structures when a local auditor or a different audit office audits the subsidiaries.

This implies that auditing foreign subsidiaries, which is subject to host country's business rules and regulations, is more difficult and time consuming for the auditor (Simunic, 1980). Therefore, the auditor would consider this factor in deciding the amount of audit fees to charge. In fact, Hay et al. (2006) and McMeeking (2007) assert that foreign subsidiaries have strong explanatory power on audit fee determinants. Some other studies that show positive association between foreign subsidiaries and audit fees are Carson et al. (1997) and Khalil et al. (2008). Further, other studies also show foreign operations (Hoitash et al., 2008; Vermeer, Raghunandan & Rama, 2008), foreign sales (Kealy, Lee & Stein, 2007; Ghosh & Pawlewicz, 2009) and foreign segment reporting (Huang et al., 2009) are positively associated with audit fees.

In Malaysia, many studies reveal foreign subsidiaries are positively associated with audit fees; for example, Gul (2006), Rahmat and Mohd Iskandar (2004), Hariri et al. (2007), Abdul Wahab et al. (2009) and Johl et al. (2012). Based on the prior discussion, it is expected that the number of foreign subsidiaries is likely to be positively associated with audit fee.

H2$_{fee}$: Number of foreign subsidiaries is positively associated with audit fee.

3.3.1.3   Subsequent event

Auditing standard defines subsequent event as an event that occurs within the date of financial statement (i.e. year end date of financial statement) and auditor's report date, and information that the auditor has known after the auditor's report date (ISA 560 – Subsequent Events). The standard requires audit procedures to be conducted to obtain evidence for events that happen between financial year end and date of audit report. In the case of the facts that become known to the auditor after the auditor's report date (but before the date of financial statement issue), or after the financial statement has been issued, the auditor needs to: (i) discuss it with management; (ii) determine whether financial statement amendment is needed; and (iii) ask how the management wants to handle this issue in the financial statement (ISA 560, para 10 and 14).

It is argued that financial statement manipulation possibly happens at the end of the financial year (Janvrin & Jeffrey, 2007). However, Janvrin and Jeffrey (2007) reveal that there is a low frequency for finding subsequent event evidence using auditing standard procedures (e.g. inquiry of legal counsel, reading minutes of shareholders' meetings). Solely relying on conventional audit procedures cannot contribute to audit efficiencies, i.e. persuasive audit evidence. Thus, other factors that enhance the quality of audit evidence should be considered in gathering subsequent event evidence.

Among factors that could contribute to audit efficiency is auditor's direct knowledge (Arens et al., 2014) and auditor's cognitive processing mode (such as environmental and task-specific factors) (Chung et al., 2013). As for large audit firms, they are well equipped with audit resources to detect accounting manipulations. In addition, large audit firms also have sophisticated business consulting services. Information obtained from clients can be evaluated by getting an opinion and

guidance from in-house services, such as in-house legal and company secretarial services. Consequently, it would assist audit firms to perform better audit procedures. Better audit procedures conducted after the balance sheet date can help large audit firms to find more subsequent audit evidence as compared to small audit firms. It is in line with findings of Clatworthy et al. (2009) that Big Four firms' record higher number of post-balance sheet events. As such, it is postulated that subsequent event is likely to be positively associated with quality of auditor.

H3choice: Subsequent event is positively associated with the choice of quality auditor.

Janvrin and Jeffrey (2007) argue that auditors would find subsequent event evidence when the length of searching for the audit evidence is longer. Some of the procedures to obtain evidence are by understanding management's policy on subsequent event, making inquiries to management on the effect of the event on the financial statement and going through client's latest subsequent interim financial reporting (ISA 560). Then, the auditor decides whether the subsequent event has been disclosed in the financial statement or needs financial statement adjustment. The audit procedures become more complicated when management has amended the financial statement due to subsequent events. In this situation, the auditor has to decide whether to amend audit report, extend audit procedures or issue new audit report.

Since audit for subsequent event is time consuming (can go beyond audit report date) and requires significant audit judgment, it would affect the amount of fees that audit firms charge to their clients. This approach is in line with risk reduction strategy. Clatworthy et al. (2009) show that clients with subsequent event are positively and significantly associated with audit fees. Therefore, it is expected that subsequent event is likely to be positively associated with audit fee.

H3fee: Subsequent event is positively associated with audit fee.

3.3.1.4   Inventory and receivables

Inventory and receivables indicate client's inherent risk.[18] Further, these assets require a high level of judgment to determine their value, and auditors need to be conversant and have good understanding of client's industries. For instance, valuation of inventory for high-tech companies is not the same as for manufacturing companies.

As for inventory, the auditor needs to concentrate on its existence, suitable costs and its realisable value (Chan et al., 1993). Meanwhile, to confirm the existence and the amount of account receivables, the auditor must decide on the type of confirmation, number of accounts to be selected and timing of confirmation (Knechel, 2000). Experienced staff, such as the audit manager, usually will make the decision, not junior staff. Since it involves higher hierarchy of audit staff and risks of these assets, the audit fee charged will also be higher.

In Malaysia, studies on choice of auditor find that client's complexity (i.e. accounts receivables and inventories) is positively and significantly associated with large audit firms (Wan Abdullah et al., 2008). Based on this explanation, it is predicted that inventory and receivables are likely to be positively associated with quality auditor.

H4choice: Inventory and receivables are positively associated with the choice of quality auditor.

Knechel and Willekens (2006) state that risk such as inventory and receivables, is the main reason for the demand of audit service. Hay, Knechel and

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[18] Inherent risk is part of audit risk. It is defined as the likelihood of there being material misstatement before detecting companies' internal control (Arens et al., 2014).

Wong (2006) regard these items as riskier than other assets as they often lead to audit failure and are more difficult to audit than other assets.

Using the amount of accounts receivable over total assets, Knechel and Willekens (2006) show that this variable is positively and significantly associated with audit fees. The positive association is due to higher stakeholder demand for good monitoring from the auditor. Some of the other studies that also find that accounts receivable and inventory are positively associated with audit fees are Abbott, Parker, Peters and Raghunandan (2003), Krishnan and Visvanathan (2009), Rainsbury, Bradbury and Cahan (2009) and Johansen and Pettersson (2013). Krishnan and Visvanathan (2009) claim that the reason the auditor charges higher fees is to compensate for high audit risk associated with the large amount of inventory and receivables.

In Malaysia, Yatim et al. (2006), Che Ahmad et al. (2006b) and Abdul Wahab and Mat Zain (2013) also document positive relationship between inventory and receivables with audit fees. Thus, it is predicted that inventory and receivables over total assets are likely to be positively associated with audit fee.

H4$_{fee}$: Inventory and receivables are positively associated with audit fee.

3.3.1.5   Audit opinion

Audit opinion is another component of audit risk (Palmrose, 1989; Ghosh & Pawlewicz, 2009). The opinion is the output of the auditor's evaluation of client's financial affairs. Clean or unqualified opinion is issued when the financial statement is not materially misstated, and the statement is fairly present according to accounting standards. According to Arens et al. (2008), this opinion cannot be issued when the following elements exist: (i) the scope of audit has been restricted; (ii) disagreement

between auditor and management on compliance with accounting standards; and (iii) situations in which the outcome cannot be objectively determined (inherent uncertainty), such as the ability of the company to survive in the future. If any of these three elements are present, and depending on the materiality level, a qualified opinion audit report needs to be issued. The auditor also further needs to provide reasons why such opinion is appropriate, and if possible, state its effects on financial statements in quantitative forms.

Companies that do not obtain clean opinion are high risk companies (Chen, Martin & Wang, 2013). Qualified audit report indicates companies' financial statement is materially misstated and did not fully comply with relevant standards of accounting and auditing. This could be due to financial instability (such as ability to continue as going concern entity, uncertainty of companies' restructuring schemes) or lack of monitoring function by management in preparing financial statement. Due to high risk factor, this type of company is not the preferred choice of audit firms and the firms would avoid them. In addition, association with this company can bring negative image to the audit firms. To protect their reputation, the firms would disassociate companies which have the possibility of getting qualified audit opinion.

Blokdijk, Drieenhuizen, Simunic and Stein (2003) reveal that the level of materiality for Big Four firms is low. By employing low level of materiality, it has increased the scope of audit and the chances of companies getting qualified opinion is also high. The stringent audit procedure increases the chances of getting qualified opinion if the companies hire Big Four firms as compared to non-Big Four firms. Since qualified opinion reflects company's management performance, the management might not be interested in appointing Big Four firms. It is in line with the argument that companies' managers prefer to choose auditors that can portray the good image of the manager in the eyes of shareholders, such as by issuing favourable

audit opinion (Williams, 1988). Thus, auditors who cannot accommodate managers' desires and have low level of compromise on audit quality, might be of interest to the management.

The negative association between audit opinion and auditor choice is demonstrated by Clatworthy et al. (2009), where companies with qualified audit report are more likely to choose a non-Big Four auditor. From the perspectives of risk avoidance strategy and auditor reputation, companies which get qualified audit opinion are less likely to be associated with quality auditor.

H5choice: Qualified audit opinion is negatively associated with the choice of quality auditor

As the opinion offers an overall view of a company's financial position and assists users to make business judgment, auditors need to ensure that appropriate opinion is given. Inappropriate audit opinion issuance can increase audit risk. This is because various audit opinions offer different signals on company's financial statement position, especially if the auditor issues audit report other than unqualified opinion. For example, Firth (1997b) offers two interpretations of qualified opinion. He contends that this opinion is a reflection of additional audit effort put in by the auditor and client in order to resolve companies' problems. As for the second interpretation, he associates the opinion with the risk factor. According to him, companies that obtain qualified opinion have higher likelihood of business failure. The failure of business then could be used as a reason for other parties to sue the auditor. Similarly, Johnstone and Bedard (2004) argue that audit firms use a going concern opinion as a tool to minimise the risk (i.e. litigation risk) that arises from client's financial failure.

The above explanation infers that issuance of other than unqualified audit opinion involves additional audit effort and contributes to high audit risk. Many studies show the association between types of audit opinion and audit fee is positive (such as Palmrose, 1989; Vermeer et al., 2008; Huang et al., 2009; Charles et al., 2010). Results in those studies, in general, agree with Firth's (1997b) arguments above. For example, Charles et al. (2010) suggest that modifying audit opinion is a sign of problems that are faced by auditors in performing their jobs. Also, Ettredge et al. (2007) state that audit opinion, particularly going concern opinion, indicates client's riskiness. A positive association is also demonstrated by Rahmat and Mohd Iskandar (2004) among Malaysian companies, and about 22% of the companies have received qualified opinion. From the foregoing explanation, it is predicted that qualified audit opinion is likely to be positively associated with audit fee.

H5$_{fee}$: Qualified audit opinion is positively associated with audit fees.

3.3.2   Auditor business risk

Unlike audit risks, which have many proxies, according to Johnstone (2000), indicators of auditor business risk that can be found in previous studies, are limited. She provides five measurements of auditor business risk: (i) possibility of going public or IPO; (ii) fiscal year end timing (busy season); (iii) audit firm industry specialisation; (iv) NAS opportunities; and (v) competitor's pricing strategy. This limitation can be associated with the difficulty to assess the audit firm's proprietary data and to determine the variables that directly contribute to auditor's profitability and law suit against auditor. For instance, DeFond (2004) asserts that the client's financial condition, i.e. liquidity and bankruptcy indicators, that have been used in Choi et al. (2004), are not able to capture auditor litigation risk. Even though DeFond (2004) suggests other alternative measurements (i.e. factors that are related to

management fraud), he admits that this alternative measurement is not fully capturing the litigation risk, and moreover, it is likely to be noisy. For the purpose of this study, two measurements of auditor business risk are employed - financial year end and NAS.[19]

3.3.2.1 Busy season

Audited financial statements need to be issued in a timely manner so that the statement is relevant for the users. Timeliness of audit report will be affected if many audit firm clients have financial statement ending on the same date (busy season). Lee, Mande and Son (2009) show that busy period is positively associated with lengthy audit delay. It is opined that the positive relationship is caused by shortage of staff in companies and audit firms. Nevertheless, this problem is not severe for large audit firms. These firms employ high quality staff and make high investment on reputational capital (e.g. staff training) (Moizer, 1997). Despite many of their clients having financial year end in the busy period, the firms are still able to provide efficient audit service. As for small firms, lack of audit resources (e.g. inexperienced staff, lack of training) would preclude them from being associated with many clients whose financial year end falls in the busy season.

The UK study of Ireland and Lennox (2002) shows that there is a significantly higher number of large audit firms performing audit jobs during the peak season (year end between 1 December and 31 March). Similarly, Clatworthy et al. (2009) reveal

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[19] IPO companies are excluded due to their newly established business structure and the data prior IPO is not publicly available. Further explanation is provided in Chapter 5 (under 5.3.1 Sample selection). As for audit firm expertise, it is treated as dependent variables in sensitivity tests. The difficulty to obtain data on how audit firm's strategise their audit pricing in getting similar audit clients hamper the data collection process of competitor's strategy. Finally, public company variable is only relevant if the samples consist of private and public companies.

that clients of Big Four audit firms are more likely to be audited during the busy period (year end is December or March). Chaney et al. (2004) also argue that large clients are consistently being audited throughout the year and the workload at the end of financial year can be reduced. In Malaysia, studies indicate that about half of the listed companies' financial year end is on 31 December, and as predicted, due to highly experienced audit staff and better facilities (e.g. technologies), clients of large audit firms have shorter audit delay (Mohamad-Nor, Shafie & Wan-Hussin, 2010). Based on the concept of auditor reputation, it is predicted that companies' financial year end that falls in the busy season is likely to be positively associated with quality auditor.

H6choice: Busy season is positively associated with the choice of quality auditor

Ireland and Lennox (2002) show that auditors charge higher fee if they need to perform the audit work during the busy season. The study also reveals that the year end is positively and significantly associated with the audit fee for large auditors.

Performing audit in the busy season is suggested to be higher in costs since auditors need to work extra time (Hay et al., 2006). McMeeking et al. (2006) contend that due to high opportunity costs of audit resources, audit fee is higher during the busy period. For example, in Malaysia, 70% to 75% of the audit clients have their fiscal year end falling during the busy period, which is between 31 December and 31 March (Che Ahmad et al., 2006a). In the UK, about 62% of the companies have their year end in either November/December or March/April (Basioudis, 2007). As more than half of audit firms' clients have their financial year end falling in the peak season, demand for audit resources is high during this period. Unfortunately, due to resources constraint, the firms cannot fully supply audit services. To recoup the losses of not being able to meet the audit demand, audit firms increase their billing rate. In

the UK, audit firms charge 11% higher audit fee in the busy period as compared to outside the busy period (Basioudis & Francis, 2007). Hence, it is postulated that the busy season is likely to be positively associated with audit fee.

H6$_{fee}$: Busy season is positively associated with audit fee.

3.3.2.2 Non-audit services

Apart from audit, audit firm or their associated firm also offer non-audit services. These services are mostly available at large audit firms compared to small or medium firms. This is because offering such services requires high investment. In addition, the firms need to have a qualified and trained persons specialised in this area. For large audit firms, having this type of facilities is an advantage for them to strategise their business. The firms can package audit and NAS together and offer it to their audit client.

Because of various facilities offered, companies that have many operations or want to enhance their operational efficiency prefer to appoint high quality audit firms. This is particularly true for large companies. The companies have complex business transaction and operations, which require audit firms with good knowledge and ability to deliver the service efficiently. Choosing small audit firms may put the companies in a risky position due to inexperienced staff or lack of knowledge in the non-audit area.

In Malaysia, Che Ahmad et al. (2006b) show companies that purchase NAS are larger and are audited by large audit firms. The same phenomena is also observed in the UK, where the market for NAS is dominant among large audit firms (Firth 1997a, Abidin et al., 2010). Based on the above argument and previous findings, it is expected that companies with high NAS are likely to be positively associated with quality auditor.

H7$_{choice}$: Non-audit service is positively associated with the choice of quality auditor.

Providing NAS to clients, theoretically, would reduce audit fees (Simunic, 1984). This is because the knowledge obtained when performing NAS for the same clients can be used in the auditing job, which is known as knowledge spillover effect. Firth (1997a) also argues that audit services and NAS provided by the same audit firm yield audit efficiency (i.e. less audit work required), since there is synergy between these two activities. As it is common for audit firms to provide audit staff for NAS, the staff also would develop their expertise, and the clients that purchase both services from the same firm would benefit the most (Shu, 2000). Similarly, Hillison and Kenneley (1988) assert that NAS may contribute higher revenue than the audit services. The audit service is perceived as "lost leader" and the firms view NAS as an appealing business segment to generate more revenue. The lost leader concept, as explained by Firth (1997b), assumes that the firm will reduce audit price to attract the clients to change or stay with them. The firm will use NAS as a means to recover losses from audit services (e.g. by charging higher NAS fees).

Nevertheless, this theory is not well supported by empirical evidence. For instance, studies in Belgium (Van Caneghem, 2010), Norway (Firth, 1997b), and UK (Basioudis, 2007; Basioudis & Francis, 2007) indicate that audit fees and NAS fees are positively related. McMeeking et al. (2006) cite some reasons on the positive association between these two variables. Among reasons offered are: (i) the effect of joint supply of audit and NAS; (ii) some business events might lead to high demand for audit and NAS; (iii) NAS might cause changes in business organisations that need additional audit work; and (iv) capability of large audit firms to offer both types of services simultaneously.

In Malaysia, audit fee is also positively associated with NAS (Che Ahmad et al., 2006b). Borrowing the argument from Firth (2002), Che Ahmad et al. (2006b) state that the positive results arise due to the varying needs for NAS among

companies (e.g. corporate structuring, issuance of new shares). Another possible reason is the period of their study, which employed the 2002 data. McMeeking (2007) reveals that from 2002 until 2005 (i.e. post-Enron), audit fee was inversely related to NAS among 100 largest listed companies in the UK. Specifically, the amount of audit fee has greatly increased (from £212m in 2002 to £321m in 2005) and the amount of NAS fees have been reduced by more than half (from £636m in 2002 to £311m in 2005). He states two factors that can explain this association. Firstly, the debacle of Enron has led to large audit firm' restructuring and these firms have become very dominant in the audit market. Secondly, the new rules and regulations on financial reporting have resulted in more audit effort, and at the same time, there is restriction on the ratio of NAS over total audit fees earned by the audit firm. The second factor is in line with the suggestion of Hillison and Kenneley (1988), and Firth (1997a), that auditors will be perceived as independent if they keep away from the activities that make the public think the auditors have economic interests or financial bonding with certain types of clients.

Since there is conflicting argument on the relationship between NAS and audit fees, it leads to development of null hypothesis and precludes a directional expectation. Thus, it is hypothesised that NAS is associated with audit fees.

$H7_{fee}$: *Non-audit service is associated with audit fees.*

3.3.3 *Client business risk*

Client business risk is associated with a client's financial condition. Client business risk, generally can be measured using financial ratios (Pratt & Stice, 1994). The ratios allow the auditor to compare client's financial strength from time to time. Evaluating client business risk through financial ratios (e.g. client's liquidity, profitability and solvency), would help the auditor to make sound engagement

decision (Johnstone, 2000). In fact, given the importance of financial aspects, Cushing and Loebbecke (1983) suggest financial statement elements (e.g. audit costs and economic impacts of financial statement error) be included in the audit risk model.

This study identifies five components of client business risk to be examined: (i) Return on Assets (ROA); (ii) loss; (iii) leverage; (iv) current ratio; and (iv) financial distress.

3.3.3.1 Return on Assets

ROA is the measurement of companies' efficiency in generating revenue from their assets. It is also able to measure company's profitability (Kealey et al., 2007). Higher ROA implies that the companies are efficient and utilising their resources well in order to produce income. As a result, the auditor does not allocate more effort for assets and revenue accounts. Big Four audit firms are usually associated with profitable companies since the companies are good in audit fee payment (Francis et al., 2009).

The situation can be different if the company is not efficient in generating revenue from the available resources. The auditor needs to identify the causes of low ROA and make recommendations on how to enhance the ROA. The auditor's unwillingness to be associated with a low ROA company can be referred to as auditor resignation incidence. A study by Shu (2000) shows that the probability of auditor's resignation is high when client's ROA is low. This indicates that audit firms prefer or are likely to choose clients with high ROA. Companies with low ROA find other types of auditors, especially the non-big firms that practice less stringent audit procedures, as their new auditor. This is consistent with Hogan and Martin's (2009) finding, where one of the characteristics of new clients for second tier audit firms is low ROA.

A study in Malaysia shows that the level of ROA is higher for industries with specialist auditor as compared to industry without specialist auditor (Rahmat & Mohd Iskandar, 2004). However, their study does not investigate the association between ROA and auditor's choice. As specialist auditors are usually associated with large audit firms, it can be inferred that high ROA companies will select large audit firms. The appointment of large audit firms also can uphold the image of management and it is consistent with the signaling hypothesis. As such, it is expected that ROA is likely to be positively associated with quality auditor.

H8$_{choice}$: ROA is positively associated with the choice of quality auditor.

Charles et al. (2010) assert that clients' financial performance would cause auditors to be in a risky position. The low level of profitability may increase auditor liability (Simunic, 1980). To compensate for possible liability against poor performance clients, auditors would adjust the audit fees. Therefore, clients with high (low) ROA, result in lower (higher) auditor's liability; thus, the auditors will charge their clients with lower (higher) audit fees. This is supported by several studies, revealing that ROA is negatively associated with audit fees (Huang et al., 2009), and the more losses companies make, the higher the audit fees will be (Ireland & Lennox, 2002).

A similar finding is also reported in Malaysia. Gul (2006) who focused on politically connected companies and Yatim et al. (2006) who used non-financial PLCs also reveal negative association between ROA and fees. Since high ROA is associated with better financial performance and low risk, it is predicted that ROA is likely to be negatively associated with audit fee.

H8$_{fee}$: ROA is negatively associated with audit fee.

There are two conflicting views on the association between loss and auditor choice (Ireland &Lennox, 2002; Hamilton et al., 2008; Ettredge, Kwon & Lim, 2009). The first view suggests that loss-making companies are preferred for high quality audit firm appointment. The appointment is a sign to the users on the credibility of audited financial statements. Further, appointment of this audit firm is one of the ways to minimise agency problem. On the other hand, it is suggested that quality auditors or large audit firms are not keen on audit appointment for loss-making companies. This is because audit firm relationship with financial problem companies possibly would damage the firm's reputation or increase the risk of being sued.

Empirical studies, however, seem to support the second argument, i.e. quality auditors keep a distance from loss-making companies. Francis et al. (2009) show that loss-making companies are less likely to hire large audit firms. Instead, the firms are more likely to be selected by profit-making companies, which supposedly have better ability to pay higher audit fees. In addition, Ireland and Lennox (2002) also find that clients of large audit firms enjoy more profits.

To date, in Malaysia, no study has further examined the association between loss and auditor choice. However, Mohd Iskandar and Wan Abdullah (2004) reveal that companies with high sales are positively associated with the choice of specialist auditor. Thus, it is anticipated that loss-recording companies are likely to be negatively associated with quality auditor.

H9$_{choice}$: Loss in prior year is negatively associated with the choice of quality auditor.

Pong and Whittington (1994) and Hay et al. (2006) contend that loss-making companies or companies that are not performing well contribute to high risk for the auditor. Pong and Whittington (1994) find that large companies that are making losses

are charged higher audit fees, because of the possibility of losses faced by the audit firm. Audit firm's losses are in terms of legal expenses incurred; besides, it would degrade the audit firm's image. This is in line with Choi et al.'s (2008) contention that client's loss is a measurement for litigation against the auditor, and it is possible that the companies are financially distressed (Pong & Whittington, 1994). Other related studies also show positive association between loss and audit fees. For instance, Ireland and Lennox (2002) demonstrate that loss-making companies over the last three years have been positively associated with higher fees. In addition, Choi et al. (2008) reveal that the association between loss and audit fee is positive. Hay et al. (2006) assert that the loss variable is an important driver of audit fee, especially in the post-1990s, compared to the pre-1990s. Charging them high fees infers the audit firm is prepared to face the negative consequences that are caused by clients' business failure (Pong & Whittington, 1994).

Studies in Malaysia, as shown by Muniandy (2007), Abdul Wahab et al. (2009), Johl et al. (2012) and Abdul Wahab and Mat Zain (2013), also indicate that loss is likely to be positively associated with higher audit fees. Further, Johl et al. (2012) state that about 28% of Malaysian companies were making a loss in 2005, which was not very different from the year 2001 (32%) (Muniandy, 2007). Based on the foregoing discussion, it is hypothesised that companies that reported loss are likely to be positively associated with audit fee.

$H9_{fee}$: Loss in prior year is positively associated with audit fees.

3.3.3.3 Leverage

Leverage determines the client's viability to meet long-term liabilities and debt covenants (Choi et al., 2004). Meeting debt covenants would give a positive image about the company in the eyes of the financial institutions. Companies with

high leverage may have a problem in performing their financial obligations. From the perspective of agency theory, Jensen and Meckling (1976) argue that the possibility of managers transferring wealth from debtholders to shareholders will be increased when the leverage is high. To restrict the tendency of managers doing this, the debt covenants should be in place (DeFond, 1992). Further, the companies and creditor need to ensure the covenants are closely followed and not violated.

However, companies with high leverage have a tendency to manipulate earnings or boost their income in order to meet debt covenants (DeFond & Jiambalvo, 1994; Hunt & Lulseged; 2007; Choi et al., 2010). The reason for manipulation, as they claim, is to avoid covenants breach. Caramanis and Lennox (2008) also have put forth similar argument. According to them, abnormal accrual is higher for high levered companies. High levered companies are risky clients as they are likely to be involved in earnings manipulation; it is not surprising that high debt ratio companies are positively associated with bad audit report (Lam & Mensah, 2006).

To ensure compliance to the covenants, companies appoint a high quality auditor that can act as a strong supervising mechanism. This is consistent with Chaney et al.'s (2004) study, where private companies with high leverage are likely to select large audit firms. DeFond (1992) also argues that companies with higher agency costs, such as high leverage, influence the companies to seek a high quality auditor. Large audit firms' appointment perhaps could reduce the agency costs.

In Malaysia, there is no significant difference for mean leverage between large and small audit firms' clients from 1993 to 1995 (Che Ahmad et al., 2006b). However, between 2000 and 2001, Rahmat and Mohd Iskandar (2004) show mean leverage for industries with specialist auditor is slightly higher than for industries without specialist auditor. Since the latter study employs the most recent data, and is

in line with results from prior studies, it is expected that leverage is likely to be positively associated with quality auditor.

H10choice: Leverage is positively associated with the choice of quality auditor.

Bedard and Johnstone (2004; 2010) argue that companies with higher leverage have influence on audit effort and audit pricing. The additional audit efforts reflect the auditor's tendency to detect client's accounting manipulations. Other than higher leverage companies being riskier, they suggest that these companies need more audit effort, particularly in the form of evaluating debt covenants. It is in line with results produced by Khalil et al. (2008), Allen and Woodland (2010) and Gul and Goodwin (2010), that there is a positive and significant association between audit fee and leverage.

Yatim et al. (2006), Hariri et al. (2007) and Johl et al. (2012) also show the same direction in Malaysia. Even though other studies (e.g. Abdul Wahab et al., 2009) show a negative association, the advantage of Yatim et al.'s (2006) study is due to its larger sample size (736 companies). In addition, Yatim et al. (2006) show that leverage is consistently positive and significant in all four audit fee models (traditional audit fees, governance variables and ethnicity, BODs' characteristics and audit committee characteristics model). Thus, based on prior discussion, it is expected that leverage is likely to be positively associated with audit fee.

H10fee: Leverage is positively associated with audit fee.

3.3.3.4   Current ratio

Current ratio consist of current assets and current liabilities elements. Current assets are one of the components in the balance sheet, and some examples of current assets are cash, inventories and receivables. This ratio measures the liquidity, where it

explains the client's ability to serve its short-term liabilities, and therefore avoid debt default (Choi et al., 2004). In addition, the ratio measures clients' business operation efficiency and the ability of the clients to convert their goods or services into cash. High current ratio indicates high capability of the clients to pay their short-term liabilities.

Liquidity is a reflection of the client's financial failure (Simunic, 1980), particularly if the company is unable to meet its short-term obligations. Further, the ratio also has an influence on the type of audit opinion obtained. Lam and Mensah (2006) demonstrate that apart from high debt ratio, companies that receive qualified audit opinion have low current ratio. In a similar vein, DeFond et al. (2000) argue that other than being larger in terms of size, having lower profit and being older in terms of company age, companies with modified audit opinion have low current ratio.

According to Pittman and Fortin (2007), higher agency costs which could be due to low financial liquidity, may induce riskier companies to choose a Big Four firms. By doing so, the companies' financial statement credibility can be improved. The choice of Big Four firms could also provide sort of "insurance protection". Apart from that, the firms are more independent and they are good in monitoring activities (DeFond et al., 2000; Woo & Koh, 2001).

There are limited studies in Malaysia that associate the current ratio and choice of auditor. Rahmat and Mohd Iskandar (2004) show industries with specialist auditor have lower mean of current assets over total assets ratio, as compared to industries without specialist auditor. Based on the above argument, it is hypothesised that current ratio is likely to be negatively associated with quality auditor.

H11$_{choice}$: Current ratio is negatively associated with the choice of quality auditor.

According to Chan et al. (1993), balance sheet items are perceived as having high cost of auditing, and some items in current assets are hard to audit. Each item of current assets has its own features; thus, different audit approaches are required. For instance, audit for cash is done after completing test of controls and substantive tests of transactions since almost all of the transactions in audit cycles (e.g. revenue and expense) involve cash (Arens et al., 2014). Audit of fixed assets, on the other hand, is a straightforward procedure, especially if there are not many changes in the balance sheet or transaction from the previous year (Chan et al., 1993). Chan et al. (1993) assert that to a certain extent, there is no cost of audit for amortised goodwill if the amount and rate of goodwill write-off have been decided.

Caramanis and Lennox (2008) show there is negative association between audit effort and liquidity; more audit effort (i.e. audit hours) is required for companies with low liquidity (higher business risk). Caramanis and Lennox (2008) show there is negative association between audit effort and liquidity; more audit effort (i.e. audit hours) is required for companies with low liquidity (higher business risk). High client business risk may indicate insufficiency of client's working capital to carry on their business (Thornton & Monroe, 1995). This possibly makes the investors and creditors of riskier companies suffering losses and more likely to initiate lawsuit against auditor. Thus, the auditor may spend longer hours on high risk clients and charge higher audit fee to compensate the possible lawsuit.

In Malaysia, quick ratio (another measurement for liquidity) is negatively associated with audit fees (Rahmat & Mohd Iskandar, 2004). In line with Rahmat and Mohd Iskandar (2004), and Caramanis and Lennox (2008), it is expected that current ratio is likely to be negatively associated with audit fee.

H11$_{fee}$: Current ratio is negatively associated with audit fee.

3.3.3.5   Financial distress

Financial distress is an indicator of a client's financial condition (Stice, 1991) or financial health problem (Hunt & Lulseged, 2007). There are several criteria of financially distressed companies. These include companies which are under receivership, under liquidation, being reorganised, unable to meet financial interest, experiencing consecutively (two or three years) loss/deficit, making loss/deficit in current year, have negative net worth, negative cash flow, negative income and negative working capital, and going concern audit opinion (Hopwood, McKeown & Mutchler, 1989). This is consistent with the explanation that high-debt companies and companies reporting losses are more likely to fail and therefore more likely to receive going-concern audit opinion (Francis & Yu, 2009). The criteria indicate that financially distressed companies face major difficulty to continue their business and are likely to become bankrupt.

Apart from the above characteristics, companies in distressed situations are possibly involved in financial misstatement (Krishnan & Krishnan, 1997), and actively manage their earnings (Hunt & Lulseged, 2007). The effect of financial distress is manifested in the form of audit report issuance (i.e. going concern opinion). According to Geiger, Raghunandan and Rama (2006), going concern modified audit opinion is more associated with bankruptcy compared to non-going concern modified audit opinion.

Another major effect of financial distress is the possibility of audit firm's litigation. Stice (1991) and Lys and Watts (1994) assert that financial distress leads to auditor's litigation. Krishnan and Krishnan (1997) explain that the auditor is likely to be sued by shareholders of distressed companies to recover their losses on investment. Hence, auditors can use distress as an indicator to decide whether to

discontinue/continue their relationship with the client. For the sake of their audit firm's reputation, reputable audit firms would avoid financially distressed clients.

However, most Malaysian distressed companies are audited by large audit firms (Shafie et al., 2009). Similarly, Syed Mustapha Nazri et al. (2012a) show positive association between financially distressed companies and auditor choice. This situation can be associated with the near absence of cases of auditor's litigation. Since the case of auditor's lawsuit is very rare, large auditors perceive financial distress as a non-contributory factor for the litigation. As for distressed companies, choosing large audit firm would enhance their audited financial statements' credibility (i.e. signaling hypothesis). In fact, high quality audit (i.e. large audit firm) has a role in lessening client's financial difficulties (Sundgren, 2009). Maintaining credibility of financial statement for this type of clients is important for the firm. According to Vanstraelen (2000), distressed companies are more likely to be scrutinised by external parties, thus increasing the possibility of discovering inappropriate audit opinion issuance.

By appointing large audit firms, the probability of doing such mistakes (i.e. incorrect audit opinion issuance) could be minimised. Based on this explanation, it is predicted that a financially distressed company is likely to be positively associated with quality auditor.

H12$_{choice}$: Financial distress company is positively associated with the choice of quality auditor.

Audit fees for financially distressed companies can be different from non-financially distressed companies. According to Pong and Whittington (1994), audit firms consider client risk as one of the factors that determine audit fees. The higher the level of financial distress, the higher the audit fees would be. High audit fee is a reflection on the possibility of auditor needs to bear litigation cost (insurance

hypothesis) in the case of client's business failure (Schwartz & Menon, 1985; Houston et al., 2005).

One of the justifications for high audit fees for distressed clients is the additional audit job requirement, especially if the client is entering receivership or liquidation. The auditor needs to verify the assets realisation and should be familiar with liquidation or winding-up process. Since the companies are generally not entitled for unqualified audit opinion, the auditor will decide the right opinion to be issued (qualified or going concern audit opinion) (Carcello & Neal, 2003). Therefore, the auditor must clearly identify and be prudent in audit opinion issuance so that there is no negative effect (i.e. litigation) on the company and the audit firm.

Further, according to Shu (2000), when the client becomes bankrupt, the auditor is in a difficult position. This is because the process of audit fees recovery from bankrupt clients is lengthy and costly. This might influence audit firms to charge higher fees for distressed clients.

An earlier study in Malaysia indicates bankruptcy and audit fee are negatively associated (Gul, 2006). However, a subsequent study by Abdul Wahab et al. (2009) find that last year's loss (indicator of client's financial problem) is positively associated with audit fee. Even though their sample does not consist of distressed companies, this indicates Malaysian audit firms perceive client's financial condition as one of the risks that needs to be taken into account in audit fee determination. Hence, it is postulated that financial distress is likely to be positively associated with audit fee.

H12$_{fee}$: Financial distress company is positively associated with audit fee.

3.4   Control variables

There are three major components of control variables for auditor choice and audit fee models. The variables are corporate governance, size of auditee and the Malaysian AOB. These variables are selected based prior literature on audit process (Cohen et al., 2002; 2004; 2010; Hay et al., 2006; Hay 2013) and the availability of the variables in the context of Malaysia.

Corporate governance is represented by BODs, audit committee, management and internal audit. These components are chosen based on the recommendation forwarded by Cohen, Krishnamoorthy and Wright (2002; 2004 and 2010) which suggest that these factors have influence on audit process. For instance, in assessing the client's governance practice, the auditor has put great interest on the quality of management and the independence of directors. The inclusion of management, particularly the senior management, is based on several premises. Firstly, management is responsible to set the tone of governance in the company and secondly, they are the one that initiates the atmosphere to achieve good governance practice. Audit committee is included since this committee is fully responsible on auditing and accounting matters of the company (Cohen et al., 2002). As for internal audit, this variable is selected because internal audit emphasis on the micro level of companies operation as contrast to the focus of the external auditor on the overall companies' operation.

Size of auditee also included as part of control variable because it is highly regarded as a major determinant in audit fee (Hay et al., 2006). The establishment of AOB is another control variable. This variable suggested able to capture an early reaction taken by auditor and auditee in facing the existence audit quality monitoring agency.

3.4.1 *Corporate governance*

3.4.1.1 Board of directors

The MCCG provides the characteristics of effective BODs. The characteristics are the separation of chairman and CEO, appointment of NEDs, one third of the Board comprises independent NEDs, there is representation of non-significant shareholder, establishment of nomination committee, suitable board size and directors' training. Based on these characteristics, each director's objectivity is a major concern of the Code. Thus, director's objectivity is included as control variable. Further, prior Malaysian studies indicate that factor, such as CEO duality and board size, are not significantly influence auditor choice and audit fee (Yatim et al., 2006; Wan Abdullah et al., 2008).

3.4.1.1.1 Non-executive directors

Fama and Jensen (1983) and Bedard and Johnstone (2004) claim NEDs as a mechanism to promote good monitoring against the company's management, such as in monitoring financial reporting process. To improve the level of supervision in the companies, the presence of high quality auditor is an advantage for NEDs. High quality auditor indicates higher reliability of financial statement and information asymmetry between BODs and shareholders can be reduced (Beasley & Petroni, 2001; Sun & Liu, 2013; Choi & Lee, 2014). Results from previous studies show that the likelihood of large audit firm's appointment is higher when there is a large number of NEDs on the BODs (Ireland & Lennox, 2002). In Malaysia, Wan Abdullah et al. (2008) show that there is positive association between NEDs and size of audit firms. They explain that NEDs have a role in enhancing quality of auditing. Based on the above discussion, NEDs can complement the role of the large audit firm in supervising financial reporting process.

Another way to preserve NEDs' reputation is through extensive audit work. Performing extensive audit work results in high quality job and audit fee, as well. The direct relationship between NEDs and audit fees is demonstrated by a number of studies. Leventis and Dimitropoulos (2010) assert that appointment of independent directors has increased the demand for high audit quality (audit fees). They opine that demand for high quality audit will protect shareholders and BODs' interest. This is consistent with Carcello et al.'s (2002) finding where high quality BODs (non-management is one of the components) place more emphasis and have high expectation on audit quality. Similar finding also available in Malaysian, where Yatim et al. (2006) and Salleh et al. (2006) reveal non-executive director is positively associated with audit fees.

3.4.1.2   Audit committee

Abbott et al. (2003) outline three components of audit committee effectiveness: (i) independence; (ii) expertise; and (iii) meeting frequency. Of these three components, this study excludes audit committee independence because the BMCGG (2013) states that all audit committee members must be NEDs. The appointment of a NED in the audit committee, hence has become a normal practice among companies. As for meeting frequency, it is represented by the number of audit committee meetings in a financial year. Meanwhile, expertise is proxied by audit committee's affiliations with their former employer (i.e. audit firm).

3.4.1.2.1 Audit committee meeting

Abbott et al. (2003) and Raghunandan and Rama (2007) regard audit committee meeting as an indicator of diligence. An active committee has higher

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probability of influencing management and BODs' decision, including audit engagement decision (Chen & Zhou, 2007). The members' commitment indicates meetings can be an effective tool to monitor financial reporting and audit process. Engel, Hayes and Wang (2010) suggest that the number of meetings implies the extent of monitoring demand for financial reporting process, where a higher number of meetings indicate that there is a need for more supervision from the audit committee. Empirical evidence supports the above argument that the frequency of meetings is associated with monitoring demand, particularly external monitoring. Abbott and Parker (2000) and Chen and Zhou (2007) reveal that companies with active committees have more tendencies to choose high quality auditor. It is also in line with Sharma, Naiker & Lee's (2009) finding, where Big Four firms are positively associated with high frequency of audit committee meetings. Similarly, in Malaysia, audit committee meeting frequency is significantly associated with selection of specialist auditors (Mohd Iskandar & Wan Abdullah, 2004).

Vafeas and Waegelein (2007) offer two views on the relationship between frequency of audit committee meeting and audit fees. The first view suggests that effective committees (e.g. higher frequency of meeting) is a substitute for auditor's work, where the external auditor relies on the work of the audit committee, thus resulting in lower fees. The second view presumes the audit committee compliments the external auditor's duty; hence, the auditor charges lower audit fees. Krishnan and Visvanathan (2009) provide evidence that audit committee meeting is positively and significantly associated with audit fees. They suggest that active committees lead to a greater effort of auditors. Another possible explanation is a committee that frequently meets is well informed about the company's auditing issues, and in order to resolve the issues, the committee will take the initiative to ask the auditor to extend the scope

of audit (Abbott et al., 2003). A study in Malaysia also shows that there is positive and significant association between frequency of audit meetings and audit fees (Yatim et al., 2006).

3.4.1.2.2 Audit committee affiliations with audit firm

The close relationship between alumnus and former audit firm is explained by social identity theory. The theory assumes that people will categorise themselves into many social groups to define themselves and improve self-esteem (Iyer et al., 1997). They find that an alumnus still feels part of the audit firm (alumni's identification); if the firm is more prestigious, the alumnus and former firms share about similar values, norms and belief, and there is good relationship between alumnus and former mentor. Thus, to maintain good relationship between company and client, the audit committee members (i.e. alumni of audit firm) would prefer to appoint their alma mater (Lennox & Park, 2007). Ireland and Lennox (2002) show influential directors (e.g. finance director) previously attached with large audit firms are positively associated with large audit firm's choice. Similarly, a study of Big Five audit firms' appointment discloses that there is tendency for companies to appoint the CEO's former audit firm even though the relationship is lessened with the presence of an independent audit committee (Lennox & Park, 2007).

While prior working experience in audit firm is part of the measurement of audit committee's expertise (Basioudis, 2007), there are differences on quality of service among audit firms. This is because, unlike small audit firms, all large audit firms are considered as a specialist auditor, produce high quality audited financial statement and resource of the firms are shared with other audit offices globally (Basioudis & Francis, 2007; Hunt & Lulseged, 2007; Carson, 2009; Reichelt & Wang,

2010). In the context of working experience, it is predicted that committee members who have had experience in large firms contribute to audit fee reduction. This is because Krishnan and Visvanathan (2007) show that the presence of financial experts, including accounting and non-accounting financial experts, does not affect audit fees. However, when definition of expertise only includes accounting financial expert, auditors react differently. It is found that audit fee is reduced. While the role of experience gathered in different sizes of audit firms has not been further examined in Malaysia, Johl et al. (2012) contend that audit committee expertise mitigates auditor risk evaluation on the financial reporting process, consequently reducing audit coverage and fees.

3.4.1.3   Management

Management has significant roles in audit decision, such as auditor's appointment and audit pricing (Cohen et al., 2010). Similarly, Johnstone and Bedard (2004) include management characteristics as the factors to be considered in audit appointment. Since the CEO holds the highest position on the management's side, the study emphasises on one of the CEO's characteristics, namely CEO's ownership and length in the company.

3.4.1.3.1 CEO ownership

Lin and Liu (2009), Wysocki (2010) and Khan and Mather (2013) argue that the entrenched manager (i.e. CEO who wants to establish or retain power in the company) and shareholder with large amount of shares are associated with low quality of audit and financial reporting practices. For example, Lin and Liu (2009) suggest that shareholders with large amounts of shares prefer a low quality auditor. Low

quality auditor indicates less external monitoring and the shareholder can maximise investment interest through earnings management activities. Since many Malaysian companies are highly concentrated and owned by top management, such as CEO (Amran & Che Ahmad, 2009; Mohd Ghazali, 2010; Morris et al., 2011; Mustapha & Che Ahmad, 2011), the need to appoint high quality or more objective auditor is less. This is because the main users are within the company itself and the issue of agency problem is less obvious. Further, with high number of shares held, the manager (such as CEO) can utilise this power to decide on the type of auditor that is to be appointed; most probably a "friendly auditor" (Williams, 1988). Study by Hope et al. (2008) which also included Malaysia as one of the 37 countries examined, show that Big Four firms and ownership concentration are negative associated.

Based on the alignment effect argument, Morris et al. (2011) point out that high ownership concentration leads to alignment of controlling and outside shareholders' interest. The argument suggests that CEOs with high shareholding have to work hard to protect their investment in the companies, since in the case of companies having financial difficulties, the CEO cum substantial shareholder will suffer the most. In addition, due to better alignment between manager and shareholder, Mitra, Hossain and Deis (2007) suggest it motivates the company's manager to prepare more value relevant financial information instead of manipulating the financial figures. By doing so, the problem of financial misreporting and audit effort would be minimised, as there is low audit risk. In Malaysia, by using percentage of shares held by company insiders (to measure management ownership), Nikkinen and Sahlstrom (2004) show this variable is negatively associated with audit fees, and supports agency theory explanation.

3.4.1.3.2 New CEO

According to Thomas and Simerly (1995), the tenure can gauge the level of the CEO's knowledge about the company and stakeholders. Having served in the company for long period makes the CEO well versed in the overall aspects of the company. In addition, a long-tenured CEO is regarded as a reputable manager since he or she is able to face and overcome many difficult situations in the company (Milbourn, 2003). On the other hand, a short-tenured CEO has limited knowledge and experience about the company. Companies with new CEOs might face problems in performing their tasks and getting a clearer view of the company's directions. Further, the CEO might have different view on the relative importance of the company's financial performance target (Yan & Wheatley, 2010). Such negative characteristics of a new CEO may inhibit the company from achieving business performance, including maximising shareholder value. Due to disadvantages associated with new CEOs in achieving companies' objectives, the companies prefer to appoint high quality auditor. By doing so, it would compensate for the inefficiency of the CEOs and minimise the agency problem.

As for auditors, change in companies' management is one of the factors they consider in audit decision (Bell et al., 2002). The new management may have different philosophy (management's attitude and action towards internal control) (Cohen & Hanno, 2000) and source credibility (the extent that auditors can trust their clients) (Beaulieu, 2001). In fact, Chow et al. (2006) argue that changes in management have contributed to the auditor difficulty in assessing client related risk. In line with this proposition, Yan and Wheatley (2010) show a new CEO is positively related to audit fee premium. The existence of premium is a sign of auditor's awareness of the effect of new CEO's appointment on financial reporting practices.

The above argument is supported by some empirical studies. Wells (2002) shows that new CEOs are involving in earnings management activities in the year of CEO changes, where they tend to manipulate abnormal and extraordinary items. Further, according to Masters-Stout, Cotigan and Lovata (2008), the prevalence of goodwill impairment is common among new CEOs, rather than senior CEOs. By impairing the amount of goodwill, the amount of income in current financial year is affected. The income then becomes the benchmark to beat and the CEO is more likely to achieve it.

3.4.1.4   Internal audit

Bursa Malaysia requires internal audit to be carried out by skilled individuals, but there are no rules that prohibit companies to outsource this service (Listing Requirements of Bursa Malaysia Securities Berhad; MCCG, 2012; BMCGG, 2013). Therefore, companies have two options on the type of internal audit service providers; whether it is done internally (in-house) or outsourced to a third party (external firm).

3.4.1.4.1 Internal audit function provider

Ahlawat and Lowe (2004) define internal audit outsourcing as the internal audit activities that are carried out by their external auditors or other internal audit professional service providers. Internal audit outsourcing can offer better quality of service due to resource availability and quick service (no initial investment cost for companies in setting up internal audit department) (Bostwick & Byington, 1997; Caplan & Kirschenheiter, 2000; Carey Subramaniam & Ching, 2006). Also, the outsourced firms are less biased towards their clients, and provide more audit tests (Caplan & Kirschenheiter, 2000; Ahlawat & Lowe, 2004). In line with substitution hypothesis, companies might perceive that by outsourcing internal audit function, it would reduce the issue of agency problem, such as external auditor independence.

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Further, external firm that performs internal audit is more reliable and can minimise the workload of the external auditor.

The external auditor reliance on the jobs performed by the client's internal auditor is affected when the internal auditor is less objective (Ahlawat & Lowe, 2004). However, the issue of internal auditor's objectivity is not common among outsourced firms. Ahlawat and Lowe (2004) state that as the outsourced firm has more clients, the issue of financial bonding on one client is not obvious since they can easily diversify client's risk. In fact, Glover, Prawitt and Wood (2008) reveal that the external auditor would rely on outsourced internal audit, especially when client's inherent risk is high. This is consistent with source dependence theory which explains that the more objective and credible the source, the more reliance can be put on the information provided by that source (Arel, 2010). Such reliance would affect the extent of financial statement audit performed by the external auditor (Gramling, 1999; Abbott, Parker, Peters & Rama, 2007), and the amount of external audit fees (Brandon, 2010). While not many studies directly examine the effect of internal audit outsourcing on audit fees in Malaysia, Haron, Chambers, Ramsi and Ismail (2004) agree that due to the independence issue, the level of reliance on internal audit is lower when it is performed internally than when it is outsourced. Further, Mat Zain, Subramaniam and Stewart (2006) concur that quality of internal audit positively influences the internal auditor to contribute towards external audit works. Mohamed et al. (2012) also agree that internal auditor's competency leads to lower external audit fee.

3.4.2 *Auditor characteristics*

There are various means to measure auditor's characteristics. However, in audit fee studies, auditor quality is the most common attribute, compared to auditor

tenure or location (Hay et al., 2006). In fact, within audit quality itself, various indicators are available for examination, such as size of audit firms, number of audit offices and audit firm's market share.

3.4.2.1 Auditor quality

According to Hay et al. (2006) indicators of auditor's quality include large audit firm and specialist auditor. When audit appointment is made on this type of auditor, it is predicted that there will be higher audit fees (Hay et al., 2006), and higher quality of auditing (DeAngelo, 1981). Higher audit fee is a reflection of the extensiveness of audit job, better assurance and reputation or image carried out by the audit firm. In addition, high fee is a mechanism to reduce the additional costs incurred by the firm in the case of auditor litigation. Van Caneghem (2010) states that Big Four firms charge higher fees than non-Big Four firms as the firms have higher possibility of litigation due to deep pocket hypothesis.

Malaysian studies show auditor quality is positively related to fees (Nikkinen & Sahlstrom, 2004; Rahmat & Mohd Iskandar, 2004; Gul, 2006; Hariri et al., 2007; Johl et al., 2009). The positive association is caused by investment made by the firms to develop their brand name reputation (Rahmat & Mohd Iskandar, 2004) and high client business risk facor (Gul, 2006; Abdul Rahman et al. 2010).

3.4.3 *Size of auditee*

According to Hay et al. (2006), the most popular control variable for audit fee determinant is size of client. Abidin (2006) also reveals that size is commonly used in studies of auditor change and selection in many countries.

3.4.3.1   Companies' size

Abbott and Parker (2000) suggest that size is the proxy of agency costs. Large companies are having serious agency problems due to the inability and difficulty to observe management's behaviour. This leads to the need for higher quality of monitoring and audit (DeFond, 1992). Therefore, large audit firms are more likely to be hired by large companies (Francis et al., 2009). Many of the studies (Beasley & Petroni, 2001; Ireland & Lennox, 2002; Chaney et al., 2004; Clatworthy et al., 2009; Lin & Liu, 2009), including in Malaysia (Wan Abdullah et al., 2008), find there is positive and significant relationship between companies' size and the type of audit firm choice.

Clatworthy et al. (2009) suggest client's size is able to capture the possibility of audit firm's economies of scale. Meanwhile, Peel and Clatworthy (2001) and Griffin, Lont and Sun (2008) argue that size of the company indicates the effort and complexity of audit. Size also implies the extent of the risk that is faced by the companies, where large companies have more tendencies to face various risks from the business environment (Hay et al., 2008). For instance, large companies are usually subjected to higher observation from public or media. It is in line with Rainsbury et al.'s (2009) argument that because large companies are closely monitored by financial analysts, the companies are under pressure to meet analysts' expectation. To meet the expectation, the companies prefer to adopt aggressive accounting choice. Since large companies are risky, and complex with high probability of being involved in accounting manipulations, it requires more audit effort, thus leading to high audit fees (Simunic, 1980; Eshleman & Guo, 2014).

3.4.4 Audit oversight

Section 31C of the Securities Commission Act 1993 established the AOB in early 2010. The Board aims generally to provide effective audit oversight framework, improve audit quality and regulate auditors in Malaysia.

3.4.4.1   Establishment of the AOB

With the establishment of AOB, it makes the auditors of listed companies be fully monitored by a regulator. Close supervision of AOB might influence companies' decision on the type auditor to be selected. The fact that many Malaysian listed companies are audited by Big Four firms makes the firms among the targets of inspection. In addition, according to the AOB's Annual Report 2011, the Board inspected Big Four firms and two major audit firms within the year. With this practice, large audit firms are highly monitored by regulators compared to small audit firms. To avoid AOB's inspection, companies in year 2010 are expected to disassociate themselves from Big Four firms. In the US, Hogan and Martin (2009) show that after SOX's introduction in 2002, which also led to the establishment of PCAOB, second tier auditors have begun to accept larger clients previously audited by Big Four firms.

According to the AOB, the critical part of audit quality inspection is that entire audit procedures and evidence must be documented (AOB Annual Report 2011). While the inspection might improve audit quality, DeFond and Lennox (2011), Alexander, Bauguess, Bernile, Lee, and Marietta-Westberg (2013) and Carcello and Li (2013) argue that the presence of audit oversight function leads to high audit cost. Further, high audit cost could be due to potential risk factors. If the firm selected to be investigated by the AOB has failed to follow any provision of the Securities

Commision Act 1993, stern action will be taken. To compensate for the risk of being penalised or reputational damage, such firms use audit pricing to recover from such a possibility, and pass the cost of audit to the customer. The impact of the audit oversight function on audit fee is pronounced in the US. Asthana et al. (2009) document that audit fee was higher in 2002, compared to 2000 and 2001. They argue that such increment is partly contributed by the PCAOB.

3.5   Conclusion

This section provides explanation on theoretical framework and hypothesis formulation for auditor choice and audit fee model. The hypotheses consist of engagement risk elements (audit risk, auditor business risk and client business risk). Apart from engagement risk, the study also includes some corporate governance variables (BODs, audit committee, management, and internal audit function), size of auditee and AOB's establishment (the year when AOB was introduced), as control variables.

CHAPTER 4: RESEARCH METHODS AND DESIGN

4.1   Introduction

In this chapter, explanation is given on methods and design to examine the effect of engagement risk on auditor choice and audit fee. Section 4.2 explains the approach of the study. Section 4.3 presents research models and measurement. It is followed by research operationalisation in Section 4.4. Sample selection and data collection are discussed in Sections 4.5 and 4.6 respectively. The second last part is data analysis technique and the final part is conclusion of the chapter.

4.2   Approach of the study

This study utilises the secondary or archival data approach; where the data is obtained from public sources. There are several reasons for using this data. Compared to primary data, the data obtained from archival sources is more accurate, objective and does not involve a large amount of resources in terms of time and money. By using secondary data, information about past and current company auditors can easily be identified. Since the focus of this study is to examine actual type of auditor chosen by companies and real audit fees charged by the auditor, archival data is more suitable. Further, most studies on audit fees, according to Hay et al. (2006), have been based on publicly available data. The actual data assists in understanding the pattern of the audit market structure.

The population of the study consists of companies listed on Bursa Malaysia Securities Berhad. These companies are listed on the Main Market and the ACE Market. Bursa Malaysia Securities Berhad (Bursa Securities) previously consist of the Main Board (minimum capital paid up is RM60 million), Second Board and Malaysian Exchange of Securities Dealing & Automated Quotation (MESDAQ)

Market. Among requirements for companies to be listed on the Main and Second Boards of Bursa Malaysia are: (i) minimum paid-up capital is RM60 million and RM40 million, respectively, (ii) uninterrupted profit of three and five years, respectively; and (iii) minimum of five years in business. Meanwhile, MESDAQ Market requires the companies to have a minimum paid-up capital of RM2 million (as for a technology incubator company, the minimum issued and paid-up capital is RM20 million) and specific track record (Yatim, 2011). In August 2009, Main and Second Boards were merged (known as Main Market), and the new ACE (Access, Certainty, Efficiency) Market was introduced to replace MESDAQ Market (Bursa Malaysia Annual Report 2009). ACE Market is a sponsor-driven market (such as sponsored by investment bank) and open to all companies (regardless of their size and business sectors). Also, there is no specific operating history or track record requirement for listing in this market (Yatim, 2011). With the merger of Main and Second Boards, and ACE Market introduction, these changes enhance Bursa Malaysia's attractiveness and global competitiveness (Bursa Malaysia Annual Report 2009).

Companies listed on Bursa Malaysia are chosen for some reasons. The requirement by Bursa Malaysia that 25% of listed issuer shares must be held by the public makes the presence of external auditor to examine financial statement important to outside investors. In addition, public companies are riskier than private companies (Johnstone & Bedard, 2003; Brown & Johnstone, 2009), because of the nature of ownership structure. Since the companies belong to the public and institutional shareholders (e.g. employee provident funds, unit trust funds), its business activities are closely monitored not only by these shareholders, but also by many other interested parties, such as shareholders' watchdog groups and regulators. Thus, this would affect auditors' behaviour.

4.3   Research models and measurement

A separate auditor selection and audit fee equation are employed. The basic model of quality auditor choice, which is based on Williams (1988), Thornton and Monroe (1993), Ireland and Lennox (2002), Hamilton et al. (2008), Che Ahmad et al. (2006a), Srinidhi et al. (2009) and Van Caneghem (2010), is as follows (variables are defined in Table 4.1):

$$
\begin{aligned}
AUDQUAL = {} & \alpha_0 + \alpha_1 lnSUBS + \alpha_2 FORSUBSP + \alpha_3 SUBEVENT + \alpha_4 INVREC + \\
& \alpha_5 AUDOP + \alpha_6 BUSY + \alpha_7 lnNAS + \alpha_8 ROA + \alpha_9 LOSS + \alpha_{10} LEV + \alpha_{11} CURR + \\
& \alpha_{12} FINDISTRESS + \alpha_{13} NED + \alpha_{14} ACMEET + \alpha_{15} ACB4 + \alpha_{16} CEOSOS + \\
& \alpha_{17} CEONEW + \alpha_{18} IAP + \alpha_{19} lnTA + \alpha_{20} AOBYR + \varepsilon
\end{aligned}
\tag{1}
$$

Notes: AUDQUAL = 1 if the audit firm is Big Four, 0 = otherwise; lnSUBS = logarithm of subsidiaries; FORSUBSP = percentage of foreign subsidiaries; SUBEVENT = 1 if the company disclosed subsequent event in accounts, 0 = otherwise; INVREC = (Inventory + total receivables) / Total assets; AUDOP = 1 if audit opinion is not reported as unqualified audit opinion, 0 = otherwise; BUSY = 1 if financial year end is between 31 December and 31 March, 0 = otherwise; lnNAS = logarithm of non-audit fee services; ROA = Net income/total assets; LOSS = 1 for loss in the last year, 0 = otherwise; LEV =Total liabilities / total assets; CURR = Current assets / current liabilities; FINDISTRESS = Altman's Z-score is below than 2.073, 0 = otherwise; NED = Non-executive director / total number of BOD; ACMEET = number of audit committee meetings in a financial calendar year , 0 = otherwise, ACB4 = 1 if Big Four alumni in audit committee, 0 = otherwise, CEOSOS = 1 if CEO has more than 5% shares, 0 = otherwise; CEONEW = 1 if CEO in the company for three years or less, 0 = otherwise; IAP = 1 if internal audit functions is co-source or outsourced to external firm, 0 = otherwise; lnTA = logarithm of total assets; and AOBYR = company's financial year end is 2010, 0 = otherwise.

As for audit fee model, it was developed by Simunic (1980) and widely used in auditing literature with some modifications (Palmrose, 1986; Craswell et al., 1995; Gul, 2006; Hay et al., 2006; McMeeking et al., 2006; Gul & Goodwin, 2010). The model assumes that auditor and clients are: (i) risk neutral and both of them want to maximize the profit, (ii) able to buy the resources in competitive market and used it efficiently; and (iii) jointly and severally liable to the users of financial statement (Simunic, 1980).

The audit fee model in this study is mainly based on audit fees studies by Simunic (1980); Hay et al. (2006) and Gul (2006) and other studies, such as in

Malaysia (e.g. Yatim et al., 2006; Rahmat & Mohd Iskandar, 2004), the UK (Chaney et al., 2004; Ireland & Lennox, 2002), Australia (Hamilton et al., 2008) and Belgium (Van Caneghem, 2010). The model is a function of engagement risk, corporate governance, type of auditor and size of auditee. The following is the basic estimated model (variables are defined in Table 4.1):

$$\text{lnAUDITFEE} = \delta_0 + \delta_1\text{lnSUBS} + \delta_2\text{FORSUBSP} + \delta_3\text{SUBEVENT} + \delta_4\text{INVREC} +$$
$$\delta_5\text{AUDOP} + \delta_6\text{BUSY} + \delta_7\text{lnNAS} + \delta_8\text{ROA} + \delta_9\text{LOSS} + \delta_{10}\text{LEV} + \delta_{11}\text{CURR} +$$
$$\delta_{12}\text{FINDISTRESS} + \delta_{13}\text{NED} + \delta_{14}\text{ACMEET} + \delta_{15}\text{ACB4} + \delta_{16}\text{CEOSOS} +$$
$$\delta_{17}\text{CEONEW} + \delta_{18}\text{IAP} + \delta_{19}\text{lnTA} + \delta_{20}\text{AOBYR} + \delta_{21}\text{AUDQUAL} + \varepsilon \qquad (2)$$

Notes: lnAUDITFEE = logarithm of audit fees; lnSUBS = logarithm of subsidiaries; FORSUBSP = percentage of foreign subsidiaries; SUBEVENT = 1 if the company disclosed subsequent event in accounts, 0 = otherwise; INVREC = (Inventory + total receivables) / Total assets; AUDOP = 1 if audit opinion is not reported as unqualified audit opinion, 0 = otherwise; BUSY = 1 if financial year end is between 31 December and 31 March, 0 = otherwise; lnNAS = logarithm of non-audit fee services; ROA = Net income/total assets; LOSS = 1 for loss in the last year, 0 = otherwise; LEV =Total liabilities / total assets; CURR = Current assets / current liabilities; FINDISTRESS = Altman's Z-score is below than 2.073, 0 = otherwise; NED = Non-executive director / total number of BOD; ACMEET = number of audit committee meetings in a financial calendar year , 0 = otherwise; ACB4 = 1 if Big Four alumni in audit committee, 0 = otherwise; CEOSOS = 1 if CEO has more than 5% shares, 0 = otherwise; CEONEW = 1 if CEO in the company for three years or less, 0 = otherwise; IAP = 1 if internal audit functions is co-source or outsourced to external firm, 0 = otherwise; lnTA = logarithm of total assets, 0 = otherwise; AOBYR = company's financial year end is 2010, 0= otherwise; and AUDQUAL = 1 if the audit firm is Big Four, 0 = otherwise.

There are several assumptions regarding the inclusion of audit firm size in the model. According to Chaney et al. (2004), the assumption is no differentiation on the incremental costs of selecting large audit firms. Further, audit firms are randomly assigned to the clients and the firm is treated as an exogenous variable. In addition, the model assumes that different sizes of audit firms will charge different audit fees (Ireland & Lennox, 2002). The error term (ε) indicates unobservable random determinant of audit fees paid to the audit firm.

Table 4. 1
Variables definition and measurement

Variable	Label	Measurement	Related studies
DEPENDENT			
Audit fee	lnAUDITFEE	Logarithm of audit fees.	Chaney et al. (2004); Clatworthy et al. (2009).
Auditor quality	AUDQUAL	1 = audit firm is Big Four, 0 = otherwise.	Copley and Douthett (2002); Chaney et al. (2004).
INDEPENDENT			
Audit risk	lnSUBS	Logarithm of number subsidiaries.	Thornton and Monroe (1993); Abdul Wahab et al. (2009); Clatworthy et al. (2009); Wang et al. (2009).
	FORSUBSP	Percentage of foreign subsidiaries over total number of subsidiaries.	Thornton and Monroe (1993); McMeeking (2006), Abdul Wahab et al. (2009).
	SUBEVENT	1 = the company disclosed subsequent event in accounts, 0 = otherwise.	Clatworthy et al. (2009).
	INVREC	(Inventories + total receivables) / Total assets.	Johnstone (2000), Johnstone and Bedard (2004), Landsman et al. (2009), Van Caneghem (2010), Johansen and Pettersson (2013).
	AUDOP	1= Audit opinion is reported as qualified audit opinion, 0 = otherwise.	Williams (1988); Rahmat and Mohd Iskandar (2004); Clatworthy et al. (2009); Ghosh and Pawlewicz (2009).
Auditor business risk	BUSY	1 = financial year end is between 31 December and 31 March, 0 = otherwise	Che Ahmad et al. (2006a); Clatworthy et al. (2009); Van Caneghem (2010).
	lnNAS	Logarithm of NAS fees	Simunic (1984); Johnstone (2000); Che Ahmad et al. (2006a); Hay et al. (2006) Basioudis and Francis (2007); Van Caneghem (2010).

Table 4.1 (continued)
Variables definition and measurement

Variable	Label	Measurement	Related studies
Client business risk	ROA	Net income / total assets.	Williams (1988); Bedard and Johnstone (2004); Chaney et al. (2004); Landsman et al. (2009).
	LOSS	1 = loss in the last year, 0 = otherwise.	Abdul Wahab et al. (2009); Francis et al. (2009).
	LEV	Total liabilities / total assets.	Bedard and Johnstone (2004); Che Ahmad et al. (2006a); Gul and Goodwin (2010), Van Caneghem (2010).
	CURR	Current assets / current liabilities.	Choi et al. (2004); Van Caneghem (2010).
	FINDISTRESS	1 = Altman's Z-score is below than 2.073, 0 = otherwise.	Altman (1993); Reynolds and Francis (2000); Copley and Douthett (2002); Gul (2006).
Board of Directors	NED	Non-executive directors / total number of directors.	Ireland and Lennox (2002); Yatim et al. (2006), Johansen and Pettersson (2013).
Audit committee	ACMEET	Number of audit committee meetings in a financial calendar year.	Yatim et al. (2006); Chen and Zhou (2007); Krishnan and Visvanathan (2009).
	ACB4	1 = Big Four alumni in audit committee, 0 = otherwise.	Ireland and Lennox (2002); Basioudis (2007);
Management	CEOSOS	1 = CEO has more than 5% shares, 0 = otherwise.	Peel and Clatworthy (2001); Abdul Wahab et al. (2009).
	CEONEW	1 = CEO tenure is three years or less, 0 = otherwise.	Allgood and Farrell (2000).
Internal audit	IAP	1 = internal audit function is co-sourced or outsourced to external firm, 0 = otherwise	Gramling (1999); Carey et al. (2006); Abbott et al. (2007); Brandon (2010).
Size	lnTA	Logarithm of total assets.	Clatworthy et al. (2009), Rahmat and Mohd Iskandar, (2004), Johansen and Pettersson (2013).
Audit oversight	AOBYR	1= Company's financial year end is 2010, 0 = otherwise.	Hogan and Martin (2009); DeFond and Lennox (2011).
ε	Error term		

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Based on the main models above, several further analyses were performed. The further analyses consist of replacement of dependent variables (AUDQUAL), i.e. Big Four with other proxies of auditor quality. Apart from this, some independent variables were replaced for test of robustness. Finally, audit fee premium among different type of auditors was also examined.

4.4   Research operationalisation

To identify the structure of the Malaysian audit market, several approaches were employed. The examination of audit market structure consisted of: (i) rate of audit fees per unit of size; (ii) audit market concentration; (iii) individual audit firm's market share; and (iv) auditor specialisation.

(i)   Rate of audit fees per unit of size

The rate of audit fees per unit of size audit is based on the amount of audit fees divided by total assets or sales. Further, the rate for each size decile of companies was also examined, where the size of companies was classified into ten sizes (from small size to large size companies).

(ii)   Audit market concentration

As for audit market concentration, there are several indicators of concentration metrics which are number of audits, audit fees or surrogates of audit fees (total assets or sales) (Beattie et al., 2003). The major concentration measurements are concentration ratio (CR(g)), the Herfindahl Index (H), the Lorenz curve (L) and the Gini coefficient (G) (Bigus and Zimmermann, 2008). The first two measures are absolute concentration, whereas the other two measures are relative concentration. In this study, the concentration was measured through absolute concentration which is concentration ratio, since it is simple, well established and has been tested in many

previous studies (e.g. Buijink, Maijoor & Meuwissen, 1998; Bigus & Zimmermann, 2008; Abidin et al., 2010; Dunn et al., 2011). The market share was calculated by dividing the number of companies (or audit fees, total sales and total assets) audited by particular auditor by the total number of companies (or audit fees, total sales and total assets) in the sample. The ratio of the top 4, 6, 8, 10 firms was then added.

In addition, the concentration for a group of auditors was calculated. Yardley et al. (1992) suggest that differentiation in the service can be assessed through type of audit firms. The examined groups of auditors were (i) Big Four; (ii) GAFN; and (iii) affiliated audit firms. Big Four firms comprise Deloitte, Ernst & Young, KPMG and PwC. Meanwhile, GAFN comprise Big Four group and second-tier audit firms, i.e. BDO and Grant Thornton (Carson, 2009). Among the features of GAFN, according to Carson (2009), are the firms established various industry specialist groups, assisted by worldwide knowledge database and specific industry programmes. As for affiliated firms, local firms that affiliate with international audit firms were considered as affiliated firms. According to Kabir, Sharma, Islam and Salat (2011), affiliation with international firms implies better financial reporting quality (i.e. portray good quality of earnings), and as a sign of impressive management to attract investors. Table 4.2 shows audit firms' affiliation:

Table 4. 2
Audit firms' affiliation

Audit firm	International affiliation
Aljeffri Dean	MGI
Afrizan Tarmili Khairul Azhar	Parker Randall International
Atarek Kamil Ibrahim & Co.	Fidunion International, Talal Abu-Ghazaleh International (TAGI) and SMS Latino America.
Azman, Wong, Salleh & Co. / Salleh Leong Azlan & Co./ Folks DFK & Co	DFK International
Baker Tilly Monteiro Heng	Baker Tilly International
Deloitte KassimChan	Deloitte Touche Tohmatsu Limited
GEP Associates	AGN International
Gomez & Co	Affiliated with a worldwide ranked top 30 accounting group
HALS & Associates	GMN International
Hanafiah Raslan & Mohamad	Ernst & Young
HLB Ler Lum	HLB International
Jaffar Hussein & Co.	PricewaterhouseCoopers
Jamal, Amin & Partners	Idea Capital, Fadhillah Goh & Co, Pt. Multi Utama Consultindo, Safiee & Co
KPMG Desa Megat & Co	KPMG International
Kreston John & Gan	Kreston International
McMillan Woods Mea / McMillan Woods Thomas	McMillan Woods Global
Moore Stephens AC	Moore Stephens International
Morison Anuarul Azizan Chew	Morison International
Mustapha, Khoo & Co.	Polaris International
Omar Arif & Co	CAS International
Ong & Wong	Polaris Internatioal
Parker Randall Thomas / Parker Randall Mea	Parker Randall International
Peter Chong & Co	BKR International
Paul Chuah & Co	MJF International
RSM Robert Teo, Kuan & Co	RSM International
Russell Bedford LC & Company	Russell Bedford International
SC Lim, Ng & Co.	The International Accounting Group
SJ Grant Thornton	Grant Thornton International
SSY Partners	Nexia International
T.H. Kuan & Co	Alliance of Inter-Continental Accountants (AicA)
TY Teoh CH International	MSI Global Alliance
UHY Diong	UHY International
Yong & Leonard	The firms are affiliated with firms in China, Hong Kong, Singapore and United Kingdom.

(iii)   Individual audit firm's market share

In the case of individual audit firm's market share, top 12 Malaysian largest audit firms based on number of audits and audit fees were identified.

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(iv)   Auditor specialisation

The measurement of auditor industry specialisation was discusssed many years ago, and up to now, no single measurement has been claimed to be the best (such as Craswell et al., 1995, Balsam, Krishnan & Yang, 2003; Mayhew & Wilkins, 2003; Minutti-Meza, 2013). Among the common measurements are number of audits and audit fees. Both these measurements have their own advantages and disadvantages.[20] Some examples of measurement employed in Malaysian studies are: (i) firms that have more than 20% of number of clients within a specific industry (Rahmat & Mohd Iskandar, 2004; Md. Ali et al., 2008); (ii) firms that meet the threshold of 10% of audit market share based on number of audits (Mohd Iskandar et al., 2000); (iii) the highest number of audits and audit fees; and (iv) audit firms that achieve the threshold of 10% of market share determined by both methods (Mohd Iskandar & Aman, 2003).

This study adopted the measurements that were proposed and applied by Palmrose (1986), Mayhew and Wilkins (2003) and Abidin et al. (2010). The measurements were as follows: (a) specialist designation based on 30% audit fee of market share in client's industry;[21] (b) the largest auditor (based on audit fee) with at least 10% larger market share than the second largest (Balsam et al., 2003; Mayhew & Wilkins, 2003); and (c) the auditor with the highest number of clients in the industry (Balsam et al., 2003; Mayhew & Wilkins, 2003).

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[20] There are arguments on using number of audits and audit fees. Audit fees, according to Abidin et al. (2010) is more likely a better measurement. Abidin et al. (2010) state that number of audit measurement "…is intuitive, facilitates reconciliation with changes in the population of consumers and auditor switches and its calculation requires knowledge only of the identity of the auditor. However, the existence of an audit is a poor measure of activity level. .... Concentration measures based on number of audits, while highly correlated with measures based on audit fees, are known to be systematically lower due to the 'size effect', whereby large companies tend to employ large audit firms" (Abidin et al., page 193).

[21] Since there are four large audit firms in the market, in equally distributed audit market, each of the firm's shares is 25%. In line with Palmrose's (1986) threshold, if the firm has at least 30% market share (25% x 1.2), the audit firm is called as specialist industry auditor.

The first two measurements were based on audit fee and the last measurement was based on number of audits. As for the last approach, in every industry, there were specialist auditors. According to Srinidhi et al. (2009), number of clients is a better proxy than sales, since it is less associated with fees. Also, only industries that have more than 30 companies were included in the analysis. According to Ferguson and Stokes (2002), if the number of companies in the industry is below than 30, auditor specialist status can easily be achieved.

In the following section, research operationalisation for studying the effect of risk on auditor choice and fee is discussed.

(i)   Dependent variables:

a.   Auditor quality

Auditor quality consisted of Big Four firms and their local affiliated firms. Non-Big Four firms were regarded as low quality auditors. Other measurements utilised for auditor quality were specialist auditor, GAFN and affiliated audit firms. The list of specialist auditors was obtained from results of auditor industry specialisation which is discussed in the first part (Malaysian audit market study) of Chapter 5.

b.   Audit fee

Audit fee is the amount paid to companies' external auditor for financial statement audit. To calculate the percentage of audit fee premium, a procedure used by Craswell et al. (1995), Gul (2006), Basioudis and Francis (2007) and Abdul Wahab et al. (2009) was used. The formula is, $e^z - 1$, where z is the auditor coefficient value in the regression model.

(ii)   Hypothesis variables:

a.   Audit risk

Audit risk is represented by total number of subsidiaries, foreign subsidiaries, subsequent event, inventories and receivables, and audit opinion. Total number of subsidiaries and foreign subsidiaries inform about business complexity (Ireland & Lennox, 2002; Niemi, 2005). According to Ireland and Lennox (2002), complexity and risk is closely related since high business complexity leads to high risk. Meanwhile, variables like subsequent event, inventory and receivables, and audit opinion inform about the amount of auditor's judgment and application of suitable accounting and auditing standards (Knechel, 2000; Blay, 2005).

b.   Auditor business risk

Two variables were used to measure auditor business risk: NAS and engagement timing. Year end was based on client's financial year end, while NAS referred to the amount paid by companies to its external auditor for NAS. These variables are suggested as being able to capture audit firm's profitability and auditor litigation issue (Johnstone, 2000).

c.   Client business risk

There are five measurements of client business risk incorporated in both models, namely ROA, loss, leverage, current ratio and financial distress. ROA was used to measure current year performance, while loss was employed to indicate prior year performance. As for current ratio, by scaling current assets with current liabilities, it not only provided an overview on the audit job extensiveness, but portrayed the ability of companies to meet their current obligations. Financial distress was measured through Altman's Z-score, which has been used in a previous study in Malaysia (Gul, 2006). Formula for the score is: Altman's Z-score = 1.2 (Working

capital/Total assets) + 1.4 (Retained Earnings / Total assets) + 3.3 (Earnings before taxes + interest/ total assets) + 0.6 (Market value of equity/total liabilities) + 1.0 (Net sales / Total assets). Lower ratio indicates high probability of bankruptcy. This study employed the Altman's Z score as compared to other model such as Zmijewski, because it is reliable, and suitably used by professional in Malaysian capital market (Muhamad Sori, Abdul Hamid, Md Nassir & Mohamad, 2001).

d.   Board of directors

Hay et al. (2006) include only outside directors as a proxy for corporate governance in their meta analysis of audit fees studies. In addition, they show that this variable is among the corporate governance variables, apart from regulations, that are commonly used in audit fee studies.

e.   Audit committee

Two variables (frequency of audit committee meetings in a year and affiliation with large audit firm) were tested in both models. The frequency measured the committee's diligence (Sharma et al., 2009); while affiliation indicated relationship with their former audit firm (Ireland & Lennox, 2002; Basioudis, 2007).

f.   Management

Other than information on the CEO, information of company's top executives in Malaysian corporate annual reports is limited. CEOs having more than 5% shares are classified as substantial shareholders (Companies Act 1965; Peel & Clatworthy, 2001). A CEO is classified as new if he/she has been with the company for at least three years (Allgood & Farrell, 2000).

g. Internal audit

As internal audit activities in Malaysia are on the rise (Mohamed et al., 2012), some of internal audit information can be obtained from secondary sources. Following revision of the MCCG in 2007 and Listing Requirements of Bursa Malaysia Securities Berhad, information on internal audit function providers can be gathered from annual reports.

h. Size of auditee

Size is a very important variable in audit fee and auditor choice model, and many of the studies include size as a control variable (Hay et al., 2006). This study employed total assets as a proxy to capture audit effort (Chaney et al., 2004; Van Caneghem, 2010).

i. Audit oversight

To examine the impact of the AOB's early establishment on auditor choice and audit fee, companies with 2010 financial year end were coded as "1" and "0" otherwise.

4.5   Sample selection

Listed companies for the years of 2008, 2009 and 2010 were investigated. By covering a longer period, the trend of the audit fees over time can be explained. The study began with data for 2008 companies because in 2007, the MCCG was revised and the Companies Act 1965 was amended. The revised MCCG and amended Act directly affect the duties and responsibilities of the BODs and audit committee. With new rules inplace, the auditee and auditor's attitude towards governance practices maybe different. Also, at the end of 2008, there was a global financial crisis which started in the US (subprime crisis) and the crisis has affected Malaysian economies

(Nambiar, 2009; Nissanke, 2010). Further, in 2010, the regulatory body to monitor audit firms, i.e. the AOB was established. These events are suggested to have effects on Malaysia audit market and audit quality.

4.6   Data collection procedures

For the purpose of audit market structure study, all companies incorporated in Malaysia and listed on Bursa Malaysia from 2008 to 2010 were examined. The list of companies were based on companies' stock price as at 31 December 2008, 2009 and 2010 respectively, obtained from Bursa Malaysia's website.

Some exclusion criteria were established to determine the sample selection. Among main exclusion criteria were finance related companies, companies did not change financial year end and all the data needed must be available.

Two major data sources: financial software and corporate annual reports were utilised for data gathering purposes. Financial data was mostly obtained from Thomson Financial software (i.e. Worldscope Database). Non-financial data (especially corporate governance variables) were hand collected from corporate annual reports. The reports were downloaded from the website of Bursa Malaysia. If the relevant data was not available from the database, the data was collected from corporate annual reports. Table 4.3 shows the source of relevant data.

Table 4.3
Data sources

Variable		Sources of data	Relevant sections in annual report
Audit fee	Amount of audit fees	Annual report	Notes to the financial statements
Auditor quality	Type of auditor	Annual report, List of auditors registered with AOB, Audit firm's website	Auditors' report
Audit risk	Number of subsidiaries	Annual report	Notes to the financial statements
	Number of foreign subsidiaries	Annual report	Notes to the financial statements
	Subsequent event	Annual report	Notes to the financial statements
	(Inventory + total receivables) / Total assets	Worldscope Database	-
	Audit opinion	Annual report	Auditors' report
Auditor business risk	Financial year end	Annual report	Financial statement
	Amount of NAS fees	Annual report	Corporate governance statement; Notes to the financial statements
Client business risk	Net income/total assets	Worldscope Database	-
	Loss in the last year,	Worldscope Database	-
	Total liabilities / total assets	Worldscope Database	-
	Current assets / current liabilities	Worldscope Database	-
	Altman's Z-score	Worldscope Database	-
BODs	Total number of BODs	Annual report	Corporate information
	Number of non-executive directors	Annual report	Corporate information, Corporate governance statement
Audit committee	Number of audit committee members	Annual report	Corporate information
	Number of audit committee meetings	Annual report	Report of the audit committee
	Big Four alumni in audit committee	Annual report	Directors' information
Management	Name of CEO	Annual report	Corporate information
	CEO has more than 5% shares	Annual report	Analysis of shareholding
	CEO tenure	Annual report	Directors' information
Internal audit	Internal audit function provider	Annual report	Corporate governance statement; Statement on internal control
Size of auditee	Total assets	Worldscope Database	-
Audit oversight	Financial year end	Annual report	Financial statement

As for auditor quality, the main source of company auditors' identification was corporate annual reports. Apart from Deloitte & Touche, Ernst & Young, KPMG and PwC, firms like Deloitte KassimChan, Jaffar Hussein & Co., Hanafiah Raslan &

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Mohamad and KPMG Desa Megat & Co were also considered as Big Four. This is because the firms are affiliated with one of the Big Four firms (refer Table 4.2). Further, observation of the list of audit partners registered with the AOB as at 31 May 2012 reveal that it is the same individual audit partner that served both audit firms despite different reference number of the audit firm. For instance, the reference number for Deloitte & Touche is AF 0834 and Deloitte KassimChan is AF 0080; these two firms have almost similar registered individual auditors. As such, the quality produced by these affiliated Big Four firms are comparable with Big Four firms.

While the process of affiliation identification is straightforward for local firms that included international firms as part of their firms' name (e.g. Baker Tilly Monteiro Heng and Morison Anuarul Azizan Chew), it is challenging to classify local firms that do not include the international firm as part of the local firm's name. For instance, Omar Arif & Co., and Paul Chuah & Co. Thus, the audit firm's website was accessed to determine whether the firm is affiliated with or is member of the international firm. Two firms, i.e. Gomez & Co and Yong & Leonard, only state that their firms are affiliated with the international firm, but do not disclose the name of international firm. However, that information is sufficient to indicate that they are affiliated with international firms.

As for audit and NAS fees data, even though it is provided by Worldscope Database, for the purpose of this study, the data was solely gathered from annual reports. This is because initial comparison between audit fees from the database and the amount disclosed in annual report showed a large discrepancy. In addition, according to Worldscope Database Datatype Definitions Guide (2007, page 211), the amount of audit fees "includes but is not restricted to: Audit Fees for consultancy". To

confirm this, audit fee and NAS fees from annual report was totalled. However, the amount obtained was not the same as the amount of auditor fee reported in Worldscope Database. Due to this conflict and to protect the credibility of data, audit fee and NAS fees were hand collected from companies' annual report.

4.7   Data analysis techniques

4.7.1   *Malaysian audit market study*

The examination of audit market structure was done by using descriptive analysis. The analysis included total, mean and median of audit fees, number of audits, total assets and total sales.

4.7.2   *Study of auditor choice and audit fees*

After the audit market structure was identified, regression analysis was performed. The regression analysis was done separately for auditor choice and audit fee model.

Both the models were not run simultaneously (using two stage procedures such as Heckman model). Even though Heckman's procedures minimise auditor selection bias effects, some deficiencies are associated with this procedure. According to Clatworthy et al. (2009), this procedure is sensitive to: (i) model specification and collinearity issues (the collinearity between Inverse Mills Ratio[22] and other variables in audit fee model is high and leads to model instability); and (ii) sample composition (non-random sample). Moreover, the model requires exclusion of restriction variable, which is the variable included in first stage model but excluded from the second stage

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[22] Inverse Mills Ratio (IMR) is a variable that was obtained from first stage (auditor choice model) and is included in the second stage model (audit fee model)

model, to ensure the reliability of the model (Clatworthy et al., 2009; Lennox, Francis & Wang, 2012). The variable needs to be clearly identified so that it would effectively control for endogeneity problem.[23] Further, even though Heckman's model controls for selectivity bias and improves estimates obtained from non-random samples, it can exacerbate the problem of selection bias (Clatworthy et al., 2009). In fact, Lennox et al. (2012) document that OLS results are more robust than Heckman's model, and recommend that the results of OLS should be reported. Therefore, it is not surprising that due to the above factors, Carson et al. (2012) mention the result of their auditor selection model needs to be used with caution. In addition, even by controlling self-selection bias, Ireland and Lennox (2002) reveal that Big N premium exists, a finding which is highly anticipated.

4.7.2.1   Cross-sectional and pool analysis

Year-by-year or cross-sectional analysis for auditor choice was done through nonlinear regression model, i.e. logistic regression, or logit model.[24] The regression enforces the predicted values (the dependent variable) to be "1" or "0" and the model estimates the possibility of the auditor choice to be 1 (Torres-Reyna, 2007). In this study, "1" represented high quality auditor and "0" otherwise. This regression has less assumption and is not concerned much about linearity, normality and homoskedasticity issues. Nevertheless, few assumptions still apply, which are the model needs to be correctly fitted (not over- or under-fitted), there is no

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[23] Lennox et al. (2012) suggest the use of panel data as one of the mechanism to control the correlation between unobservable factors and the endogenous variable.
[24] Another model for binary qualitative choice is probit. Nevertheless, both logit and probit models are very similar. The difference between them is on the distribution, where distribution of probit is normal distribution and the logit is based on logistic distribution (Hill, Griffith & Judge, 1997).

multicollinearity, there is linearity of independent variables and large sample size (Statistics Solutions, 2012).

As for audit fee, the analysis was done through linear regression. Linear regression is suitable in estimation of unknown effects or parameters when there is change of one variable to another (Stock & Watson, 2003). The most common and simple estimator is OLS and it is widely used in audit fee studies. OLS is suitable because the dependent variable (audit fees) is continous, unbounded and is in the form of interval or ratio scale (Abidin, 2006).

Apart from year-by-year analysis, the data for all three years were also combined (pool). Based on pool data, the data was again analysed through logistic and OLS regression.

4.7.2.2   Panel data

According to Baltagi (1995), if the data are observed for several periods, the use of panel data analysis should be considered. Panel data, which is also known as longitudinal or cross-sectional time-series, is a dataset, in which the behaviour of entities, such as companies, are observed over several periods (Baltagi, 1995; Torres-Reyna, 2007).

The advantage of panel data analysis as compared to cross-sectional or time series, lies in its ability to estimate coefficients accurately (it involves large sample size) and examine the dynamic of change or adjustment. Most importantly, it controls for unobservable company specific effects that are correlated with the other variables (if not, the standard error will be biased and possibly produce biased results) and minimise omitted variables bias (Pittman & Fortin, 2004; Lennox 2011).

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Other advantages are it controls for companies' specific characteristics (individual heterogeneity) and has more degrees of freedom (Baltagi, 1995). In the context of controlling individual heterogeneity, Baltagi (1995) has argued that time series and cross section studies are not able to capture the variations existed among unit of the study (e.g. companies). For instance, there is possibility on differences of audit demand or supply from 2008 to 2010 in Malaysia. The demand or supply might be influenced by, such as, country economic and political condition, business complexity and companies size; and it is different from time to time. However, there are some other variables that did not change (state or time invariant), such as the location and the culture of the company. This state and time invariant determinants, according to Baltagi (1995), can be controlled by panel data. As such, panel data not only able to minimize the risk of obtaining biased result but also able to capture the variables that hard to measure and gathered.

The general model for panel data is:

$$Y_{it} = \beta_0 + \beta_1 \chi_{it} + \beta_2 \chi_{it} + \ldots + \beta_n \chi_{it} + \varepsilon_{it}$$

where Y_{it} is the dependent variable (DV), i = entity and t = time. χ_{it} represents one independent variable (IV), $\beta_{0\,i}$ is the constant term or intercept, and ε_{it} is the error term. ε_{it} is equal to $u_i + v_{it}$. Where u_i is an unobservable individual firm specific effect and v_{it} indicates the remainder of the disturbance or error term.

Baltagi (1995) further suggests fixed effect (FE) or random effect (RE) model approach to estimate panel data.[25] According to Torres-Reyna (2007), FE is mainly

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[25]Another model in panel data is between effect model. However, Lennox (2011) suggests that the model is not appropriate because it is cross-sectional **between** companies and time series variation is neglected. Further, between estimators could produce biased result if company's unique effects are associated with independent variables.

suitable to examine the impact of variables that change over the period. FE assumes that something within the individual possibly impacts the independent variables (the correlation between company's error term and independent variable) and it needs to be controlled. By doing so, the effect of time-invariant features from independent variables are eliminated. Therefore, only the net effect of independent variables is evaluated. The FE also assumes that the time-invariant characteristics are special to the individual and not correlated with other individual characteristics (error term and constant which capture individual characteristics are not correlated).

The opposite of FE is RE model. This model is suitable when differences across companies probably have some influence on dependent variables. The model assumes that the variations across companies are random, and thus, the intercept varies randomly across companies. The model also assumes the company's error term is not correlated with independent variables and the time invariant can be included as one of the independent variables (whereas in FE, it is absorbed by the intercept) (Torres-Reyna, 2007).

Logit model for panel data, however, is different with linear regression. According to Lennox (2011), in FE model for logit, u_i is not actually estimated. In fact, it is "conditioned" out of the model. Using logit model, companies that do not show the variation in dependent variable over the years are excluded. Hence, it reduced the sample size numbers. As such, if one intends to retain the full sample or likes to have large sample, the RE is a suitable model. Under the RE model, the companies that lack time series variation in dependent variable are not thrown away and the company effects or u_i are assumed to be random.

In order to choose between FE and RE (either for linear regression or logit model), the Hausman Specification test can be used. The test examines whether the

error terms (u_i) are correlated with other variables. The null hypothesis is u_i and χ_{it} is not correlated. If prob>chi² is less than 0.05 which is significant, it is safe to employ FE model. However, if prob>chi² is more than 0.05, it is safe to use RE model (Baltagi, 1995).

4.7.2.3   Other diagnostic tests

Below are other tests or diagnostic examinations that are usually employed in regression analysis or panel data analysis. These tests can ensure the relevant assumptions are met, thus, making the result of the study to be reliable.

For auditor choice model, according to Lennox (2011), to decide whether ordinary logit regression or RE model is prefered, the likelihood-ratio statistic should be performed. The likelihood-ratio statistic tests the null hypothesis that rho (ρ) is equal to zero. If rho is equal zero, it indicates no variation in the u_i across companies. Thus, normal logistic regression should be used. However, if the hypothesis is rejected, the RE model is preferable over ordinary logit.

As for audit fee model, the employed test is Breusch and Pagan Lagrangian Multiplier test or LM test. This test is to determine whether the data should be analysed by using OLS regression or RE. The null hypothesis is the variance across entities is zero, which means no significant variation across units or no panel effect. Failure to reject null hypothesis indicates RE is not appropriate and OLS regression is preferable.

Apart from the above mentioned tests, Torres-Reyna (2007) and Pallant (2007) also suggested other common diagnostic tests to be conducted, such as:

(i)   Normality

The distribution score of the variable is considered as normal when it is a symmetric and bell-shaped curved. Normality was examined by getting a value of skewness (measure of symmetry) and kurtosis (measure the peakedness of the distribution) (Gujarati, 2006; Pallant 2007). Consistent with Malaysian previous studies on audit fees and auditor choice (Che Ahmad et al., 2006a; Yatim et al. 2006; Johl et al, 2012), the following continous variables were involved in transformation, namely total audit fee, number of subsidiaries, total NAS and total assets.

(ii)   Outliers

The data were also examined to identify the outliers. Outliers are the values that are distinctly low or high from the other scores (Pallant, 2007). It is important to identify outliers since it can affect the result, such as by impacting on correlation coefficient, underestimating the relationship among variables and influencing the outcome of logistic regression (Pallant, 2007). There are various ways to identify outliers, such as graph of boxplots, Mahalanobis distance test (Pallant, 2007), stem and leaf plot, Cook Distance test (Amran, 2010) and Grubb's extreme studentised deviate test (Abidin, 2006). The identification of outliers was done for all the samples (including auditees of Big Four and non-Big Four firms) through the graph of boxplots. The variables are considered as outliers (extreme outliers) if they extend higher than 1.5 (3) from outside the box. To ensure the remaining values are not much different from others, the treament was only done for extreme outliers, in line with Knechel et al. (2008).

According to Pallant (2007), once extreme outliers are identified, the outliers either can be removed or retained. Instead of removing the samples with extreme outliers, this study retained and winsorised it to the next closest value (substituted the

highest/lowest values with less extreme). By doing so, the impact of outliers can be minimised and the number of sample sizes maintained. In addition, removing outliers possibly leads to bias, impacts degree of freedom and potential explanation (Md Yusof, 2010). Therefore, all the variables in the full samples were winsorised until no extreme outliers were observed. After the outliers were corrected, descriptive statistics for the affected variables were re-performed.

(iii)   Multicollineariy

Collinearity refers to a single perfect relationship; whereas multicollinearity refers to more than one relationship between variables. The strength (size of absolute value) and direction (negative or positive) of linear relationship between variables can be explained by correlation analyses. The size of the value of the correlation coefficient ranges from -1 to +1. A correlation +1 (-1) indicates perfect positive (negative) correlation; meanwhile 0 shows no relationship at all. Multicollinearity exists when the strength of independent variables is highly correlated (perfect collinearity), i.e. the value of intercorrelation between independent variables is above 0.70 (Andersen, Sweeney & Williams, 1996).[26] Multicollinearity would violate regression analysis assumption, where in the regression analysis, the independent variables should not be in a linear combination.

Among available tests are Pearson and Spearman's Rank Order correlations and Variance Inflation Factor (VIF). However, according to Gujarati (2006), multicollinearity is not always bad and by using panel data approach, there is less collinearity issues due to variability of data (Baltagi, 1995).

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[26] Pallant (2007) said if it is above 0.90, it causes multicollinearity problem.

(iv)   Autocorrelation

Autocorrelation or serial correlation is the correlation between error term in one time series with error term in another time series. The consequences of autocorrelation, according to Gujarati (2006) and Torres-Reyna (2007), are the least square estimators are linear, unbiased but not efficient (i.e. no minimum variance) or not best linear unbiased estimators (BLUE), it underestimates true variances and standard errors (t and F Tests are not reliable), R squared not reliable and standard error tends to be smaller. Some of the available tests are Durbin-Watson statistic and Wooldridge test.

(v)   Heterokedasticy

The error term is considered homokedastic (equal variance) if the *Y* values are spread around mean values with the same variance (Stock & Watson, 2003; Gujarati, 2006). To test whether there is a problem of heterokedasticity, Modified Wald test is applied. The null is homokedasticity, which indicates there is equal or constant variance. If there is heterokedasticity problem, Stock and Watson (2003) suggest using heteroskedasticity robust standard errors or weighted least squares.

4.8   Conclusion

The present study used secondary data approach to examine the Malaysian audit market in general. The data is based on Malaysian PLCs from the year 2008 to 2010. The first analysis is to identify the structure of the local audit market, followed by investigation on the impact of risk on auditor choice and audit fee.

Examination on audit market structure is focused on: (i) the rate of audit fees per unit of size; (ii) audit market concentration; (iii) individual audit firm's market

share; and (iv) auditor specialisation. The examination was mostly done through descriptive data analysis.

To identify the impact of risk on auditor choice and audit fee, two models were developed: auditor choice model and audit fee model. Both the models consisted of the same variables of engagement risk. The variables are audit risk (total subsidiaries, foreign subsidiaries, subsequent event, inventory and account receivables, and audit opinion), auditor business risk (NAS and financial year end) and client business risk (ROA, loss, leverage, current ratio and financial distress). The data was analysed through cross-sectional, pooled regression and panel data analysis. After obtaining the result from main models, several further analyses were done.

CHAPTER 5: RESULTS AND DISCUSSIONS

5.1   Introduction

The previous chapters review the effect of risk on audit market and describe the research methods. In this chapter, the findings of the study are presented. This chapter is divided into two parts. The first part is about the Malaysian audit market study and the second part explains about studies on audit fee and auditor choice.

There are four sections in the Malaysian audit market study, starting with summary statistics of the sample. The next section discusses auditor concentration, followed by discussion on individual audit firm's share at market level. The last section explains auditor industry specific concentration.

As for the second part, the result of the association between risk and auditor choice and audit fee are discussed. It begins with the sample selection process and descriptive statistics for a sample of companies. Before regression analysis was performed, some diagnostic tests were done. The analyses consist of year-by-year and pooled sample regression. It is then followed by panel data analysis. The last part of this section presents some further analyses on auditor choice and audit fee model.

5.2   Malaysian audit market study

5.2.1   Summary statistics

Based on closing price for all stocks as at 31 December 2008, 2009 and 2010, there were 2,933 listed companies in Bursa Malaysia. However, due to unavailability of annual reports in public sources, 60 companies were eliminated. Another 19 companies were excluded since the companies are incorporated outside Malaysia. The companies are subject to different sets of business regulations (e.g. taxation,

accounting, auditing, corporate governance). Comparisons of financial and non-financial information between foreign and Malaysian incorporated companies are complicated. After the screening process, the total number of companies, as shown in Table 5.1, from 1998 to 2010 is 2,854. Specifically, in 2008, there were 958 and in 2009, 956 companies. The number slightly reduced to 940 in year 2010.

Table 5. 1
Sample selection

Screening process/Year	2008	2009	2010	Total
Initial number of listing companies (Source: closing price for all stocks as at 31 December 2008/09/10). *Less:*	990	972	971	2933
Annual reports are not publicly available	(28)	(9)	(23)	(60)
Companies incorporated outside Malaysia	(4)	(7)	(8)	(19)
Final dataset for audit market structure analysis	**958**	**956**	**940**	**2854**

Table 5.2 presents descriptive statictics of the sample.

Table 5. 2
Descriptive statistics

	2008	2009	2010	2008–2010 change (%)
Sample size	958	956	940	
Number of auditors	94	96	85	-9.57
Consumer Price Index (CPI)*	111.40	112.10	114.00	2.33
CPI Change (%)	-	*0.62*	*1.69*	
Total Sales (RM million)	**676,319.63**	**671,266.22**	**713,940.70**	
Mean (RM million)	705.97	702.16	759.51	7.58
Mean Change (%)	-	*-0.54*	*8.17*	
Median (RM'000)	157.50	150.70	155.53	-4.31
Median Change (%)	-	*-4.32*	*3.20*	
Minimum (RM million)	0	0	0	
Maximum (RM million)	34,044.70	31,013.90	32,844.70	
Total Assets (RM million)	**2,260,350.49**	**2,465,100.18**	**2,650,846.33**	
Mean (RM million)	2,359.45	2,578.56	2,820.05	19.52
Mean Change (%)	-	*9.29*	*9.37*	
Median (RM million)	275.99	269.35	275.30	-0.25
Median Change (%)	-	*-2.41*	*2.21*	
Minimum (RM million)	1.16	0.54	0.01	
Maximum (RM million)	267,883.21	309,245.99	335,134.80	

*Source: Department of Statistics, Malaysia (www.statistics.gov.my/)

The number of audit firms was 94 in 2008. It increased by 2% in 2009 and reduced about 11% to 85 in 2010. It is interesting to note that even though the total number of Malaysian audit firms is slightly growing,[27] the same pattern is not reflected in the number of firms that provides audit service to listed companies. In fact, the number of audit firms from 2008 to 2010 has reduced by almost 10%. Based on the number of audit firms and total number of listed companies, only 7% of the population of Malaysian audit firms were hired by publicly held companies.

The low percentage of audit firms serving in the PLCs' market might indicates that the entry barrier into the audit market of listed companies is high. Several reasons contribute to difficulty of the other firms to enter or stay in the market. Among contributory factors are accounting and auditing regulations becoming more complex and restrictive, clients' businesses becoming globally operated, larger clients needing specialised audit service and high fixed cost of market entry (e.g. financial sector) (Bigus & Zimmermann, 2008). Some of the barriers, especially faced by small firms, according to Abidin (2006), are industry specialisation, high capital requirements, low recommendation by capital market participants, high risk of litigation and cost of insurance. Particularly in Malaysia, with the implementation of the AOB, it would make audit firms' access into the audit market of listed companies more limited. According to Section 31A Securities Commision Act 1993, and the AOB Handbook for Registration (2013), the firms must meet fit and proper criteria (auditor status, financial status, conviction and practices) if they want to be appointed. This might explain the reduction of the number of audit firms that served listed companies in

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[27] The number of audit firms as at 30 June of 2008 was 1,348, 2009: 1,352 and 2010:1,356 (MIA Annual Report 2008, 2009, 2010).

2010.[28] In fact, the annual report of the AOB in 2011 reveals the number of audit firms registered with them had declined from 83 (2010) to 75 (2011).[29] A similar pattern is observed in the US, with the introduction of SOX and PCAOB; 50% of small audit firms exited the public company audit market (Defond & Lennox, 2011). DeFond and Lennox (2011) suggest that SOX has "successfully" reduced the number of low quality auditors in the market.

The second and third rows in Table 5.2 show the size of companies. The size is measured based on total sales and total assets. In terms of sales, few companies did not report sales and the highest sales recorded was RM34,044.70 million in 2008. As for the total assets, the range was between RM0.01 million to RM335,134.80 million - both reported in 2010. The increment mean value of total assets were higher (19.52%) than sales (7.58%). Nevertheless, both of the mean values for total assets and sales increased much higher than the inflation rate over the period. As mean value could be influenced by outliers, median value provides a better picture. Over the three years, the median of sales and total assets slightly decreased in 2008 to 2009 and increased from 2009 to 2010. Changes in mean (increase) and median (decrease and increase) is reflected with the changes in sample composition.

In order to identify the pattern of Malaysian company size, the size of the company, measured by total assets is classified into three types: small (less than

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[28] Since there is no major merger or acquisition activity of audit firms in 2010, the activity is unlikely to contribute to less number of audit firms. The only merger event is between JB Lau & Associates with Grant Thornton but it was on 1 January 2008. Further, the merger did not seriously impact the market since JB Lau & Associates only held over 15 PLCs (Source: http://www.gt.com.my/press_release_3jan2008.html).

[29] The differences between number of audit firms registered with AOB in 2010 (83 firms) and the number of audit firms in this study (85 firms) is likely due to client financial year. AOB came into force on 1 April 2010, thus, auditors with their clients' financial year end before that period (January, February and March 2010) were not subjected to AOB registration. In addition, auditors in this study are auditors of PLCs, whereas AOB looked at auditors of PIEs.

RM100 million), medium (from RM100 million to RM1 billion) and large (more than RM1 billion). Table 5.3 shows sample composition based on client size (total assets).

Table 5. 3
Sample composition based on client size (total assets)

Size	2008 (%)	2009 (%)	2010 (%)
Small (below RM100 million)	23	24	24
Medium (between RM100 million to RM1 billion)	58	56	54
Large (above RM1 billion)	19	20	22

The sample composition based on client size (in Table 5.3) shows that the proportion of large companies has increased from 19% (2008) to 23% (2010). By contrast, companies with assets less than RM100 million (small companies) only increased by 1%, from 23% to 24%. In addition, for the year 2010, half of the companies were of medium size; and the percentage of companies in small and large categories were almost identical.

The pattern of audit fees also indicates an increase from year to year. Table 5.4 presents the total audit fees, including the mean and median.

Table 5. 4
Total audit fee, including the mean and median

	2008	2009	2010	2008 – 2010 change (%)
Audit fees (RM'000)	**224,624**	**241,753**	**257,281**	
Mean (RM'000)	234	253	274	17.09
Mean Change (%)	-	*8.119*	*8.30*	
Median (RM'000)	104	108	113	8.65
Median Change (%)	-	*3.85*	*4.63*	
Minimum (RM'000)	3.7	2.5	3	
Maximum (RM'000)	15,200	18,100	19,000	

According to Table 5.4, in 2010, total audit fees is more than a quarter billion (2008: RM224,624,000), and the mean is RM274,000 (2008: RM234,000). The gap between the highest and lowest amount of audit fees charged is very large

(RM18,007,000), where the lowest fee is merely RM3,000 and the highest is RM19,000,000. As compared to year 2008, the fee has increased by 17% and in fact, it is much higher than changes in Consumer Price Index (CPI) (2.33%).

There are several factors associated with the increment of audit fees. Due to the establishment of the AOB, the choice of potential auditor to be selected has been lessened, and it would make the remaining firms in the market have more power (i.e. charge high fees). In addition, ISQC 1 which became effective from 1 January 2010, emphasises on quality control for firms that offer audit service, and this could have enhanced accounting practitioners' awareness on audit quality. Another possible explanation is the human capital factor. Based on the AOB Annual Report 2011, one of the problems faced by audit firms is the supply of audit resources, where the firm has difficulty in getting and retaining suitable audit personnel. In order to retain them, the audit firm has to provide attractive remuneration package, which indirectly increases the cost of audit service.

To explain whether the increment of fees is reflected by size of client (sales and total assets), two analyses were performed. The first analysis, as shown in Table 5.5, examined the rate of audit fees per unit of size in 2008, 2009 and 2010.

Table 5. 5
Rate of audit fees per unit of size

	2008	**2009**	**2010**	**2008 – 2010 change (%)**
Audit fees per RM'000 sales				
Aggregrate*(RM)	0.332	0.360	0.360	
Mean (RM)	1.757	1.889	1.530	-12.92
Mean Change (%)	-	*7.51*	*-19.00*	
Median (RM)	0.697	0.749	0.764	9.61
Median Change (%)	-	*7.46*	*2.00*	
Minimum (RM)	0.012	0.015	0.019	
Maximum (RM)	208.029	143.625	25.641	
Audit fees per RM'000 total assets				
Aggregate (RM)	0.100	0.098	0.097	
Mean (RM)	0.711	0.798	1.834	157.95**
Mean Change (%)	-	*12.24*	*129.82*	
Median (RM)	0.399	0. 427	0.437	9.52
Median Change (%)	-	*7.02*	*2.34*	
Minimum (RM)	0.002	0.010	0.009	
Maximum (RM)	37.844	60.381	1,069.231	

* Aggregate is equal to sum of all company audit fees divided by sum of all company sales or total assets.
** There is one technology company with total assets of RM13,000 and the audit fee RM13,900. For each thousand RM of assets, the fee charged was RM1,069. This contributes to the percentage of mean changes for audit fee scaled by total assets in 2010 being higher than the last two years.

In terms of total audit fee charged against sales, the rate has marginally increased by RM0.028 from 2008 to 2009, but remains unchanged from 2009 to 2010. As for total assets, the trend is different; the rate consistently fell for two consecutive periods (from RM0.100 in 2009 to RM0.097 in 2010). The mean and median for both of the rates steadily increased in 2009 and 2010. The only exception is mean for audit fee scaled by total sales, which decreased about RM0.36 in 2010.

The second analysis reveals fee rates for each size decile of companies. The results are reported in Tables 5.6 and 5.7; and Figures 5.1 and 5.2 accordingly.

Table 5. 6
Mean audit fee per RM'000 total assets

	Small									Large
	1	2	3	4	5	6	7	8	9	10
2008	2.64	0.93	0.74	0.61	0.69	0.44	0.32	0.28	0.35	0.12
2009	3.57	1.02	0.81	0.65	0.50	0.42	0.33	0.28	0.24	0.13
2010	13.61	1.33	0.83	0.68	0.49	0.45	0.33	0.28	0.24	0.12
2010 vs. 2008 t-stat	0.96	1.53	1.26	1.33	-1.42	0.12	0.66	0.07	-1.12	0.96

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed), Paired Samples t-Test.
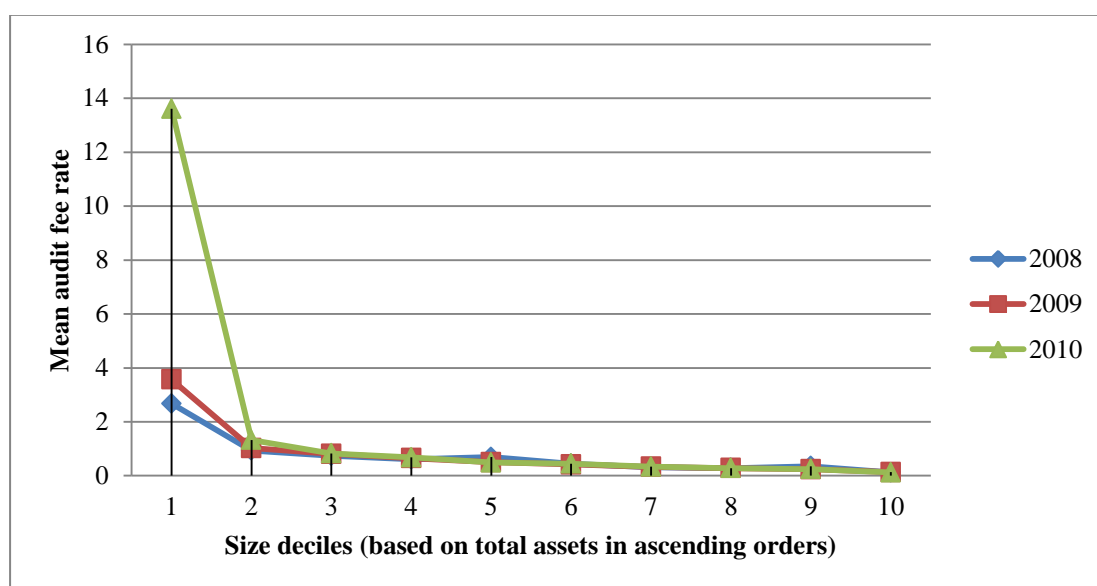
Figure 5. 1
Mean audit fee rate from 2008 to 2010

Figure 5.1 clearly indicates that due to fixed costs and the standardised audit procedures employed, the mean audit fee rate generally decreased as company size increased. Few exceptions are those in sizes 5, 9 for 2008[30] and 1 for 2010 (refer second note in Table 5.5). This means the bigger the size of companies, the lower the audit fee incurred. Median audit fee per company size, as presented in Table 5.7 and Figure 5.2 also show similar trends.

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[30] These items show the larger the companies' size, the higher the audit fees. It suggests that those in the middle size (size 5) or large size (size 9) might have influence on the positive association between size and fees.

Table 5. 7
Median audit fee per RM'000 total assets

	Small									Large
	1	2	3	4	5	6	7	8	9	10
2008	1.58	0.86	0.61	0.50	0.47	0.32	0.28	0.21	0.17	0.08
2009	1.77	0.89	0.64	0.56	0.45	0.35	0.29	0.22	0.18	0.09
2010	1.69	0.98	0.69	0.60	0.45	0.39	0.29	0.25	0.17	0.09
2008 vs. 2010, z-stat	-1.25	-2.16**	-2.01**	-1.80*	-1.09	-2.44**	-0.90	-0.84	-1.10	-1.14

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed), Wilcoxon Signed Ranks Test
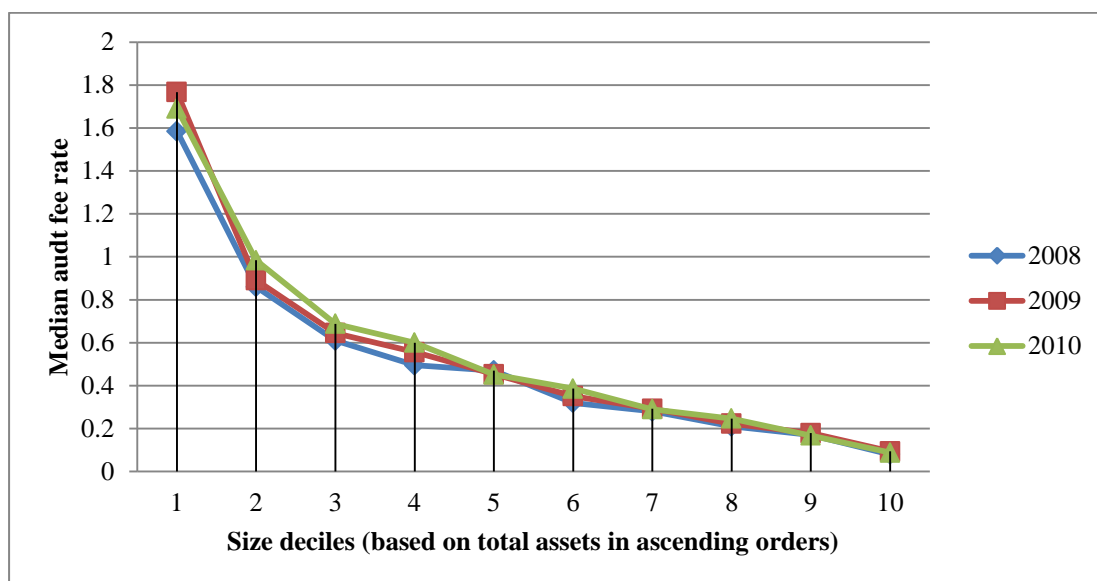
Figure 5. 2
Median audit fee rate from 2008 to 2010

Cross-year examination as presented in Table 5.6, Table 5.7, Figure 5.1 and Figure 5.2 reveal that most of the mean and median audit fees rates have increased for each decile of company size, except for items 5 (2008, 2009 and 2010) and 9 (2010). Many of the companies within size 1 to 5 experienced increase in mean and median. However, the increment of mean for audit fees is not that significant. As for median, four sizes (size 2, 3, 4 and 6) showed significant increment from 2008 to 2010.

Based on the analysis of fee rates against size of companies above, size of companies has an important role in audit pricing formulation. Specifically, high audit fee rate is incurred for small size of companies and not for big companies. It is in line with Abidin et al.'s (2010) study in the UK that economies of scale is beneficial for

large companies. A study in an Asian country, i.e. Japan, also shows that when auditees have higher bargaining power (measured in sales), the audit firms lessen the fees charged to their clients (Fukukawa, 2011). Similarly, global companies also have more bargaining power in auditor and auditee negotiation (Carson et al., 2012). To a certain extent, the argument that auditors would like to use their market power to enjoy higher revenue is mainly applicable for small companies and not for big size companies. On the suggestion that low audit fee may imply low audit quality, Cahan, Jeter and Naiker (2011) argue firms that achieve economies of scale can pass this benefit to the auditee without an impact on audit quality performed.

5.2.2   Auditor concentration

For better understanding of the Malaysian audit market structure, the following sections discuss the level of auditor concentration. Analysis on auditor concentration reveals the key player of the audit firm or group of audit firms that controls the audit market.

Malaysian studies mostly investigate the market concentration among big firms and non-big firms (i.e. Mohd Iskandar et al., 2000; Mohd Iskandar & Aman, 2003; and Ishak et al., 2013). The studies, generally, agreed that the audit market is concentrated within big audit firms. Mohd Iskandar et al. (2000) is the most comprehensive audit market study in Malaysia. They find that the market share among Big Six firms was not equally distributed between 1991 to 1995, but it became more balanced towards the end of 1996. However, concentration among other type of auditor is not widely examined, such as concentration among top four, six or eight firms. Meanwhile, Francis et al. (2013) also include Malaysia in a cross-country study of auditor concentration. They employ Herfindahl index (based on total client sales

audited by each Big Four firm) and find the rate is 43% in Malaysia (between 1999 and 2007).

Table 5.8 reports the level of auditor concentration from 2008 to 2010. For comparison purposes, market share for Big Four firms (CRBIG4) is also presented.

Table 5. 8
Auditor concentration ratio (CR)

Auditor concentration	Number of audit (%)			Audit fees (%)			Total Assets (%)		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
CR4	57.9	57.5	58.4	77.3	76.6	76.7	92.8	91.7	92.1
CR6	70.0	68.5	68.7	85.4	84.9	85.4	96.4	94.7	95.0
CR8	77.1	76.2	76.8	88.9	88.4	88.9	98.2	96.6	96.9
CR10	81.1	79.8	80.5	91.5	91.3	91.5	99.1	97.5	97.7
CR12	83.3	82.4	82.8	93.1	92.9	93.0	99.4	97.9	98.1
CRBIG4	57.3	54.4	53.2	77.3	76.6	76.2	90.7	91.1	91.4

Note:
1. CR4 = 4-firm concentration ratio, CR6 = 6-firm concentration ratio, CR8 = 8-firm concentration ratio, CR10 = 10-firm concentration ratio, CR12 = 12-firm concentration ratio, CRBIG4 = Big Four-firm concentration ratio.

The result in Table 5.8 shows that the level of concentration which is based on various indicators of market share, exceeds 50%. Comparison on year-by-year indicates the rate of concentration is fairly constant. This is much anticipated as according to Buijink et al. (1998), if concentration is measured at least for two years, the level of concentration is substantial and mostly quite stable over time. The concentration rate will change if there is voluntary realignments, changes in the set of consumers and changes in the set of audit suppliers (Beattie et al., 2003). In the UK, when the number of big firms reduced from five to four, the CR4 rate increased between 4% to 5% from year 2001 to 2002 (Abidin et al., 2010). In Malaysia, between 2008 to 2010, the number of listed companies and audit firms did not change drastically (refer Tables 5.1 and 5.2).

The rate for CR4, CR8, CR12 (based on total assets) from 2008 to 2010 remained over 90%.[31] Similarly, high concentration is also clearly present in the case of audit fee even though an average CR4 is 77%. According to Bigus and Zimmermann (2008), CR4(8) is still considered high when the market share is 65% (85%) and above.[32]

High concentration, however, is not observed for concentration rate that is based on number of audits. Based on Bigus and Zimmermann's (2008) threshold on CR4 and CR8, there is medium market concentration. In this market share, CR4 is higher than CRBIG4 and CR4 increased by 0.5% from 2008 to 2010. This indicates that a firm from non-Big Four group has higher number of clients than firms in Big Four group. On the other hand, concentration ratio of Big Four firms (CRBIG4) was found to have reduced by 4.1% from 57.3% in 2008 to 53.2% in 2010 (also refer Appendix B for the type of auditor change). As compared to previous studies, Big Four market share between 2004 to 2008 was 65% (Malek & Che Ahmad, 2011; Yaacob & Che-Ahmad, 2012). Even though CRBIG4 market shared based on number of audits was on a negative trend their audit fee reduction is relatively small (reduced by 1.1% from 77.3% in 2008 to 76.2% in 2010). A small reduction should not worry them since the big audit firms can recoup audit fixed cost through high audit fees as compared to small audit firms (Defond & Lennox, 2011). In addition, many big companies most probably remain with them due to their audit expertise. The reduction in number of clients explains that large audit firms want to avoid audit investment problem and probably new investments not beneficial to the firm. According to

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[31] Abidin (2006) presumes any CR that is more than 90% is high.
[32] The level of market concentration for CR4 and CR 8, according to Bigus and Zimmermann (2008) are as follows: (a) For CR4: from 35 to 49 % (low), 50 to 64% (medium), 65% and above (high), (b) For CR8: from 45 to 69 % (low), 70 to 84%% (medium), 85% and above (high).

Simunic and Stein (1990), incremental number of clients to audit firm's portfolio is a risky asset and the firm should evaluate potential returns from audit investment in light of the returns from other audit investments.

From the economic perspective, in general, the Malaysian audit market has exceeded the tight oligopoly cut-off. A tight oligopoly is present if the market share of the highest four firms is more than 60% (Shepherd, 1997).[33] In high market concentration, there is possibility of pricing collusion, ability of audit firm to charge high audit fee and ease of audit market allocation among the top firms (Dopuch & Simunic, 1980; Abidin et al., 2010). Meanwhile, low concentration implies high market competitiveness and lower audit fees (Yardley et al., 1992; Abidin, 2006). Nevertheless, whether the concentration is beneficial or harmful to market players and affects audit quality is uncertain (Francis, et al. 2013; Newton, Wang & Wilkins, 2013). This is because according to Buijink et al. (1998), Beattie et al. (2003) and Abidin et al. (2010), the presence of high market share does not necessarily lead to anti-competitive behaviour or indicate limited market competition. It is supported by empirical studies, where increasing concentration has contributed to equality of market share among Big Four firms (Dunn et al., 2011), does not result in increment in audit fees (Numan & Willekens, 2012), does not always lead to increase of fee premium among all type of clients (Carson et al., 2012) and does not impact the quality of earnings (Francis et al., 2013).

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[33] The modern industrial organisation study categorises markets into six types. Three market types are characterised by high market power and generally ineffective competition: monopoly (one firm has 100%); dominant firm (one firm has 40% to 99%); and tight oligopoly (four firms have over 60%). The other three market types exhibit effective competition: loose oligopoly (four firms have less than 40%), monopolistic competition (many competitors each with a slight degree of market power) and pure competition (many competitors, none of whom has market power) (Beattie et al., 2003).

Another way to examine the market share is by looking at a different group of auditors. For instance, the GAFN, international affiliated audit firms and a group of second tier audit firms. Table 5.9 presents market share for different types of quality auditors.

Table 5. 9
Group of auditor market share

Auditor market share	Number of audit (%)			Audit fees (%)			Total assets (%)		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
GAFN*:	67.2	64.2	62.8	83.7	82.7	82.3	93.3	93.3	93.4
(i) CRBIG4	57.3	54.4	53.2	77.3	76.6	76.2	90.7	91.1	91.4
(ii) BDO + GT	9.9	9.8	9.6	6.4	6.1	6.1	2.6	2.2	2.0
Affiliate**	21.5	22.7	21.6	12.6	13.7	12.7	12.4	12.9	13.0

*GAFN consists of Big Four firms plus BDO and Grant Thornton (GT).
** Number of affiliated audit firms in 2008: 30, 2009:33 and 2010: 30 firms.

In Table 5.9, GAFN's market share is the highest among groups of auditors. The finding shows that the Malaysian audit market is mostly controlled by global firms, with the lowest share being 62.8% (based on number of audits), and the highest being 93.4% (based on total assets). It is not surprising because majority of GAFN members are Big Four firms, and most of the GAFN's share is highly contributed by these firms. The share of BDO and Grant Thornton is relatively low (less than 10%), especially on total assets. As such, market share of GAFN is mostly driven by the share of Big Four firms, and contributed less by second tier audit firms. In fact, the share of BDO and Grant Thornton, based on number of audits, audit fees and total assets, steadily decreased from 2008 to 2010. This means another group of medium size audit firms have been expanding or growing their business.

As for affiliated firms, their share is quite small - between 7% to 22.7%. The small percentage is not reflected by the number of affiliated firms that serves Malaysian PLCs (between 32% to 35%). One explanation is that many of these firms are of small size, and only few are associated with reputable firms (i.e. Big Four

firms). This explains that international affiliation per se without upholding the quality of service is not enough to attract potential clients.

In the following section, a detailed discussion on individual audit firms is presented.

5.2.3 *Individual firm market share at market level*

An analysis of market shares by individual firms is shown in Table 5.10. Based on the number of audits and audit fees, two of the firms from Big Four group consistently have the highest number of audits, namely Ernst & Young and KPMG. Ernst & Young obtained the largest share for all three years with a total share of almost 27% - two times higher than the firm in second place; KPMG (14%). A similar pattern is also observed between 1996 and 2006, which shows both Ernst & Young and KPMG had the highest number of audits amongst large audit firms (Abdul Wahab & Mat Zain, 2013).

PwC is the third highest in 2008, and the firm's position dropped to fourth place in 2009 and 2010. The third place firm in 2009 and 2010 was Crowe Horwath; a firm from non-Big Four group. Deloitte's market share is the fifth largest and their shares dropped almost 2% from 2008 to 2010. For second tier firms, such as BDO and Grant Thornton, both of the firms held approximately similar share, of around 5%. However, data in 2010 reveal that Grant Thornton's share is slightly larger by 0.6% than BDO's.

Table 5. 10

Percentage of market share (rank) based on number of audit and fees for individual firm

Audit Firm	Number of audits			Fees		
	2008 %	2009 %	2010 %	2008 %	2009 %	2010 %
Deloitte	6.9 (5)	6 (5)	5.2 (5)	5.4 (4)	4.6 (5)	4 (6)
Ernst & Young	27.7 (1)	26.4 (1)	26.3 (1)	30.5 (1)	30.2 (1)	28.8 (2)
KPMG	14.9 (2)	14.1 (2)	14.2 (2)	12.6 (3)	12.6 (3)	12.7 (3)
PwC	7.8 (3)	7.9 (4)	7.5 (4)	28.8 (2)	29.2 (2)	30.7 (1)
Total Big Four (a)	**57.3**	**54.4**	**53.2**	**77.3**	**76.6**	**76.2**
BDO	5.2 (6)	4.8 (7)	4.5 (7)	5.1 (5)	4.6 (4)	4.3 (5)
Grant Thornton	4.7 (7)	5 (6)	5.1 (6)	1.31 (10)	1.4 (10)	1.8 (8)
Crowe Horwath	7.5 (4)	9.1 (3)	10.4 (3)	3 (6)	3.7 (6)	4.5 (4)
Baker Tilly Monteiro Heng	2.4 (8)	2.9 (8)	3.6 (8)	1.33 (9)	1.5 (9)	1.5 (9)
Mazars*	1.7 (10)	1.8 (9)	1.4 (11)	1.7 (8)	1.6 (8)	1 (10)
Moore Stephens	2.3 (9)	1.8 (9)	1.7 (10)	1.2 (11)	1 (11)	0.9 (11)
HLB Ler Lum	0.7 (12)	0.8 (10)	0.9 (12)	1.8 (7)	1.9 (7)	2 (7)
UHY	1.5 (11)	1.8 (9)	2 (9)	0.4 (12)	0.6 (12)	0.6 (12)
Total (8 firms)	**26**	**28**	**29.6**	**15.8**	**16.3**	**16.6**
Other firms	**16.7**	**17.6**	**17.2**	**6.9**	**7.1**	**7.2**
Total non-Big 4 (b)	**42.7**	**45.6**	**46.8**	**22.7**	**23.4**	**23.8**
Total (a) + (b)	**100**	**100**	**100**	**100**	**100**	**100**
Total audit fees (RM'000)				224,624	241,753	257,281
Number of companies	958	956	940			

*Prior to 1 September 2008, the firm was known as Moores Rowland. The name change reflects the merger of Moores Rowland with global structure of Mazars.

Market share based on audit fees offers different rankings. While Ernst & Young had the highest number of audits in 2008 and 2009, the firm was unable to maintain its top rank in 2010. PwC strengthened its position, from second place in 2009 (29.2%) to first place in 2010 (30.6%). The gap between these two firms, however, is small (between 1% to 2%), which indicates both firms are competing with each other. Ranking based on audit fees is not good for KPMG, since the firm's position is lower (in the third place) than rank based on number of audits (in second place). For Deloitte, their share fell from fourth in 2008 to sixth place in 2010. Again, Crowe Horwath made an impressive performance as the firm was the fourth largest firm in 2010, improving from sixth largest in 2008. As for BDO, it was the fifth largest and was one of the largest four in 2009. In fact, BDO's performance was better than Grant Thornton (eighth and tenth place). Nevertheless, Grant Thornton's

percentage of share slightly increased, perhaps due to the effect of merger with JB Lau & Associates in 2008.

With regards to Big Four firms' market shares (based on number of audits or audit fees), none of them is a dominant firm.[34] A similar pattern can also be observed during the Big Six era as there was no dominant firm in Malaysia between 1991 to1996 (Mohd Iskandar & Aman, 2003). Non-existence of dominant firms shows that the merger between Andersen and Ernst & Young in 2002 was not strong enough to produce a more powerful audit firm. One possible explanation is the former clients of Andersen discontinued their relationship with Ernst & Young and found new auditors.

Even though there is no dominant firm among the Big Four group, one noted observation is the large differences between the lowest and highest market share amongst them. Deloitte's market share based on number of audits (audit fee), on average, was 6% (5%), whereas Ernst & Young had almost 27% (30%) of the share.[35] The difference (more than 20%) of the market share among these two firms implies that the share among Big Four firms is not fairly distributed. According to Francis et al. (2013), when the market share is concentrated in one or two firms, audit quality (such as larger accruals and less likelihood of recording losses) of Big Four auditees deteriorates. In the Malaysia setting, Carlin et al. (2009) show the compliance level among Big Four auditees to accounting standard is poor. In line with Francis et al.'s (2013) suggestion, this incidence would enlighten the regulators that rather than being concerned with the dominance of Big Four versus non-Big Four firms' market share,

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[34] Industrial organisation theorists suggest that market leader with total market share of at least 40% is a dominant firm (Beattie et al., 2003).
[35] Even though PwC also had low shares in number of audits, their audit fee shares are among the highest. As for KPMG, the gap of their market shares is around 12% to 17%.

emphasis should be placed on inequality of share among Big Four firms, since it would negatively impact audit quality and financial reporting.

Baker Tilly Monteiro Heng, Mazars, Moore Stephens, HLB Ler Lum and UHY, are the other non-Big Four firms in the group of the top 12 firms (either based on number of audits or audit fees). The market share gap between non-Big Four and Big Four firms remains large, especially on the amount of audit fee (over 50%). However, the gap on audit market share possibly can be reduced within the short-term since non-Big Four firms' (Big Four firms') percentage on number of audits has steadily increased (decreased). As for audit fees, the huge gap between them will be there for quite along period since the amount of audit fees received for both of the firms has been almost stable over the three years.

The result from Table 5.10 also implies that different business strategy is adopted among audit firms, including those in the Big Four group. Competition arises among Big Four firms, suggesting each of them utilises different pricing strategy and partners' compensation policies, which are in line with audit pricing and cost strategies among large firms in Japan and Sweden (Fukukawa, 2011; Kim & Fukukawa, 2013; Knechel, Niemi & Zerni, 2013). Ernst & Young focuses on hiring a number of clients to control the market and build their reputation. As for PwC, the firm emphasises on size (small or big) of clients. Despite Ernst & Young having the highest number of audits, this is not reflected in the firm's revenue. With a small percentage in number of audits (about 8%), PwC is able to compete with Ernst & Young, which has higher percentage of clients (about 28%).[36] In fact, PwC's revenue

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[36] There is no published study in Malaysia on this matter, thus comparison with prior studies is limited. Even though Mohd Iskandar and Aman (2003) conducted an almost similar study, their data was outdated (i.e. 1991 to and 1996) and the large firms comprised Big Six, rather than Big Four.

was higher than Ernst & Young in 2010. A similar pattern is also observed among non-Big Four firms; for instance, audit firm HLB Ler Lum. The firm has between seven to eight clients (less than 1% from the sample) and is ranked between tenth to twelfth place. HLB Ler Lum, however, is the seventh largest firm based on audit fee and it is bigger than Baker Tilly, Mazars, Moore Stephens and UHY. Observation of the list of their clients indicates that most audit fee is derived from companies in the YTL Group.[37] Such practice by HLB Ler Lum implies that the firm relies on certain groups of clients to generate income (economically important clients). This practice needs to be done cautiously as studies show that non-Big Four audit partners' independence is compromised when dealing with economically important clients, as compared to audit partners of Big Four firms (Chi, Douthett & Lisic, 2012).

The above results show that even though large firms are perceived as competent firms, especially PwC, they are highly dependent on low number of companies to generate income. Such dependence could be a threat to auditor objectivity and violates audit quality. DeAngelo (1981) theorises that auditor's incentive to compromise audit quality is subject to the economic importance of the client. It is possible that in order to maintain auditor-client relationship, the firms adopt "soft" audit procedures, so that audit engagement will be continued in the next financial year. The counter argument is that audit quality could also be high for audit firms with low number of clients. Because of limited number of clients, it allows them to put more audit effort and offer the best audit services.

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[37] There are five companies in YTL Group listed on Bursa Malaysia. Three of the companies were audited by HLB Ler Lum, namely YTL Cement, YTL E-solutions and YTL Corporation. From these three companies, YTL Corporation is the largest and based on total assets, YTL Corporation is the 12th largest company in Malaysia.

Although appointing these types of firms is good for the companies, due consideration needs to be given to the cost and benefit trade-off. A Malaysian study shows that the competence factor is more influential in assessing audit quality and less consideration is given on the independence element (Jaffar et al., 2005). This contradicts the suggestion that compromising auditor independence is one of the most serious potential costs in auditor's objectivity (Schneider et al., 2006). The differences arise possibly because of the nature of independence, which is intangible and sensitive to the changes in the local auditing environment (Hudaib & Haniffa, 2009).

The result from Table 5.10 also suggests the term "large audit firms" in Malaysia, such as Big Four firms, should be used with caution. Unlike general understanding that Big Four firms comprise Ernst & Young, Deloitte, KPMG and PwC, this composition is not always reflected in the audit market of PLCs. The exclusion of Deloitte as one of the biggest four firms, could be due to several financial scandals associated with this firm. Some allegations against Deloitte and its network firms, according to Krishnan (2011), are inability to detect client losses (in the case of Transmile Group Bhd.), failure to act as a whistle blower (in the case of Ocean Capital Bhd.), application of inappropriate accounting procedures (in the case of Bumiputra Commerce Holdings Bhd.), failure to inform the regulator on accounting irregularity (in the case of Pasaraya Hiong Kong), and insufficient audit evidence gathering (in the case of Nam Fatt Corp Bhd). These events might influence the companies to disassociate themselves from Deloitte. For instance, Transmile has appointed KPMG to replace Deloitte & Touche.

Due to low market share of Deloitte, Crowe Horwath should be considered for inclusion in the league of Big Four players. Data in 2010 revealed that Crowe Horwath is the third and fourth largest of the firms based on number of audits and

audit fee, respectively. Thus, competition among non-Big Four firms involves BDO, Grant Thornton, Baker Tilly Monteiro Heng, Mazars and Moore Stephens. Since Deloitte is not a serious threat to the other Big Four firms, competition among them Big Four firms is only between Ernst & Young and KPMG (based on number of audits) and Ernst & Young and PwC (based on audit fees).

5.2.4 *Industry specific concentration*

There are several reasons for the companies to choose certain type of auditor. Some of the reasons are reputation, quality, fees and auditor's technical capability or knowledge in certain industry. This special capability, according to Kend (2008) and Cahan et al. (2011), can be obtained through industry specialisation. Table 5.11 displays the result of auditor specialist industry (refer Appendix C and D for specialist industry auditors in 2009 and 2008).

Table 5. 11

Auditor market share (%) based on audit fee and number of audit by industry classification for 2010

Industry	Audit fee (Number of company)	DT	EY	KPMG	PwC	Big Four	BDO	GT	H	BTMH	MR	MS	HLB	UHY	Top 12	Others
Consumer Product	RM27,346,950	6.3	18.6	16	12.5	53.4	4.3	2.6	5.6	1.2	3.2	0.7	0	1.3	72.3	27.7
	(134)	5.2	14.9	**18.7**	5.9	44.7	5.2	6	10.4	3.7	0.7	1.5	0	3.7	75.9	24.1
Industrial Product	RM48,132,417	7.6	23.4	22.3	21.3	74.6	1.8	2.1	7.1	1.4	0.5	1.2	1.2	0.3	90.2	9.8
	(277)	7.2	**23.5**	17.4	5.1	53.2	2.5	5	12.6	2.9	1.1	1.4	0.7	1.4	80.8	19.2
Construction	RM15,730,725	0	21.8	1.6	29.5	52.9	0.6	1.1	7	3.4	0.7	1.5	25.4	0.3	92.9	7.1
	(45)	0	**26.7**	6.7	11.1	44.5	2.2	4.4	11.1	8.9	2.2	2.2	2.2	2.2	79.9	20.1
Trading / Services	RM83,295,670	1.7	<u>30.4</u>	6.8	<u>*43.9*</u>	82.8	5.3	2	3.8	1.4	0.5	0.7	0.1	0.5	97.1	2.9
	(192)	4.7	**29.1**	11.9	10.4	56.1	5.7	5.2	11.4	2.6	1.6	2.1	0.5	1.6	86.8	13.2
Infrastructure	RM1,896,000	0	50.4	6.2	38.8	95.4	0	0	0	0	0	0	0	0	95.4	4.6
	(7)	0	57.1	14.3	14.3	85.7	0	0	0	0	0	0	0	0	85.7	14.3
Finance	RM37,312,167	0.5	<u>34.9</u>	15.9	<u>*47.2*</u>	98.5	0.3	0.5	0.3	0	0.5	0	0	0	100	0
	(37)	2.7	**37.8**	21.6	27	89.1	2.7	2.7	2.7	0	2.7	0	0	0	100	0
Technology	RM9,250,303	12.3	23.4	6.5	1.6	43.8	3.7	5.8	22.5	5.7	0.7	1.6	1.5	2.0	87.3	12.7
	(102)	4	12.8	6.9	1	24.7	2.9	10.8	**18.6**	7.8	1.0	2.0	2.0	2.9	72.7	27.3
Hotel	RM836,500	0	18.6	58.5	0	77.1	11.6	0	0	0	0	0	0	0	88.7	11.3
	(5)	0	20	40	0	60	20	0	0	0	0	0	0	0	80	20
Property	RM17,408,688	11	<u>*41.1*</u>	5.1	14.5	71.7	5.4	0	1	4.3	4.8	3.3	1.2	2.1	93.8	6.2
	(86)	8.2	**40.7**	7	9.3	65.2	8.1	0	1.2	4.7	2.3	3.5	1.2	3.5	89.7	10.3
Plantation	RM15,422,106	0	<u>*35.4*</u>	20.9	20.7	77	20	0.5	0	0	0	0	0	0	97.5	2.5
	(40)	0	**55**	20	10	85	5	2.5	0	0	0	0	0	0	92.5	7.5
Mining	RM25,000	0	100	0	0	100	100	0	0	0	0	0	0	0	100	0
	(1)	0	100	0	0	100	100	0	0	0	0	0	0	0	100	0
Real Estate Invesment Trust	RM615,100	5.7	25.4	38.9	0	70	15.1	6.5	0	0	5.2	0	3.3	0	100	0
	(13)	7.7	30.8	23.1	0	61.6	15.4	7.7	0	0	7.7	0	7.7	0	100	0
Closed-End Fund	RM10,000	0	0	0	0	0	0	0	100	0	0	0	0	0	100	0
	(1)	0	0	0	0	0	0	0	100	0	0	0	0	0	100	0
Total	**RM 257,281,266 (940 companies)**															

* Figure in first row indicates market shares based on audit fees; meanwhile the figure in second row represents shares based on number of audits.

Notes:

1. DT = Deloitte, EY = Ernst & Young, PwC=PricewaterhouseCoopers, GT=Grant Thornton, BTMH = Baker Tilly Monteiro Heng, MR = Mazars, MS = Moore Stephens, HLB = HLB Ler Lum. 2. Items <u>underlined</u> indicate specialist based on at least 30% of audit fee in the market (<u>SPEC30FEE</u>), *italic* indicate specialist is 10% higher than second place based on audit fees (*SPEC10FEE*) and **bold** is the audit firm with the highest number of audits (**SPECNUMAUD**).

By using 30% of audit fee market share (SPEC30FEE), there are four industries that have specialist auditors, namely trading/services, finance, property and plantation. Two of these industries have one specialist auditor, which is Ernst & Young, that specialises in property (41.1%) and plantation (35.4%). Another two industries are co-specialised by Ernst & Young and PwC - trading/services and finance. From these two industries, market share of PwC is the highest (43.9% in trading/services; 47.2% in the finance). None of the firms is the market leader in these industries, as according to Abidin et al. (2010), to lead the market, the share held must be more than 50% in a particular sector. As such, PwC is dominant (at lest 40% shares) in two industries, as compared to one by Ernst & Young. Previous studies show only three industries have specialist auditors (property, plantation and trading/services), and the number of shares held by specialist auditors is relatively low (21 to 33%) (Rahmat & Mohd Iskandar, 2004). The presence of PwC as specialist auditor during those periods also not clearly identified since the competition of industry specialist auditors was between Ernst & Young and Arthur Andersen.

Specialist auditor which is based on SPEC10FEE find that Ernst & Young and PwC are industry specialist auditors. Ernst & Young specialises in property and plantation, and PwC in trading/services and finance.

Thus, based on the first and second measurement of auditor specialist industry (SPEC30FEE and SPEC10FEE), it is the same number and type of industries that have specialist auditors. Interestingly, the second place for those industries (property, plantation, trading/services and finance) is mostly held by either PwC or Ernst & Young. This explains that the first and second measurement method result in the same industry specialist auditor.

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For the last measurement, i.e. based on number of audits (SPECNUMAUD), Ernst & Young has the largest number (i.e. six) of audits in many of the industries, namely industrial products, construction, trading/services, finance, property and plantation. At least one fifth of the shares in each of the industries are with Ernst & Young. PwC, as their closest rival based on the above two measurements, surprisingly did not manage to obtain the highest number of audits in any single industry. In fact, one of the industries, consumer products, is controlled by KPMG. Another interesting insight is Crowe Horwath has obtained the highest number of clients in the technology sector. Under this measurement, chances of other firms, including those outside Big Four firms to be a specialist auditor is higher than the first two measurements. Comparing with 2001 data, the number of specialist auditors is slightly higher, comprising Arthur Andersen, Ernst & Young, KPMG and PwC; and they were just specialised in one or two industries (Md. Ali et al., 2008). For instance, Ernst & Young was specialised in construction, Arthur Andersen and PwC in finance, KPMG in industrial products, Arthur Andersen and Ernst & Young in plantation, and Arthur Andersen in technology and trading/services. It is implied that even though the merger of Andersen and Ernst & Young did not create a dominant firm, it enabled Ernst & Young to become a firm with highest number of industry specialisations in 2010. Indirectly, its indicates that the achievement of Ernst & Young's status as specialist auditor in 2010 is due to client acquisition rather than organic growth. If not, the firm probably would have remained a specialist in construction and plantation.

By looking at a group of Big Four firms, the firms' highest audit fee share (excluding industries with less than 30 companies) is the finance sector (98.5%). This resulted in other non-Big Four firms just obtaining the remaining 1.5% of total fee in

the finance sector. One explanation is that finance is a complex industry which requires a specialist firm. Only large audit firms are able to enter this market and this gives the companies a few choices on type of auditor to be appointed. Similarly, the finance industry is where the Big Four firms get the most number of clients (almost 90%) and merely 10% of the shares are held by non-Big Four firms.

Competition among Big Four firms based on industrial classification further proves that Deloitte is the weakest link. Deloitte's share in all industries is low (less than 15%), unlike Ernst & Young, whose shares are more than 25%. This indicates that the auditor specialist industry market share is more segmented. In contrast, Rahmat and Mohd Iskandar (2004) reveal the share of Big Five firms then were equally distributed. Except for Deloitte, the share based on number of audits held by the other three firms were between 15% to 17%. The changes in allocation of market shares in these two eras was due to reduction of large number audit firms and takeover of Andersen's clients by Ernst & Young.

Another noted observation is the usage of specialist status among Big Four firms to charge high fees. According to Numan and Willekens (2012), in the oligopoly audit market with product differentiation, auditors use industry specialisation to distinguish their audit services. Firms that differentiate their services are able to maintain audit fees that are higher than the marginal cost in equilibrium and at the same time, retain their firms' market share.

Based on Table 5.11, this strategy is applied by PwC rather than Ernst & Young. Fees earned by PwC are relatively high even though its number of audits is lower than Ernst & Young and KPMG. It is predicted that high fees are obtained through PwC's emphasis on product quality differentiation. Companies that are concerned with audit quality would prefer PwC because the firm is specialist in the

client's sector. Thus, they are willing to pay high fees premium for the service. In addition, high fees indicate there are large companies within the same industry inclined towards PwC. Despite competing with each other, the companies are prepared to share their business information with the same auditor. For instance, two of the top three telecommunication companies in Malaysia, namely Maxis Bhd. and Axiata Bhd. (including Celcom Axiata Bhd. as its subsidiary), appointed PwC as their auditor.[38] The risk is the auditor would, purposely or accidentally, share clients' inside information with other auditors or their client's competitor (i.e. information spillovers) (Hogan & Jeter, 1999; Jensen & Roy, 2008). The willingness of both competing companies in appointing PwC suggests they perceive risk of sharing auditors is less dominant than the benefit to be obtained from specialist auditor engagement.

As for other audit firms (i.e. top 12 audit firms' market share), in general, more than 80% of the shares are held among these firms. This makes it difficult for other firms to get a share in any of the industries. In addition, the gap between top 12 and non-top 12 firms is very large (between 45 to 95%). This implies that non-top 12 firms mainly do not have proper capability and competence to audit Malaysian listed companies. With limited number of audit firms capableof auditing big companies, it limits the companies' choice on type of auditor to be appointed, which consequently might affect audit quality.

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[38] Celcom Axiata Bhd, DiGi.Com Bhd and Maxis Bhd are top three players in Malaysia's cellular mobile services. Based on the number of customers as at 31 March 2012, Maxis had 13.8 million subscribers (38.6%), followed by Celcom with 11.95 (33.4%) subscribers. DiGi's customers are 9.94 million (27.9%) (Yee, 2012). The combined market share of Celcom Axiata Bhd and Maxis Bhd is 72% and it is regarded as very high according to typical market concentration measurement (Dunn et al., 2011).

5.2.5 *Conclusion*

The first part of this chapter presents the overall Malaysian audit market structure. The finding shows increment of audit fees and small reduction in number of audit firms. The reduction of number of audit firms, mostly small firms, results in only qualified and competent firms serving the PLCs. The changes in number of audit suppliers and fees are possibly contributed by the establishment of the AOB in 2010. This establishment has prompted the audit firms to enhance their audit policies and procedures; it also seems to have been able to eliminate low quality audit firms from the market.

In order to answer Research Question 1 on the state of audit market structure in Malaysia, four sub research questions have been developed. The first sub research question examines the effect of companies' size on the rate of audit fees. With regards to this research question, it is revealed that small companies have to fork out high fees as compared to big companies. This could be due to small companies being associated with high risk, and the insurance element representing a major part in audit fee. In fact, the bigger the company is, the lower the audit fee clients have to pay (i.e. the benefit of economies of scale).

The second sub research question examines the level of audit market concentration. Based on concentration rate, the Malaysian market is highly concentrated (concentration rate is more than 60%) and it is a tight oligopoly market. Even though it is tight oligopoly market, it contradicts the general belief that the market is fully concentrated within the group of Big Four firms. CRBIG4 is not in line with CR4 and CRBIG4 is slightly lower than CR4. It indicates a firm in group of Big Four is not performing well, and a firm in non-Big Four is expanding its market.

Further, the number of companies associated with Big Four firms is less and the size of their clients is bigger than non-Big Four firms. With low number of audits, Big Four firms are building their audit portfolio and managing audit resources by emphasising on certain client characteristics (e.g. size of clients), and retaining clients that can pay high audit fees. Former auditees of Big Four firms may look for non-Big Four firms as their new auditor; the high audit fee factor may also motivate them to change auditors.

As for other types of group of auditors, GAFN is well positioned in the market and this could be due to high influence of Big Four firms in their network group. However, the impact of second tier audit firms and international affiliate audit firms in the market is minimal. The gap between second tier firms and affiliated firms and Big Four firms remains wide. The low percentage of affiliated firms' share indicates that using international firms per se does not necessarily produce economic benefits as desired by the firms.

The third component of Research Question 1 identifies the individual audit firm that dominates Malaysian audit market. By looking at the competition among individual audit firms, Deloitte has performed badly among Big Four firms. Meanwhile, Crowe Horwarth as non-Big Four firm, is enlarging its market share. Competition among Big Four firms is mainly between PwC and Ernst & Young. Due to reduction in the number of PwC's clients and increment of fees, it is suggested that there are changes in PwC's client acceptance policy. PwC is focusing on big companies that result in betterment of audit revenue. Such practice by PwC, may affect audit quality where dependence on certain type of clients leads to firm's independence impairment.

The fourth part of Research Question 1 identifies the specialist industry auditor. With disappearance of Andersen in 2002, most specialist auditors in any industry between 2008 to 2010 were held by PwC and Ernst & Young or both. However, there is room for other firms to excel. In fact, Crowe Horwath was able to achieve specialist status in one of the industries. With few specialist audit firms, the choice is limited for companies and leads to auditor sharing among business competitors. The sharing would benefit the audit firms (monetary gain) and probably not the clients, despite there being a risk of information transfer to the competitor.

5.3   Studies on audit fee and auditor choice

5.3.1   Sample selection

Based on the 2,854 sample of companies obtained for the audit market study, some exclusion criteria were established to identify the number of samples for studying auditor choice and audit fees. Banking and insurance related companies such as finance, Real Estate Investment Trust (REIT) and closed-end funds were excluded as they have unique business structure and are governed by various finance related regulations (e.g. Banking and Financial Institutions Act 1989). Due to different business structure, the interpretation of their financial information is problematic (McMeeking et al, 2006). Also, IPO companies were excluded since the companies have just changed their status from private to public companies and the annual reports prior IPO are not available publicly. Apart from that, the companies need some time to fully meet and follow stock exchange listing requirements. For example, the need to establish audit committee and the committee might not be effectively functioning at the early stage of its establishment (Abbott et al., 2003).

Other exclusion criteria were if financial statement did not cover 12 months' period or the companies changed their financial year end. Even though studies, like Abidin (2006) use annualised figures, it is not suitable for quantitative data (such as audit opinion and internal audit function provider). Finally, all the required data must be available and companies with missing or incomplete data were also excluded. Table 5.12 shows the final sample for auditor choice and audit fee studies.

Table 5. 12
Number of sample size for auditor choice and audit fee studies

Screening process / Year	2008	2009	2010	Total
Sample of dataset from audit market structure analysis	958	956	940	2854
Less:				
Finance related companies	(55)	(52)	(51)	(158)
IPO	(17)	(7)	(20)	(44)
Change in financial year end	(17)	(19)	(5)	(41)
Total	869	878	864	2611
Less:				
Incomplete information of CEO and audit committee	(31)	(38)	(25)	(94)
Incomplete financial information	(0)	(1)	(1)	(2)
Did not disclose internal audit function provider	(37)	(13)	(14)	(64)
Final dataset (unbalanced panel data)	**801**	**826**	**824**	**2451**

About 81% (2008), 85% (2009) and 85% (2010) from the population of listed companies are covered. Based on the population of listed companies over three years (2,933 companies), about 84% of the companies were selected (2,451 companies).

5.3.2   *Descriptive statistics and univariate analysis*

Descriptive statistics (untransformed) for full sample, sample auditees of Big Four, and sample for non-Big Four auditees are presented in Table 5.13.[39] The table

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[39] Since the sample size for study of auditor choice and audit fee is also taken from Malaysian audit market study, descriptive statistics (number of audits and audit fees) based on industry classification are not presented in the main text's second part of Chapter 5 (Results based on industry classification are available in Appendices E and F). Results from the first part of Chapter 5 on auditor industry specialisation are more meaningful and informative.

also reveals characteristic differences between the two groups of auditees by using parametric and non-parametric tests. Under the parametric technique, independent sample t-test and paired sample t-test were employed. Its counterparts are Mann-Whitney U test and Wilcoxon Signed Ranked Test.

Table 5. 13
Descriptive statistics and univariate analysis
Panel A: Continous variable

Variable	Full sample (n=2451)					Big Four (n=1337)			Non Big Four (n=1114)			Independent Sample Test		Mann Whitney Test	
	Mean	Median	Std Dev	Min	Max	Mean	Median	Std Dev	Mean	Median	Std Dev	t	Sig	z	Sig
AUDITFEE (RM'000)	242	109	728	2.50	19,000	328.25	142	942	139	83	285	6.95	0.000***	-17.70	0.000***
TA (RM million)	1,252.20	267.12	4,559.83	0.54	74,025.20	1,848.95	418.96	5,639.61	536.00	154.91	2,578.71	7.61	0.000***	-18.50	0.000***
Audit risk															
SUBS (n)	14.54	8.00	24.58	0.00	401	16.91	9.00	29.20	11.69	7.00	17.08	5.50	0.000***	-6.58	0.000***
FORSUBSP (%)	17.17	6.06	23.37	0.00	100	17.70	6.67	23.44	16.53	4.10	23.29	1.24	0.217	-1.70	0.088*
INVREC	0.33	0.32	0.19	0.00	0.93	0.31	0.30	0.19	0.36	0.34	0.189	-6.45	0.000***	-6.10	0.000***
Auditor business risk															
NAS (RM'000)	87.15	9.00	433.72	0.00	13,170.77	132.86	24	549.60	32.29	3.00	214.40	6.15	0.000***	-16.46	0.000***
Client businss risk															
ROA	0.03	0.52	0.24	-8.19	0.75	0.06	0.06	0.11	0.01	0.04	0.33	5.57	0.000***	-9.25	0.000***
LEV	0.41	0.39	0.26	-0.11	3.85	0.40	0.38	0.23	0.43	0.41	0.28	-3.03	0.002***	-2.59	0.100*
CURR	2.91	1.78	6.01	0.03	218.46	2.98	1.84	7.04	2.82	1.71	4.47	0.66	0.511	-2.64	0.008***
Corporate governance															
NED	0.61	0.60	0.184	0.03	1	0.63	0.63	0.19	0.58	0.60	0.17	6.76	0.000***	-6.94	0.000***
ACMEET	4.93	5.00	1.196	0.00	17	4.98	5.00	1.36	4.87	5.00	0.96	2.40	0.017**	-1.03	0.304
CEOTENURE (Year)	13.21	11.00	9.524	0.00	52	13.35	12.00	9.99	12.41	11.00	8.96	2.44	0.015**	-1.70	0.090*

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Note:

1. CEOTENURE is not part of of the hypotheses variables. This item included in the above table offer further informaton on Malaysian corporate practices.

Table 5.13 (continued)
Panel B: Dichotomous variables

Variable	Full sample (n=2451)			Big Four (n=1337)			Non Big Four (n=1114)			Chi-Square Test	
	Mean	Median	Std Dev	Mean	Median	Std Dev	Mean	Median	Std Dev	χ^2	Sig
AUDQUAL	0.55	1.00	0.50	-	-	-	-	-	-	-	-
Audit risk											
SUBEVENT	0.40	0.00	0.49	0.41	0.00	0.49	0.40	0.00	0.49	0.33	0.562
AUDOP	0.03	0.00	0.16	0.02	0.00	0.14	0.03	0.00	0.18	2.66	0.103
Auditor business risk											
BUSY	0.74	1.00	0.44	0.70	1.00	0.44	0.72	1.00	0.45	2.04	0.153
Client businss risk											
LOSS	0.24	0.00	0.43	0.18	0.00	0.38	0.32	0.00	0.47	63.27	0.000***
FINDISTRESS	0.50	1.00	0.50	0.45	0.00	0.50	0.57	1.00	0.50	33.95	0.000***
Corporate governance											
ACB4	0.45	0.00	0.50	0.47	0.00	0.50	0.42	0.00	0.50	4.50	0.034**
CEOSOS	0.59	1.00	0.49	0.52	1.00	0.50	0.67	1.00	0.47	53.02	0.000***
CEONEW	0.15	0.00	0.36	0.16	0.00	0.37	0.15	0.00	0.35	0.67	0.412
IAP	0.53	1.00	0.50	0.45	0.00	0.50	0.62	1.00	0.49	64.94	0.000***

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Based on Table 5.13, just 55% of listed companies hired Big Four as company auditor. The mean of fee (AUDITFEE) is RM242,000, with the lowest fee being RM2,500, and the highest fee being RM19,000,000. Median fee for Big Four is RM142,000 and non-Big Four is RM83,000. Overall, auditees of Big Four incurred higher audit expenses (p=0.01) than non-Big Four. Standard deviation of fee is higher than mean, and this suggests that the distribution is positively skewed (Pong & Whittington, 1994). A similar pattern is also derived on size of companies (TA), where standard deviation of assets for Big Four and non-Big Four auditees is higher than mean. The average (median) of total assets is RM1,252.20 million (RM267.12 million). Analysis from the above table indicates that there are significant differences between the size of companies audited by Big Four and non-Big Four firms, where clients of Big Four are more likely bigger than non-Big Four firms. It is in line with findings presented in the first part of Chapter 5.

(i)   Descriptive statistics for engagement risk

a.   Audit risk

Based on Table 5.13, on average, a Malaysian company has 15 subsidiaries (SUBS). It is lower than reported by Malek and Che Ahmad (2011), where in 2007, the number of subsidiaries was about 20. Out of 15 subsidiaries, 17% are foreign subsidiaries (FORSUBSP) or three of the companies are based outside Malaysia. In the case of subsequent event (SUBEVENT), less than half of the companies disclosed it. Meanwhile, around one third of total assets for Malaysian listed companies consist of inventories and accounts receivable (INVREC). The figure, including the median, is almost similar to Wan-Hussin and Bamahros (2013) and Mustapha and Che Ahmad (2011). In terms of audit opinion (AUDOP), the number of companies getting opinion other than unqualified report is much lower than Malek and Che Ahmad (2011) (12%

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of companies getting other than unqualified opinion) and Wan-Hussin and Bamahros (2013) (almost 4% obtained qualified opinion). Based on the components of audit risks, companies audited by Big Four are less likely to get qualified audit opinion, but it is not that significant. Companies audited by Big Four, however, have significantly high number of subsidiaries, high percentage of foreign subsidiaries and low proportion of inventory and accounts receivable over assets, as compared to non-Big Four auditees.

b.   Auditor business risk

Almost three quarters of the companies have their financial year end (BUSY) between December and March. After June, auditor workload might be lessened since only one third of the companies have year end other than December, January, February and March. It does not differ much with a prior study that shows about 74% of the companies have financial year end on 31 December/March (Yaacob & Che-Ahmad, 2012). Meanwhile, the mean of NAS is approaching RM90,000 and the median is below RM10,000. Before this, in 2002, the amount of NAS was RM127,460 (Che Ahmad et al., 2006b). The comparison between the two types of auditors shows that only NAS is significantly different.

c.   Client business risk

The average of ROA is 0.03, with ROA of non-Big Four being just 0.01. ROA of Big Four auditees is more than the average ROA of the total sample size. A prior study by Mustapha and Che Ahmad (2011) shows ROA was 0.01 (average) -3.02 (minimum) and 0.20 (maximum). This indicates that the level of profitability for most Malaysian companies has improved over the last few years. In the case of LOSS, one fourth of the sample incurred losses in prior financial year. The result is in line with Yaacob and Che-Ahmad (2012) (about 23% of companies incurred loss between 2004

to 2008), and Wan-Hussin and Bamahros (2013) (22% of the companies in 2009 show negative ROA). In terms of solvency (LEV), the ratio is about 0.41. It is higher than Malek and Che Ahmad (2011) that showed the leverage is around 0.22 to 0.26.[40] Studies, like Amran and Che Ahmad (2009), which employ total liabilities over total assets to measure leverage, find the rate was 1.478. Meanwhile, current ratio (CURR) is about 3, which is almost identical to Yaacob and Che-Ahmad (2012) (i.e. 2.75). In all, Malaysian companies' ability to pay their current obligations has only slightly increased since current ratio of below 1 suggests the company has difficulty in clearing up the liabilities. In terms of probability of bankruptcy (FINDISTRESS), about half of the companies have Altman's Z-score below 2.073.[41] Many of the companies are audited by non-Big Four, which supports the results of low current ratio.

By looking at two types of audit firms, it suggests that both of the firms face different types of engagement risk. As for audit risk, differences on risk characteristics between Big Four and non-Big Four firms are not obvious. While Big Four firms have high number of subsidiaries, the ratio of inventories and accounts receivables over total assets is significantly lower than non-Big Four.[42] The high number of subsidiaries among auditee of Big Four firms indicates the need of audit expert in managing client business complexity, especially if the subsidiaries operated outside Malaysia. Meanwhile, the higher ratio of inventories and accounts receivable over total assets among non-Big Four against Big Four auditee indicates the riskiness

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[40] The large differences arise because Malek and Che Ahmad (2011) employed total debt/equity to determine the leverage. Other Malaysian studies that used total debt over total assets to determine leverage are Amran and Che Ahmad (2009) and Mohamad, Abdul Rashid and Shawtari (2012).

[41] Wan-Hussin and Bamahros (2013) show that on average, the score of bankruptcy probability among Malaysia companies is -3.69.

[42] Even though FORSUBSP also shows significant differences, it is only in Mann-Whitney Test and is marginally significant (p=0.1)

of these assets. Big Four firms might avoid companies with high ratio as these assets require high level of judgement, and according to Hay et al. (2006), often cause audit failure. However, for auditor business risk, it is high for Big Four due to a high NAS fees obtained. It is supported by the fact that they have bigger size of clients than non-Big Four firms. This provides an opportunity of making additional income since, in general, the demand of NAS is higher from big companies as compared to small companies. The implication of offering excessive NAS seems acknowledged by the auditor. This is because, the amount of NAS paid by the companies is relatively lower than what they paid for statutory audit services; NAS fees is about one third less than the amount of audit fees. In terms of client business risk variables, comparison based on all four significant variables (ROA, LOSS, LEV and FINDISTRESS) show auditees of Big Four firms are financially well performing than non-Big Four firms. The composition of Big Four auditee which mainly consist of good financial position clients indicates that these companies are efficiently utilising their assets to generate profit. Further, by having these type of client in their portfolio, it would minimize the risk of large audit firm's reputational damage since their clients have high ability to meet financial obligation; whether long term or short term liabilities.

(ii)   Descriptive statistics for control variables

Results in Table 5.13 reveal that more than half of the board members are NEDs. Mohamad et al. (2012) who examine the composition of NEDs in Government Linked Companies (GLCs) find the rate is much higher (almost 90%). In addition, the above table shows that there are board members without executive position. It contradicts the Code on Corporate Governance that the Board should include a balance of executive directors and NEDs.

On average, the number of meetings (ACMEET) for both types of clients (Big Four and non-Big Four) is five; higher than the suggested number of meetings (four times) as prescribed in BMCGG (2013). The maximum number of meetings has improved from 15 in 2005 (Johl et al., 2012) to 17. In terms of audit committee working experience (ACB4), almost half of the companies have at least one of their committee members who had served Big Four firms. This is a positive sign on the quality of audit committee members, as only one fifth of former senior auditors and chief financial officers had been appointed in the committee before this (Md Yusof, 2010).

More than 50% of Malaysian companies' CEOs are substantial shareholders (CEOSOS). The high number of CEOs cum substantial shareholders may be due to business ownership structure. Majority of the CEOs have been with the companies for more than three years (CEONEW), and on average, the CEOs have been in the company for about 13 years (CEOTENURE). Amran and Che Ahmad (2009) previously report that the tenure of Malaysian CEOs is eight years. This implies that changes of CEO are less common in the Malaysian corporate environment and most likely, it is a safe executive post.

Between 40% to 50% of the companies outsourced the service to third parties (IAP); which is comparable to the study by Wan-Hussin and Bamahros (2013). They show that in 2009, 52% of the companies outsourced the service to external films.

Analysis for all corporate governance components suggest that Big Four auditee have better governance practices than non-Big Four auditee, where striking differences are present between auditees of both firms. Clients of Big Four significantly have high number of NEDs and audit committe expertise. Also, in selecting the audit committee members, those with experience from Big Four firms is

more preferable by Big Four auditee. Big Four clients also have long-tenured CEOs, and low number of CEOs cum substantial shareholders. The prevalence of internal audit function outsourcing is significantly higher for non-Big Four than Big Four firms. The major differences exist in the context of corporate governance practice between both of auditee suggest that Big Four firms are more likley to be associated with well managed companies. Good administration would ease the audit procedures performed (such as evaluation of internal control) and minimise auditor business risk.

Based on the above analysis, it indicates that despite the number of audits for non-Big Four having increased from year to year, non-Big Four auditees are relatively riskier than Big Four auditees, especially on client business risk and corporate governance aspects. This suggests that Big Four firms eliminate risky clients in their audit portfolio, and non-Big Four firms are dealing with clients that possibly increase engagement risk. With this type of client risk characteristics, Malaysian non-Big Four firms are in danger. As suggested by Hogan and Martin (2009), more exposure to risk puts the firm in facing higher risk financial reporting issues and probably leads to high litigation risk.

5.3.2.1   Transformation of data into logarithm

To conduct further analyses and test the hypotheses, the data was transformed. The transformation is to ensure the score of continous variables are normally distributed (non-normality correction) and to avoid the biggest companies from unduly influencing the findings of the study (McMeeking et al., 2006; Pallant, 2007).

A common transformation is the logarithmic (Abdel-Khalik, 1990; Hay et al., 2006) To enable the transformation process, any AUDITFEE, SUBS, NAS and TA variables with zero value were re-coded to positive value.

The result of normality test for the continous variables is presented in Appendix G. According to Bai and Ng (2005) and Torres-Teyna (2007), the data is normally distributed when the standard skewness is $\pm$ 1.96 and standard kurtosis is $\pm$ 3. Based on the result of normality test, the normality assumption has been met. Descriptive statistics for transformation of variables is presented in Table 5.14.

5.3.2.2   Checking for outliers

The extreme outliers identified through graph of boxplots are: lnAUDITFEE, ROA, LEV and CURR. This study retained and winsorised the extreme outliers to the next closest value. As seen in Table 5.15, ROA and CURR are the items that had the highest number of extreme outliers. This is because the next lower value of these variables is also an outlier.

After the outliers were corrected, descriptive statistics for the affected variables were re-performed. The new analysis is relatively similar to the result presented earlier in Table 5.13. ROA, LEV and lnAUDITFEE remain significant in both   types   of   univariate   analysis.

Table 5. 14

Descriptive statistics for transformation of variables

Variable	Full sample (n=2451)					Big Four (n=1337)					Non- Big Four (n=1114)				
	Mean	Median	Std Dev	Min	Max	Mean	Median	Std Dev	Min	Max	Mean	Median	Std Dev	Min	Max
lnAUDITFEE	4.82	4.69	0.97	0.92	9.83	5.13	4.96	0.95	2.30	9.85	4.45	4.42	0.86	0.92	8.29
lnSUBS	2.09	2.08	1.05	0.00	6.00	2.21	2.20	1.09	0.00	5.99	1.94	1.97	0.98	0.00	5.19
lnNAS	2.29	2.20	2.00	-2.25	9.49	2.90	3.18	2.04	0.00	9.49	1.55	1.10	1.68	-2.25	8.57
lnTA	12.60	12.45	1.50	6.30	18.12	13.11	12.95	1.47	9.13	18.12	11.98	11.95	1.30	6.30	17.65

Table 5. 15

New descriptive statistics and univariate analysis

Variable	Outliers eliminating process				Full sample (n=2451)			Big Four (n=1337)			Non-Big Four (n=1114)			Independent Sample Test		Mann Whitney Test	
			Winsorized	n	Mean	Median	Std Dev	Mean	Median	Std Dev	Mean	Median	Std Dev	t	Sig	z	Sig
lnAUDITFEE	Highest	9.83	8.43	3	4.82	4.69	0.97	**5.13**	**4.96**	**0.95**	4.45	4.42	0.86	18.58	0.000***	-17.70	0.000***
	Lowest	-	-	-													
ROA	Highest	0.75	0.35	20	0.05	0.05	0.10	0.06	0.06	0.09	**0.01**	**0.04**	**0.33**	9.07	0.000***	-9.24	0.000***
	Lowest	-8.19	-0.25	56													
LEV	Highest	3.85	1.42	14	0.41	0.39	0.22	0.40	0.38	0.21	**0.43**	**0.41**	**0.28**	-3.16	0.002***	-2.59	0.010***
	Lowest	-	-	-													
CURR	Highest	218.46	8.57	111	2.50	1.78	2.05	**2.98**	**1.84**	**7.04**	**2.82**	**1.71**	**4.47**	**0.66**	**0.511**	**-2.64**	**0.008***
	Lowest	-	-	-													
ACMEET	Highest	17	7	88	4.85	5	0.92	4.87	5	0.98	4.83	5	0.83	1.05	0.000**	-1.014	0.311
	Lowest	0	1	1													

Note:

1.Values in **bold** indicate the original value of the variables; there is no issue of outliers. As for lnAUDITFEE, only three companies involve in outliers eliminating process, thus, the result of new descriptive statistic is similar with pre-outliers eliminating process.

5.3.3 Comparison between 2008 and 2010

In this part, a comparison is made between 2008 versus 2010 data. This is because several major events occurred in 2008 and 2010, namely high number of companies sanctioned by Bursa Malaysia, the effect of subprime crisis on Malaysia's economy and AOB's establishment. It is worth noting that in 2008, the number of sanctions due to breach of Listing Requirements of Bursa Malaysia Securities Berhad by listed companies and directors was 160, which increased to 280 in 2010 (Bursa Malaysia Annual Report 2008, 2010). To minimise the impact of subprime crisis in Malaysia, the government launched two economic stimulus packages (RM7 billion in 2008 and RM60 billion in 2009), and cut the interest rate. According to Nambiar (2009), the crisis had two impacts on Malaysia's economy. First is the reduction of export figures (-14.9%) and industrial production index (-15.9%) in December 2008. These events might have affected audit firms' client composition and their client risk characteristics.

The comparison between 2008 and 2010 is divided into three categories: (i) all samples in 2008 versus 2010; (ii) Big Four samples in 2008 versus 2010; and (iii) non-Big Four samples in 2008 versus 2010.

Table 5.16 reports descriptive statistics on sample companies' characteristics in 2008 versus 2010.

Table 5. 16
Companies' characteristics in 2008 versus 2010 (transformed)

Year	2008		2010		Paired Test	Samples	Wilcoxon Signed Rank Test	
Variable	Mean	Median	Mean	Median	t	Sig	z	Sig
AUDQUAL	0.58	1.00	0.51	1.00	-2.70	0.007***	-2.69	0.007***
lnAUDITFEE	4.79	4.66	4.79	4.73	-0.08	0.933	-0.19	0.849
Audit risk								
lnSUBS	2.12	2.08	1.99	2.08	-23.70	0.000***	-20.90	0.000***
FORSUBSP (%)	17.00	5.88	16.65	6.25	-0.30	0.764	-0.51	0.612
SUBEVENT	0.40	0.00	0.41	0.00	0.48	0.633	-0.48	0.633
INVREC	0.34	0.33	0.34	0.32	-0.29	0.771	-0.06	0.952
AUDOP	0.04	0.00	0.03	0.00	-1.13	0.258	-1.13	0.258
Auditor business risk								
BUSY	0.73	1.00	0.74	1.00	-0.40	0.693	-0.40	0.692
lnNAS	2.22	2.08	2.34	2.49	1.25	0.213	-1.38	0.167
Client business risk								
ROA	0.05	0.06	0.05	0.06	1.12	0.262	-0.94	0.345
LOSS	0.20	0.00	0.28	0.00	3.62	0.000***	-3.59	0.000***
LEV	0.42	0.41	0.39	0.38	-2.60	0.010***	-2.75	0.006***
CURR	2.40	1.71	2.61	1.86	2.05	0.041**	-1.90	0.057*
FINDISTRESS	0.53	1.00	0.45	0.00	-2.99	0.003***	-2.98	0.003***
NED	0.62	0.60	0.63	0.60	1.08	0.279	-0.86	0.393
ACMEET	4.90	5.00	4.88	5.00	0.28	0.782	-0.38	0.702
ACB4	0.44	0.00	0.45	0.00	0.66	0.510	-0.66	0.510
CEOSOS	0.60	1.00	0.59	1.00	-0.52	0.606	-0.52	0.606
CEONEW	0.16	0.00	0.16	0.00	-0.35	0.727	-0.35	0.727
IAP	0.50	0.00	0.55	1.00	2.40	0.017**	-2.39	0.017**
lnTA	12.64	12.52	12.49	12.49	-2.64	0.009***	-2.65	0.008***

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Table 5.16 shows there is significant decrease in the number of companies audited by Big Four (AUDQUAL) (p=0.01) in 2010. This implies that Big Four firms kept their distance from certain companies and this required the companies to hire non-Big Four firms. However, there are no significant changes in lnAUDITFEE between years 2008 and 2010.

As for audit risk and auditor business risk, both of the risks did not change dramatically. The only significant change is reduction of lnSUBS (a component in audit risk). However, as for client business risks, many of its components changed tremendously. In fact, three out of four variables, namely LEV, FINDISTRESS and

CURR (p=0.05), show client business risk in 2010 was lower than in 2008. The only variable that contributed to high client business risk in 2010 is LOSS (p=0.01).

Meanwhile, for corporate governance variables, one variable has changed (i.e. increased) significantly (p=0.05); IAP. This change is derived from the fact that in 2009, it was a must for PLCs to set up internal audit function. Companies' preferences to outsource internal audit function probably is influenced by cost saving factor, as well as independence and expertise of provider. Finally, the size (lnTA) of Malaysian companies has significantly become smaller.

(ii)　Big Four sample in 2008 versus 2010

Table 5.17 demonstrates the comparison between clients of Big Four in 2008 and 2010.

Table 5. 17
Comparison between auditees of Big Four in 2008 versus 2010

Variable	2008		2010		Paired Sample Statistics		Wilcoxon Signed Rank Test	
	Mean	Median	Mean	Median	t	Sig (2 tailed)	Z	Asymp sig (2 tailed)
lnAUDITFEE	5.04	4.87	5.19	5.02	2.40	0.017**	-2.07	0.039**
Audit risk								
lnSUBS	2.16	2.20	2.21	2.20	0.61	0.546	-0.67	0.503
FORSUBSP (%)	17.42	6.35	17.04	6.25	-0.24	0.814	-0.35	0.729
SUBEVENT	0.37	0.00	0.44	0.00	2.16	0.031**	-2.16	0.031**
INVREC	0.32	0.31	0.31	0.31	-1.07	0.288	-0.87	0.383
AUDOP	0.02	0.00	0.02	0.00	-0.23	0.819	-0.23	0.819
Auditor business risk								
BUSY	0.73	1.00	0.75	1.00	0.61	0.540	-0.61	0.539
lnNAS	2.66	2.83	3.14	3.45	3.46	0.001***	-3.49	0.000***
Client business risk								
ROA	0.06	0.06	0.07	0.07	2.26	0.025**	-2.45	0.014**
LOSS	0.17	0.00	0.20	0.00	0.92	0.358	-0.92	0.357
LEV	0.40	0.40	0.37	0.36	-2.14	0.033**	-1.89	0.059*
CURR	2.43	1.72	2.72	1.95	2.13	0.034**	-2.07	0.039**
FINDISTRESS	0.47	0.00	0.38	0.00	-2.57	0.011**	-2.55	0.011**
NED	0.64	0.64	0.66	0.67	1.25	0.212	-1.28	0.200
ACMEET	4.91	5.00	4.89	5.00	-3.20	0.749	-4.30	0.668
ACB4	0.45	0.00	0.48	0.00	0.94	0.348	-0.94	0.347
CEOSOS	0.55	1.00	0.51	1.00	-0.98	0.328	-0.98	0.327
CEONEW	0.17	0.00	0.17	0.00	0.28	0.776	-0.29	0.776
IAP	0.43	0.00	0.46	0.00	0.85	0.397	-0.85	0.396
lnTA	12.98	12.92	13.18	13.00	2.01	0.045**	-1.41	0.157

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

In 2010, the Big Four firms charged higher audit fee than in 2008 (p=0.05). Audit risk is quite constant over these periods except for more subsequent event disclosures (p=0.05). With regards to auditor business risk, the amount of NAS fee received in 2010 is higher than 2008 (p=0.01). Nevertheless, the client business risk shows a negative trend. Big Four auditees are less likely to go bankrupt, report high ROA and low leverage. None of the corporate governance variables shows

tremendous differences. As for size, auditees of Big Four are bigger from time to time (p=0.05).

(iii) Non-Big Four sample in 2008 versus 2010.

Table 5.18 shows comparison between auditees of non-Big Four firms between 2008 and 2010.

Table 5. 18
Comparison between auditees of non-Big Four in 2008 versus 2010

Variable	2008		2010		Paired Sample Statistics		Wilcoxon Signed RankTest	
	Mean	Median	Mean	Median	t	Sig (2 tailed)	Z	Asymp sig (2 tailed)
lnAUDITFEE	4.42	4.36	4.28	4.46	-4.32	0.000***	-4.32	0.000***
Audit risk								
lnSUBS	2.01	1.95	1.69	1.95	-7.42	0.000***	-6.81	0.000***
FORSUBSP (%)	16.00	5.13	16.45	4.71	0.26	0.798	-0.12	0.903
SUBEVENT	0.41	0.00	0.37	0.00	-1.17	0.243	-1.17	0.243
INVREC	0.37	0.35	0.36	0.35	-0.60	0.552	-0.28	0.782
AUDOP	0.05	0.00	0.04	0.00	-1.10	0.274	-1.10	0.273
Auditor business risk								
BUSY	0.73	1.00	0.69	1.00	-1.13	0.260	-1.13	0.260
lnNAS	1.55	1.25	1.45	1.39	-0.80	0.427	-0.70	0.484
Client business risk								
ROA	0.03	.041	0.03	0.05	-0.00	0.999	-0.37	0.709
LOSS	0.25	0.00	0.38	0.00	3.87	0.000***	-3.79	0.000***
LEV	0.44	0.42	0.40	0.39	-2.03	0.043**	-2.25	0.024**
CURR	2.36	1.65	2.59	1.74	1.51	0.133	-1.24	0.214
FINDISTRESS	0.58	1.00	0.53	1.00	-1.35	0.178	-1.35	0.177
NED	0.59	0.58	0.61	0.60	1.41	0.161	-1.00	0.317
ACMEET	4.79	5.00	4.87	5.00	1.10	0.271	-1.54	0.124
ACB4	0.41	0.00	0.42	0.00	0.15	0.882	-0.15	0.881
CEOSOS	0.68	1.00	0.68	1.00	-0.09	0.933	-0.09	0.932
CEONEW	0.15	0.00	0.16	0.00	0.11	0.912	-0.11	0.912
IAP	0.59	1.00	0.67	1.00	2.44	0.015**	-2.43	0.015**
lnTA	12.08	12.08	11.63	11.94	-6.14	0.000***	-5.90	0.000***

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

In 2010, non-Big Four firms charged lower audit fee than 2008 (p=0.01). This is in contrast with Big Four's audit pricing practices.

Components of audit risk are fairly stable and only lnSUBS has significantly decreased (p=0.01). Interestingly, no element of auditor business risk (including lnNAS) has changed significantly. Client business risk of the firm is mixed, where LEV is lower (p=0.05) and LOSS is higher than 2008 (p=0.01). Also, elements of

corporate governance factors almost remain stable between 2008 and 2010, except for positive trend of non-Big Four auditees to outsource internal audit function (p=0.05). With regards to size, non-Big Four's clients have become smaller (p=0.01). It is different from auditees of Big Four, which is larger from year to year.

In sum, comparison between clients in 2008 and 2010 suggests there are differences in number of audits, audit fees, client size and engagement risk characteristics. Comparison between 2008 and 2010 shows reduction number of companies appointed Big Four firms and conversely, more companies favoured non-Big Four as their preferred auditor. The risk, particularly client business risk, was higher in 2008 than 2010. High client business risk in 2008 might be a reflection of global financial crisis. This indicates that global financial crisis did influence the risk composition of auditees.

Risk classification based on type of audit firm, indicates Big Four firms are more concerned with risk than non-Big Four firms. The changes on risk characteristics of non-Big Four from 2008 to 2010 only appear in client business risk factor. As for Big Four firms, the changes occurred in auditor business risk and client business risk, where auditor business risk has increased and client business risk has decreased. In terms of audit fee and client's size, the fees of Big Four is higher and they have bigger client size from year to year. By contrast, the size of clients and fees of non-Big Four firms has become smaller. This suggests that small firms are attracting high number of audits (as shown in the first part of this chapter) through low pricing strategy. The strategy should be cautiously implemented as it may indicate low quality of audit service.

5.3.4 Correlations

To determine whether collinearity is a major issue in this study, two analyses were used, i.e. Pearson and Spearman's Rank Order correlations. The former is suitable for interval level variables and parametric statistics; the latter is employed in the case of ordinal level or ranked data and non-parametric statistics. Table 5.19 exhibits correlations matrix of the variables for both parametric and non-parametric statistics.

Table 5. 19

Pearson (in italic) and Spearman correlation

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1 AUDQUAL	1	-.036	.030	-.162**	-.119**	.021	-.148**	.018	-.164**	.013	.044*	-.039	.349**	.025	-.129**	.338**	.183**	-.064**	.034	.134**	.372**	.127**
2 AUDOP	-.036	1.000	.023	.134**	.112**	.049*	-.040*	.058**	-.019	.037	.002	-.003	-.019	.035	.000	-.047*	-.154**	.245**	-.113**	-.035	-.059**	-.031
3 BUSY	.030	.023	1.000	.016	.048*	.004	-.100**	.069**	-.023	-.051*	-.007	-.007	.016	.034	.004	.031	-.058**	.029	-.047*	.097**	-.007	-.050*
4 LOSS	-.162**	.134**	.016	1.000	.305**	.060**	-.027	.106**	.095**	.025	-.059**	.052**	-.161**	.010	.021	-.109**	-.411**	.212**	-.160**	.010	-.272**	-.123**
5 FINDISTRESS	-.119**	.112**	.048*	.305**	1.000	-.033	.034	-.029	.088**	.033	.017	.199**	.016	-.024	.085**	-.056**	.158**	-.100**	.085**	.160**	.160**	-.033
6 ACMEET	-.020	.055**	-.002	.077**	.131**	1.000	-.033	.034	-.029	.088**	.033	.017	.199**	.016	-.024	.085**	-.056**	.158**	-.100**	.085**	.160**	.160**
7 CEOSOS	-.148**	-.040*	-.100**	-.027	-.063**	-.012	1.000	-.241**	.166**	-.013	-.034	-.009	-.183**	.020	.122**	-.111**	-.013	-.045*	.024	-.278**	-.237**	-.054**
8 CEONEW	.018	.058**	.069**	.106**	.072**	.042*	-.241**	1.000	-.241**	.166**	-.013	-.034	-.009	-.183**	.020	.122**	-.111**	-.013	-.045*	.024	-.278**	-.237**
9 IAP	-.164**	-.019	-.023	.095**	-.008	.000	.166**	-.041*	1.000	-.053**	-.047*	.020	-.345**	-.007	.101**	-.172**	-.125**	-.095**	.082**	-.195**	-.382**	-.297**
10 SUBEVENT	.013	.037	-.051*	.025	.110**	.092**	-.013	.015	-.053**	1.000	-.004	.022	.229**	.061**	-.052**	.104**	.004	.208**	-.150**	.026	.187**	.259**
11 ACB4	.044*	.002	-.007	-.059**	-.038	.033	-.034	.031	-.047*	-.004	1.000	.013	.083**	.071**	-.061**	.080**	.059**	-.002	.011	.026	.072**	-.014
12 AOBYR	-.039	-.003	-.007	.052**	-.061**	.013	-.009	.002	.020	.022	.013	1.000	.033	.000	.000	.051*	.041*	-.045*	.028	.082**	-.005	-.016
13 lnAUDITFEE	.358**	-.013	.010	-.174**	.070**	.153**	-.181**	-.004	-.353**	.233**	.060**	.034	1.000	.219**	-.097**	.494**	.174**	.252**	-.248**	.177**	.791**	.718**
14 FORSUBSP	.034	.036	.010	-.032	-.021	.029	.022	-.094**	-.081**	.108**	.065**	.001	.319**	1.000	.005	.104**	-.079**	.026	-.022	-.010	.071**	.150**
15 INVREC	-.123**	-.015	.005	.014	-.066**	-.005	.132**	-.063**	.111**	-.056**	-.062**	.003	-.077**	.008	1.000	-.111**	-.028	.141**	-.050*	-.147**	-.232**	-.031
16 lnNAS	.339**	-.049*	.035	-.111**	-.061**	.041*	-.098**	.052**	-.151**	.093**	.070**	.052**	.417**	.100**	-.098**	1.000	.172**	.057**	-.062**	.175**	.472**	.285**
17 ROA	.187**	-.130**	-.048*	-.446**	-.491**	-.090**	.012	-.063**	-.118**	.014	.048*	.041*	.167**	-.012	-.029	.174**	1.000	-.191**	.139**	.038	.271**	.078**
18 LEV	-.052**	.162**	.022	.189**	.562**	.166**	-.040*	.051*	-.095**	.211**	.002	-.046*	.302**	.071**	.155**	.062**	-.204**	1.000	-.680**	.023	.194**	.188**
19 CURR	.054**	-.166**	-.055**	-.215**	-.541**	-.092**	.036	-.055**	.072**	-.148**	-.008	.040	-.214**	-.028	.077**	-.037	.243**	-.784**	1.000	-.021	-.179**	-.222**
20 NED	.140**	-.043*	.104**	.011	.028	.053**	-.290**	.175**	-.199**	.033	.030	.058**	.150**	-.009	-.163**	.158**	.028	.016	-.047*	1.000	.217**	.019
21 lnTA	.374**	-.063**	.014	-.279**	.061**	.092**	-.220**	.002	-.385**	.194**	.070**	-.007	.771**	.155**	-.222**	.413**	.239**	.243**	-.167**	.209**	1.000	.597**
22 lnSUBS	.134**	-.029	-.050*	-.125**	.148**	.135**	-.053**	-.062**	-.292**	.260**	-.021	-.018	.713**	.314**	-.019	.230**	.060**	.241**	-.156**	.016	.580**	1.000

** correlation is significant at the 0.01 level (2-tailed) and *correlation is significant at the 0.05 level (2-tailed).

Note 1:

Items in grey cause multicollinearity issue.

Results in Table 5.19 show the highest correlation among independent variables is between CURR and LEV (r = -0.680 and rho = -0.784, p = 0.01). High correlation possibly impacts the regression results. Among others, it would lead to large variances and standard errors, large confidence intervals, insignificant t ratios and incorrect direction for regression coefficients (Gujarati, 2006).[43] To ensure multicollinearity does not create a major problem, the multivariate analysis which tested both variables in the model was re-examined by omitting each of them at a time.

5.3.5 *Multivariate Analysis*

To examine the impact of risk on the choice of auditor (i.e. Big Four firms) and audit fee, regression analysis was employed. The first analysis was done on auditor choice mode, followed by audit fee model.

5.3.5.1   Cross-sectional and and pooled regression analysis

(i)   Auditor choice

Table 5.20 reports the results of logistic regression analysis for auditor choice (AUDQUAL) in the years 2008, 2009 and 2010. The last column in the table is the result for the pooled sample. A Hosmer-Lemeshow Test which examines the model fit or goodness of fit test had a significant value greater than 0.05. It indicates that the

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[43] Gujarati (2006) suggests dropping a variable from the model or getting additional data. Dropping a variable, however, is not suggested since it would create model specification error/bias (omitting important variable in the model). Getting additional data is likely to minimise the severity of multicollinearity, but it is costly.

model sufficiently fits the data.[44] The Cox-Snell R Square and Nagelkerke R Square which measure the amount of variations in the dependent variables suggest a satisfying explanatory model. The Cox-Snell R Square is between 0.18 to 0.26 and Nagelkerke R Square is from 0.25 to 0.34, and correctly classified around 70% of cases. As a comparison, studies such as Syed Mustapha Nazri (2012a) report Cox-Snell R Square of 0.23 and Nagelkerke R Square of 0.31 and correctly classified 82% of cases.

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[44] According to Abidin (2006), if the Hosmer-Lemeshow goodness of fit measure is less than 0.05, the null hypothesis (the model adequately fits the data) is rejected. The rejection indicates the observed and model-predicted values of the dependent variable are similar.

Table 5. 20
Regression analysis
Panel A: Regression results on auditor choice

Year		2008 (n=801)			2009 (n=826)			2010 (n=824)			Pooled regression (n=2451)		
Variable	**Sign**	Coef	Wald	Sig	Coef	Wald	Sig	Coef	Wald	Sig	Coef	Wald	Sig.
Audit risk													
lnSUBS	+	-0.29	6.86	0.009***	-0.27	5.99	0.014**	-0.33	8.74	0.003***	-0.29	21.35	0.000***
FORSUBSP	+	0.00	0.52	0.473	0.00	0.68	0.411	-0.00	1.29	0.256	0.00	0.02	0.887
SUBEVENT	+	-0.27	2.58	0.108	0.25	1.99	0.158	0.25	1.83	0.176	-0.11	1.23	0.268
INVREC	+	-0.38	0.72	0.396	-0.22	0.22	0.638	-0.01	0.00	0.983	-0.23	0.72	0.398
AUDOP	-	-0.28	0.38	0.536	-1.12	3.32	0.069*	0.82	2.37	0.124	0.40	1.90	0.168
Auditor business risk													
BUSY	+	0.04	0.06	0.814	0.04	0.04	0.851	0.16	077	0.380	0.10	0.82	0.365
lnNAS	+	0.20	17.32	0.000***	0.33	45.96	0.000***	0.28	34.03	0.000***	0.27	94.78	0.000***
Client business risk													
ROA	+	0.11	0.01	0.917	1.37	1.80	0.179	-0.75	0.49	0.484	0.31	0.29	0.592
LOSS	-	0.21	0.80	0.370	-0.17	0.63	0.427	-0.12	0.33	0.566	-0.05	0.14	0.710
LEV	+	-1.06	3.87	0.049**	-1.08	3.15	0.076*	-1.91	7.94	0.005***	-1.16	11.68	0.001***
CURR	-	-0.04	0.60	0.438	-0.03	0.21	0.647	-0.02	0.12	0.730	-0.02	0.48	0.489
FINDISTRESS	+	-0.38	3.18	0.074*	-0.29	1.70	0.193	-0.40	3.31	0.069*	-0.34	7.71	0.005***
NED	+	0.66	1.45	0.228	-0.15	0.14	0.706	0.46	0.70	0.404	0.28	1.07	0.302
ACMEET	+	0.08	0.74	0.388	-0.13	1.98	0.159	-0.00	0.02	0.967	-0.02	0.14	0.713
ACB4	+	0.02	0.02	0.884	-0.11	0.42	0.519	0.03	0.03	0.862	-0.02	0.03	0.866
CEOSOS	-	-0.19	1.14	0.286	-0.47	6.89	0.009***	-0.27	2.23	0.136	-0.30	8.15	0.004***
CEONEW	+	0.01	0.00	0.980	-0.14	0.31	0.580	-0.12	0.25	0.618	-0.07	0.24	0.626
IAP	-	-0.25	2.10	0.148	-0.09	0.27	0.606	-0.02	0.01	0.920	-0.14	1.93	0.165
lnTA	+	0.58	36.77	0.000***	0.61	39.90	0.000***	0.71	53.34	0.000***	0.62	129.51	0.000***
AOBYR	-										-0.32	10.36	0.001***
CONSTANT		-6.48	27.42	0.000***	-5.69	22.35	0.000***	-7.99	39.38	0.000***	-6.53	86.43	0.000***
Hosmer & Lemeshow Test:													
Chi-square		4.92			3.61			16.51			12.07		
Df		8			8			8			8		
Significance		0.77			0.89			0.36			0.15		
Cox & Snell R Square		0.18			0.24			0.26			0.22		
Nagelkerke R Square		0.25			0.33			0.34			0.29		
Overall % of classification		68.70			72.0			73.1			70.9		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Year-by-year analyses show three from twelve of the risk components are consistently significant. Regardless of the changes in the local business landscape, lnSUBS, lnNAS and LEV have a major role in determining type of auditor choice The results of other risk variables are mixed and time-sensitive: FINDISTRESS (significant in 2008 and 2010) and AUDOP (significant in 2009).

The negative association between FINDISTRESS and AUDQUAL in 2008 could be associated to the impact of subprime crisis in the US. The crisis resulted in the collapse of financial institutions with mainly clients of international audit firms, and this may have induced the Big Four firms in Malaysia to disassociate themselves from financially distressed clients. By doing so, the firms can preserve their global brand name and minimise the impact of reputation damage that occurred in the US.

Further, the significance of FINDISTRESS in 2010 and not 2009 is probably due to establishment of the AOB in 2010. The negative coefficient of FINDISTRESS explains that distressed companies are less likely to hire Big Four Firms. When the AOB was set up, the Board monitoring activities were relatively more on major audit firms[45] rather than other audit firms (AOB Annual Report 2011). The firms have to keep strengthening their audit procedures and improving the scope of audit, particularly when auditing financially problematic companies. Detailed procedures would uncover more financial problems and failure to disclose financial difficulties may lead the company to be penalised by Bursa Malaysia. Because of these consequences, the companies are keen to choose non-Big Four firms which are less likely to be supervised by the AOB. From the audit supply perspective, it supports the univariate analysis that due to AOB's introduction, Big Four firms want to avoid

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[45] Major audit firms, according to Annual Report of AOB 2011, are the firms with more than 10 partners and audit more than 40 PIEs

distressed clients. According to AICPA (2013), some aspects that auditors who audit financially distressed clients need to be aware of are: (i) the pressure from clients not to issue qualified opinion; (ii) clients' resistance to write-down the assets' values; (iii) proper documentation of going concern and subsequent events evaluation; (iv) sufficiently including disclosure on significant contingencies in financial report; and (v) the clients asking to delay audit report issuance for the purpose of financial arrangement process. Thus, auditing distressed companies requires additional procedures which are not usually done in healthy companies. Missing such procedures can lead the auditor to be penalised by the regulator.

By examining the full sample, the results are not much different with year-by-year analysis. The pooled results suggest apart from lnSUBS, lnNAS, LEV, another significant variable is FINDISTRESS. Interestingly, FINDISTRESS is highly significant in pooled regression as compared to year-by-year analysis (in 2008 and 2010).

(ii)   Audit fee

The OLS regression model was used to test the hypotheses of audit fee for 2008, 2009, 2010 and pooled sample. The result is displayed in Table 5.21. The F statistic for each model is highly significant and the adjusted R square is between 0.76 to 0.79. The adjusted R Square is higher than Johl et al. (2012), (i.e. 0.62) and Abdul Wahab et al. (2011b) (i.e. 0.64). The reason could be due to this study emphasising on the risk factor that is associated with audit pricing. According to Hay et al. (2006), risk is one of the most critical factors in audit fee model. Another possible reason is large sample size utilised as compared to Johl et al. (2012), which only employed 559 companies.

The Cook's Distance measure is less than one; thus, there are no influential cases of observation in the regression (Torres-Reyna, 2007). VIF was also carried out to determine whether multicollinearity is possibly affecting the regression analysis. According to Neter, Wasserman and Kutner (1985), VIF with the value 10 and above possibly causes multicollinearity problem. Results show that majority of the variables have a value below two; thus, collinearity is not a major issue (refer Appendix H for result of VIF).

Table 5. 21
Regression results on audit fees

Year		2008 (n=801)			2009 (n=826)			2010 (n=824)			Pooled regression (n=2451)		
Variable	**Sign**	Coef	t	Sig	Coef	t	Sig	Coef	t	Sig	Coef	t	Sig
Audit risk													
lnSUBS	+	0.36	16.78	0.000***	0.34	16.02	0.000***	0.31	15.58	0.000***	0.34	28.20	0.000***
FORSUBSP	+	0.01	6.13	0.000***	0.00	6.31	0.000***	0.01	6.93	0.000***	0.01	11.10	0.000***
SUBEVENT	+	0.07	1.88	0.061*	0.01	0.16	0.870	0.02	0.44	0.658	0.02	1.21	0.226
INVREC	+	0.23	2.37	0.018**	0.24	2.59	0.010***	0.12	1.26	0.207	0.19	3.49	0.000***
AUDOP	+	0.12	1.20	0.229	0.13	1.01	0.315	-0.22	-2.09	0.037**	0.00	0.07	0.947
Auditor business risk													
BUSY	+	0.04	0.97	0.331	0.04	1.15	0.251	0.05	1.35	0.177	0.05	2.23	0.026**
lnNAS	?	0.04	4.34	0.000***	0.06	6.13	0.000***	0.07	7.09	0.000***	0.06	10.01	0.000***
Client business risk													
ROA	-	-0.00	-0.01	0.990	0.21	1.08	0.280	-0.21	-1.03	0.305	0.00	-0.00	0.997
LOSS	+	0.11	2.16	0.031**	0.05	1.25	0.212	-0.01	-0.25	0.802	0.05	2.05	0.040**
LEV	+	0.18	1.65	0.098*	0.38	3.43	0.001***	0.40	3.34	0.001***	0.31	4.80	0.000***
CURR	+	-0.03	-2.19	0.029**	-0.03	-2.55	0.011**	-0.01	-0.99	0.324	-0.02	-3.42	0.001***
FINDISTRESS	+	-0.09	-1.87	0.062*	-0.15	-3.46	0.001***	-0.11	-2.69	0.007***	-0.12	-4.58	0.000***
NED	+	0.17	1.52	0.130	0.12	1.44	0.151	0.20	1.87	0.062*	0.15	2.64	0.008***
ACMEET	+	-0.02	-1.10	0.273	0.04	2.21	0.028**	0.07	3.71	0.000***	0.04	3.98	0.000***
ACB4	+	0.06	1.78	0.076*	0.06	1.95	0.051*	0.07	2.16	0.031**	0.07	3.47	0.001***
CEOSOS	-	0.00	0.04	0.966	-0.04	-1.21	0.225	0.07	2.08	0.038**	-0.04	-2.08	0.037**
CEONEW	+	0.07	1.48	0.139	0.00	0.07	0.948	0.09	1.91	0.056*	-0.00	-0.12	0.907
IAP	-	-0.03	-0.78	0.435	-0.02	-0.42	0.677	0.04	1.09	0.276	-0.03	-1.29	0.197
lnTA	+	0.29	15.52	0.000***	0.29	16.87	0.000***	0.28	16.25	0.000***	0.29	28.01	0.000***
AOBYR	+										0.07	3.60	0.000***
AUDQUAL		0.24	6.49	0.000***	0.17	4.50	0.000***	0.13	3.58	0.000***	0.18	8.50	0.000***
CONSTANT		-0.29	-1.18	0.240	-0.28	-1.23	0.217	-0.15	-0.67	0.501	-0.23	-2.57	0.085*
R Square		0.76			0.78			0.79			0.76		
Adj. R Square		0.76			0.78			0.79			0.77		
Std. Error of estimates		0.47			0.46			0.44			0.47		
F		124.13			148.05			153.87			399.15		
Sig		0.000			0.000			0.000			0.000		
Cook's Distance		0.07			0.06			0.07			0.02		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Five variables: lnSUBS, FORSUBSP, lnNAS, LEV and FINDISTRESS are consistently siginifcant. Variables likes SUBEVENT, AUDOP, BUSY, LOSS and CURR are not consistently significant for all the three years, and most of them were significant only in 2008. Going by the list of risks, the risk factor had more influence on fees in 2008 than in 2010. Specifically, two variables that were significant in 2008 but not significant either in 2009 or 2010 were LOSS and SUBEVENT. This situation can be associated with the effect of high profile local financial scandals. Those related financial scandal companies, such as Transmile Bhd. and Goh Ban Huat Bhd., were loss making companies in 2008. Hence, loss making companies are likely to be associated with financial scandals or misreporting. Due to high risk of dealing with loss generating companies, audit firms tend to charge higher audit fee. As for SUBEVENT, it maybe used by clients, especially financially troubled companies to manipulate or maneuvre their financial condition (AICPA, 2013). This motivates the auditor to concentrate more on events after balance sheet date.

As for the result for pooled regression, most of the risk variables are significantly associated with audit fee, and most of them in the expected direction. Only three variables are not significant, i.e. SUBEVENT, AUDOP and ROA. This is not surprising as the same variables were also found to be not consistently significant for all three years, as previously discussed.

5.3.5.2 <u>Panel data regression</u>

The result presented above is based on yearly and pooled regression analysis. Since the relationship between auditor and auditee usually continues for more than one financial year, the "time" factor possibly affects their relationship. According to

Adelopo (2009), this effect can be investigated either through pooled regression or panel data analysis.

An analysis was performed to determine whether pooled regression or panel data analysis is the most suitable analysis for this study. The first analysis was to decide between ordinary logit model (for auditor choice model)/OLS regression (for audit fee model) and RE model. If RE model prevailed, then the next test was to decide between RE and FE models.

For auditor choice model, to determine whether ordinary logit regression or RE model is prefered, the likelihood-ratio statistic test was performed. Result of Likelihood-ratio test as shown in Table 5.22 Panel A, indicates rejection of null hypothesis. Therefore, the RE logit model of panel data was reliable instead of an ordinary logit model. This is in line with Guedhami, Pittman and Saffar's (2009) argument that panel data (especially RE) produced strong result on their auditor choice study

The next procedure was to choose between FE and RE models, through Hausman test. Results as shown in Table 5.22 Panel A found a non-significant p-value (prob>chi^2 is larger than 0.05). Thus, RE model was used rather than FE model in auditor choice model.

Table 5. 22
Panel data regression
Panel A: Likelihood-ratio test and Hausman Specification test for auditor choice model

Type of model	Auditor choice model
Proxy for auditor quality	Big Four
Type of test:	
To decide between ordinary logit and random effects (RE) model:	
Result of Likelihood-ratio test of rho=0: chibar2(01)	1163.35
Prob >= chibar2	0.000
Decision	**RE**
To decide between RE and Fixed Effects (FE) model	
Result of Hausman's test chi^2	18.16
Prob>chi^2	0.5116
Decision	**RE**

As for audit fee model, the first test undertaken was Breusch and Pagan Lagrangian Multiplier test to determine either OLS and RE model is more suitable. The second test was Hausman test. Result of both tests are presented in Table 5.22 Panel B.

Table 5.22 (continued)
Panel B: Breusch and Pagan Lagrangian Multiplier test, Hausman specification tests and Modified Wald test for audit fees model

Type of model	Audit fee model		
Group of Sample	Full sample	Big Four	Non-Big Four
Type of test:			
To decide between a simple Ordinary Least Squares (OLS) regression and RE model.			
Result of Breusch and Pagan Lagrangian Multiplier test:			
chibar2(01)	1251.65	727.40	470.83
Prob > chibar2	0.000	0.000	0.000
Decision	**RE**	**RE**	**RE**
To decide between RE and FE			
Result of Hausman's test:			
chi^2	246.82	283.35	96.11
Prob>chi^2	0.000	0.000	0.00
Decision	**FE**	**FE**	**FE**
To check heteroskedasticity			
Result of Modified Wald test:			
chi^2	2.7e+34	2.0e+31	1.9e+32
Prob>chi^2	0.0000	0.0000	0.0000
Interpretation	Heterokedasticity is presence.	Heterokedasticity is presence.	Heterokedasticity is presence.

Based on Breusch and Pagan Lagrangian Multiplier test as presented above, the null hypothesis (variance across entities is zero or no panel effect) was rejected and RE found appropriate, meaning there is evidence of significant differences across companies. The panel data preference is consistent with Adelopo's (2009) suggestion that audit pricing study needs a robust analysis which can cover multi- year examinations. In addition, Henderson and Kaplan (2000) state that panel data analysis is suitable in auditing research that involves repeated outcomes, such as audit fee. This is because, the strength of panel data lies in its ability to tackle the issue of omitted variables and heterogeneity bias (Henderson & Kaplan, 2000; Adelopo, 2009). Due to these factors, panel data is regarded as a powerful research tool (Henderson & Kaplan, 2000).

Since the first result was in favour of RE model, the next step was to decide between FE or RE models through a Hausman test. From the test, the value of prob>chi^2 was 0.000, thus FE model was appropriate.

Based on Modified Wald's test, there was problem of heterokedasticity. To rectify this problem, the robust standard error was employed as suggested by Stock and Watson (2003) and Torres-Reyna (2007).

In addition, Wooldridge test for autocorrelation in panel data was also done. The null hypothesis was not in serial correlation. Wooldridge test for the sample in audit fee model showed F = 0.84 and prob > F = 0.36. The test revealed autocorrelation problem did not exist; this is in line with Torres-Reyna's(2007) suggestion that serial correlation or autocorrelation is not a major issue for micro-panels (the period of study is below 20 years).

(i) Auditor choice

Result of auditor choice is presented in Table 5.23.

Table 5. 23
Panel data regression result for auditor choice

Variable (n=2451)	Sign	Coef.	z	P>|z|
Audit risk				
lnSUBS	+	-0.69	-0.92	0.356
FORSUBSP	+	0.05	2.00	0.046**
SUBEVENT	+	0.75	1.14	0.256
INVREC	+	0.45	0.15	0.882
AUDOP	-	1.51	0.77	0.441
Auditor business risk				
BUSY	+	1.54	1.23	0.218
lnNAS	+	0.76	3.23	0.001***
Client business risk				
ROA	+	-16.51	-3.06	0.002***
LOSS	-	-0.80	-0.85	0.395
LEV	+	-3.96	-1.40	0.160
CURR	-	-0.25	-1.19	0.233
FINDISTRESS	+	-2.97	-2.66	0.008***
NED	+	4.24	2.12	0.034**
ACMEET	+	0.02	0.05	0.960
ACB4	+	-0.79	-0.73	0.468
CEOSOS	-	0.22	0.24	0.807
CEONEW	+	-0.10	-0.09	0.926
IAP	-	-1.40	-1.60	0.110
lnTA	+	2.90	3.56	0.000***
AOBYR	-	-2.73	-5.00	0.000***
CONSTANT		-22.52	-2.45	0.014**
Wald chi^2		120.15		
Prob>chi^2		0.000		
Log likelihood		-802.70		
Pseudo R^2		0.18		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

The auditor choice model has a good explanatory power with Pseudo R^2 is 18%. An analysis without control variables shows the Pseudo R^2 is 12%, which suggests that the tested variables have contributed about 6% to the main model (refer Appendix I Panel A: Auditor choice model).

Table 5.23 shows that at least one of the components in any group of engagement risk is significantly associated with AUDQUAL.[46] Audit risk is represented by Hypotheses 1 to 5. Hypothesis 1 predicts a positive association between subsidiaries and auditor choice. In the above estimation, lnSUBS is not significant, and thus $H1_{choice}$ is not supported. The finding is contradicted with Che Ahmad el al. (2006a) which found negative association between these two variables.

FORSUBSP is the only audit risk variable that significantly associated with AUDQUAL. Positive association between FORSUBSP and AUDQUAL, which support $H2_{choice}$, implies that companies with a higher percentage of foreign operation have tendency to choose Big Four firms. The firms usually have wider geographical area coverage and mostly globally intergrated as compared to small audit firms (Carson, 2009; Clatworthy et al., 2009). The finding consistent with Che Ahmad et al. (2006) in Malaysia that foreign companies are associated with high quality audit firms. It is also in line with the suggestion that companies with higher complexity are expected to produce less accuracy of financial reporting and face greater problems in monitoring the agents, which leads to appointment of high quality auditor (Palmrose, 1984; Thornton & Moore, 1993).

Hypotheses 3 and 4 predict positive association between SUBEVENT and INVREC with AUDQUAL. The results suggest that these two variables are not significantly associated, thus, $H3_{choice}$ and $H4_{choice}$ are not supported. The result of INVREC is contradict with Wan Abdullah et al. (2008). They found that this variable

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[46] Both of pooled regression and panel data analyses show that audit risk, auditor business risk and client business risk influenced auditor choice. The differences between panel data and pooled regression analysis exist in the components of audit risk and client business risk. Pooled regression analysis found that lnSUBS (instead of FORSUBSP) and LEV (instead of ROA) were significantly associated with auditor choice.

is positive and significantly associated with auditor choice. Insignificant of INVREC might be explained by the nature and audit activity of the auditor. Auditing companies with high number of inventories and account receivables are routinely performed by most of the auditors, as compared auditing companies with low level of inventories (e.g. construction or hotel industry). The insignificant of SUBEVENT is in contrast with Clatworthy et al. (2009) in the UK. The result could be explained by the lower number of companies reported post balance sheet event in Malaysia (around 40%), and no significant differences on SUBEVENT between auditee of Big Four and non-Big Four firms. (refer Table 5.13, Panel B).

Hypothesis 5 which expects negative association between AUDOP and AUDQUAL, also found no significant relationship. Hence, $H5_{choice}$ is not supported. The result is similar with Che Ahmad et al. (2006a) that qualified audit opinion is not significantly associated with the choice of Big Six audit firms.

As for client business risk, it is represented by Hypotheses 6 and 7. $H6_{choice}$ predicts busy season (companies with financial year end between 31 December and 31 March) is positively associated with AUDQUAL. The hypothesis, however, is not supported. Similar finding also obtained by Che Ahmad et al. (2006a). The finding suggests that the timeliness of audited financial statement is an important issue that being emphasised by various type of auditors. Late issuance of audit report might hamper business decision and tarnish audit firm's reputation. Hypothesis 7 expects NAS is positively associated with the choice of quality auditor and this hypothesis is well supported. Companies with high expenses of NAS are more likely to choose Big Four firms, which contradicts Che Ahmad et al.'s (2006a) finding. The appointment is motivated by the fact that large audit firms have suitable audit resources as compared to non-Big Four firms (Chaney et al; 2004; Carson, 2009). With such capability, the

firms can offer various types of NAS. Various services are usually requested by big size companies which have complex business transactions and operations. This is supported by the positive association between lnTA with AUDQUAL (p=0.01). For large audit firms, the issue of auditor independence which is closely related to high NAS fee, may not prevent them from accepting clients with great need for NAS. As long as NAS are performed in accordance with MIA's guidelines, their independence or auditor business risk might not be jeorpardised. This minimises the effect of high client business risk (such as risk of litigation) against auditors due to the NAS factor.

Hypotheses 8 until 12 represent the client business risk factors. Two variables (ROA and FINDISTRESS) are significantly associated and both are not in expected direction. The first variable is ROA (H12$_{choice}$), which was negatively associated. Negative association implies that profitable companies are more likely to select non-Big Four firms. It is inconsistent with the argument that executives who are optimistic about company's performance are likely to hire better quality auditors to communicate their assessment, and as a sign to stakeholders that their stake in the business is well protected (Titman & Trueman, 1986). It shows that the usage of quality auditor as a tool to convey good news is immature in Malaysia, and the company is not concerned much with the type of auditor to be appointed.

Despite various actions taken by MIA (e.g. adoption of ISQC 1 as part of the approved standards), according to the AOB (AOB Annual Report 2011), more efforts are required to improve the quality. In fact, the AOB reveals that maintaining a standardised quality across all audit engagements is the main problem for major audit firms. Because of these factors, companies might perceive that the quality of service produced by various firms is not very different, and they are not concerned much on which type of firm to appoint. Also, profit making companies might perceive financial

performance itself as solid evidence to the shareholders that their interest is always protected, and the need for quality auditor appointment to monitor management's behaviour is not a critical issue.

The second risk variable, FINDISTRESS (H12$_{choice}$), is also negatively significant. The negative association is in tandem with Palmrose's (1984) suggestion that high risk companies may not be cost-effective clients for quality-differentiated auditors.

The other hypotheses; H9$_{choice}$,H10$_{choice}$ and H11$_{choice}$, are not supported. Hypothesis 9 anticipates negative association between LOSS and AUDQUAL, meanwhile Hypothesis 10 expects positive relationship between LEV and AUDQUAL. Hypothesis 11 predicts negative association between CURR and AUDQUAL. Insignificant of those variables suggest that poor financial result and inability to serve financial obligation are not sufficient enough to motivate companies to increase their external monitoring mechanism. One possible reason is reduction of leverage and increment of current ratio among Malaysian listed companies as presented in Table 5.16. High current ratio and low leverage indicate low possibility of debt default incidence, thus, lower agency cost (Defond 1992; Choi et al., 2004). By having lower agency cost, the need on quality differentiated auditor could be lessen.

As for corporate governance variables, only NEDs is significant. This indicates that director's objectivity and its affiliation with the company has a crucial part in determining the auditor choice. According to Carcello, Hermanson, Neal and Riley (2002) and Beasley (1996), outside directors (such as NEDs) are concerned about reputation protection, avoidance of legal liability and shareholders' protection. The concern can be minimised when the right choice of audit firm is made. Since

NEDs are concerned about reputation, they would prefer the appointment of a high quality audit firm. As for other control variable, AOBYR is negative and highly significant. The finding supports earlier discussion that due to high monitoring activities by large audit firms, companies are likely to be associated with small audit firms.

(ii)   Audit fee

According to risk management strategies, apart from avoiding risky clients during client acceptance process, the auditor might employ audit pricing strategy if the firms still want to continue audit engagement relationship with risky clients. Table 5.24 reveals the association between risk and audit fees.

Table 5. 24

Panel data regression result for audit fees

Variable	Sign	Full sample (n =2451)			Big Four (n=1337)			Non-Big Four (n=1114)		
		Coef	t	P>|t|	Coef.	t	P>|t|	Coef	t	P >|t|
Audit risk										
lnSUBS	+	0.16	3.53	0.001***	0.16	2.60	0.010***	0.16	3.28	0.001***
FORSUBSP	+	0.00	2.71	0.007***	0.00	1.31	0.192	0.00	2.61	0.009***
SUBEVENT	+	0.01	1.17	0.242	-0.01	-0.49	0.627	0.04	2.02	0.044**
INVREC	+	-0.15	-1.36	0.175	-0.07	-0.54	0.590	-0.15	-0.93	0.355
AUDOP	+	0.06	1.66	0.097*	-0.01	-0.22	0.824	0.12	2.16	0.031**
Auditor business risk										
BUSY	+	0.01	0.12	0.903	-0.03	-0.58	0.560	#		
lnNAS	?	-0.00	-0.26	0.797	0.00	0.05	0.962	-0.00	-0.13	0.893
Client business risk										
ROA	-	-0.03	-0.24	0.812	-0.13	-0.89	0.374	0.04	0.19	0.851
LOSS	+	0.01	0.32	0.749	-0.00	-0.14	0.892	0.02	0.64	0.525
LEV	+	0.20	2.12	0.035**	-0.04	-0.34	0.736	0.27	1.93	0.054*
CURR	+	0.01	0.82	0.412	0.02	1.20	0.230	0.00	0.07	0.945
FINDISTRESS	+	-0.01	-0.41	0.683	-0.03	-1.31	0.191	0.01	0.18	0.855
NED	+	-0.06	-1.63	0.103	0.02	0.52	0.607	-0.14	-2.89	0.004***
ACMEET	+	0.01	1.37	0.171	0.01	0.74	0.457	0.01	0.79	0.431
ACB4	+	0.00	0.05	0.964	-0.01	-0.49	0.626	0.02	0.27	0.791
CEOSOS	-	0.03	1.10	0.272	0.00	0.08	0.940	0.05	2.20	0.028**
CEONEW	+	0.06	1.79	0.074*	0.03	0.99	0.323	0.12	1.67	0.096*
IAP	-	-0.00	-0.18	0.857	-0.02	-1.27	0.206	0.02	0.43	0.666
lnTA	+	0.17	3.11	0.002***	0.14	2.04	0.042**	0.18	2.39	0.017**
AOBYR	+	0.10	10.19	0.000***	0.08	6.30	0.000***	0.12	8.13	0.000***
AUDQUAL	+	0.19	3.56	0.000***						
_CONS		2.07	3.19	0.001***	2.83	3.17	0.002***	1.73	2.01	0.045**
R² within		0.16			0.14			0.21		
R² between		0.75			0.67			0.70		
R² overall		0.73			0.66			0.69		
F		12.59			7.61			8.67		
Prob>F		0.000			0.000			0.000		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed). # BUSY is omitted due to collinearity.

The within R^2 for audit fee model is 16%.[47] It implies that this model has contributed about 10% of within R^2 since analysis performed without control variables shows the within R^2 is 6% (refer Appendix I Panel B: Audit fee model).

Unlike the result from auditor choice model, findings from audit fee regression in Table 5.24 show that audit risk heavily influences lnAUDITFEE.[48] High audit risk requires auditors to plan properly the audit, such as expanding audit work or performing extra audit work, so that appropriate audit opinion can be issued.

Audit risk components which positively associated with lnAUDITFEE are lnSUBS, FORSUBSP and AUDOP; and supports Hypotheses 1, 2 and 5 respectively. Hypotheses 3 (SUBEVENT) and 4 (INVREC), however, are not supported. As for lnSUBS, the result is consistent with Johl et al. (2012), and contrary to Abdul Wahab et al. (2011b), which did not find a significant relationship. In the case of FORSUBSP, it is in line with both findings revealed by Johl et al. (2012) and Abdul Wahab et al. (2011a). The significant of FORSUBSP indicates auditors perceive those companies are riskier than companies with high inventory and accounts receivable (INVREC) - another proxy of complexity. Insignificance of INVREC shows audit pricing is not much associated with asset composition, application of specific audit procedures and the amount of audit judgement required, but is mostly driven by assets' location. Auditing companies with overseas subsidiaries, require additional expenses. Most importantly, the auditor needs to understand other country's business rules and regulations. Meanwhile, the significance of AUDOP in determining audit

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[47] As this study investigates a fixed effect model or within-effect model (i.e. examine the impact of variables that change from time to time), the appropriate R^2 is within R^2 (Lennox, 2011).

[48] As for pool regression analysis, all three types of engagement risk are found to be significant (audit risk: lnSUBS, FORSUBSP, INVREC; auditor business risk: BUSY, lnNAS; and client business risk: LOSS, LEV, CURR and FINDISTRESS), whereas only two types of engagement risk found to be significant for panel data analysis (audit risk: lnSUBS, FORSUBSP, AUDOP; and client business risk: LEV).

fee especially during turbulent period is in tandem with Rahmat and Mohd Iskandar (2004) and Xu et al. (2013). The issuance of qualified opinion indicates the existence of problems in accomplishing the audit (Hay et al., 2006). This problem may raise the risk assumed by companies' auditor or the amount of audit job required (Simunic, 1980). As complexity (proxied by lnSUBS and FORSUBSP) and risky auditee lead to extra audit work, it explains that both risk and complexity are closely associated, where complex clients pose higher risk (Ireland & Lennox, 2002). The risk, such as risk of litigation, however can be prevented through issuance of going concern audit report (Kaplan & Williams, 2013).

As compared to audit risk, the influence of auditor business risk on fee is not pronounced. None of the developed hypotheses show the significant relationship between BUSY (Hypothesis 6), lnNAS (Hypothesis 7) and lnAUDITFEE. Salleh et al. (2006) show during Big Five era, NAS fee is positively significant. During this period, no guideline was issued by MIA on the NAS activities. However, during Big Four era, the guideline on the practice of NAS had been issued. The guideline seems able to minimise auditor business risk. The insignificance of BUSY supports Johl et al.'s (2012) finding, where this variable is not robust in determining audit fee. Also, Chaney et al. (2004) argue that large companies are usually audited throughout the financial year; therefore, audit workload at the end of the financial year would be low.

In the case of client business risk, Hypothesis 8 predicts ROA is negatively associated with lnAUDITFEE. Meanwhile, Hypotheses 9 to 12 anticipate LOSS, LEV, CURR and FINDISTRESS are positively associated with lnAUDITFEE. From these 5 hypotheses, only LEV is positively significant, hence providing support for H10$_{fee}$. The significance of LEV coincides with Yatim et al. (2006) and Johl et al. (2012). It supports the argument that a highly leveraged client is most likely having

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high agency cost (Chaney et al., 2004), and risk components, such as leverage should be included in audit pricing regardless of client's size (Fleischer & Goettsche, 2012). FINDISTRESS, which has not been commonly examined in the Malaysian setting, is not significant. A prior study by Gul (2006) found the reverse. He, however focused on Malaysian politically connected companies between 1996 to 1998, which suggest the sample and the period of study itself are associated with high engagement risk. The significance of LEV and insignificance of FINDISTRESS indicate audit pricing against client business risk is a complex issue. Pricing of client business risk is motivated by clients' long-term financial structure and their ability to meet long-term obligations, rather than the clients' current financial status.[49] In fact, CURR is also not significant, similar to Johl et al. (2012). Other financial indicators, such as ROA and LOSS are not significant at all. Previous studies (e.g. Yatim et al., 2006; Muniandy, 2007; Johl et al., 2012) also found mixed results. Inconsistent findings suggest disagreement among audit practitioners, whether a client's current and prior financial performance will be able to add value to the business and make it a viable entity (Choi et al., 2004). This further confirms that the level of profitability, liquidity and fulfillment of short-term obligation is not highly considered in the practice of pricing the risk.

In terms of control variables, only CEONEW is positively significant (p=0.10). This indicates that top executive management characteristic influence audit fee, as suggested by Johansen and Pettersson (2013). Hence, top management's tenure factor is more likely to influence audit pricing rather than audit committee diligence and experience, management ownership and objectivity of internal audit function. The

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[49] This could be due to Altman's Z-score already incorporated element of current value in financial distress score.

other two variables - lnTA and AOBYR - are also highly significant (p=0.01). The positive association of AOBYR indicates that when the AOB was set up, it influenced the audit firm to charge high fees. As expected, size of audit firm also heavily influences audit fee, where large clients are more likely to pay high fees.

In the last two columns of Table 5.24, the results of audit fee for Big Four and non-Big Four are presented. Results in Table 5.24 show that the risk is associated differently with audit fee of Big Four and non-Big Four firms.

The results suggest that non-Big Four firms consider a richer set of variables when setting their fees (i.e. more variables are statistically significant in the non-Big Four compared to the Big Four model). Many risk coefficients have a negative sign for Big Four firms. The negative signs inform that companies with high risk, mostly pay low audit fee. As for non-Big Four auditees, companies with higher risk pay high audit fee. This inconsistency suggests audit resources play a role in determining audit fee. Due to lack of audit expertise and to protect future loss (such as legal action), small firms have to charge high fee for risky clients. In terms of the number of significant variables, only lnSUBS is positively significant for Big Four auditees; whereas, for non-Big Four auditees, there are five significant risk variables, mainly comprising audit risk elements (lnSUBS, FORSUBSP, SUBEVENT and AUDOP) and only one from client business risk (LEV). Interestingly, all the variables that are significantly associated with fee for both firms are in positive direction, such as lnSUBS. This explains that both firms agree companies with high number of subsidiaries need to be charged high audit fee.

A similar pattern can also be observed for corporate governance. None of corporate governance variables are significantly associated with fees for Big Four firms, except three significant variables for non-Big Four firms - NED, CEOSOS and

CEONEW. Therefore, the prevalence of corporate governance in determining audit fee is mostly applicable for small firms, which have small size of auditees in their client portfolio. These small companies are suggested as having ineffective governance practices, and this might lead to low quality of financial reporting. With regards to the establishment of the AOB and companies' size, both firms seem to agree that the AOB and clients' total assets have a significant role in audit fee.

The above results imply that there are differences in audit fee structure between size of audit firms, in line with Van Caneghem's (2010) finding. The role of risk is less obvious in audit fee determinants for Big Four firms, but it is an important factor in determining audit fee for non-Big Four firms. This could be due to Big Four firms screening their clients in audit engagement and fully utilising risk avoidance or elimination strategy during client acceptance process. Results from mean descriptive statistics reveal Big Four auditees are less riskier than non-Big Four auditee. It also supports the argument forwarded by Fleischer and Goettsche (2012), that audit pricing for small companies is more highly influenced by risk factor than size. Further, as compared to non-Big Four firms, Big Four auditors are associated with having better skills, expertise and most of them are specialist in specific industry (as shown in the first part of this chapter). Since they are expert firms, they find less difficulty in auditing big size clients and would enjoy benefits of economies of scale. Another aspect is auditors from large firms might have better understanding on the process of producing reliable financial statement. According to Budescu et al. (2012), this knowledge assists the auditor to execute comprehensive audit well and improve audit judgement. Also, big audit firms are perceived as firms with more resources and wealthier than smaller firms. Risk arising from audit or potential litigation is not a

major problem since they are able to bear high litigation cost; however, the case of auditor litigation in Malaysia is rare.

The findings also indicate that audit programme or planning is probably adjusted to cater to certain types of audit clients. This is in line with the argument by De Martinis, Fukukawa and Mock (2011), that client characteristics have impact on risk assessment and audit planning. For instance, the cut-off materiality level and the extensiveness of audit evidence gathering by Big Four firms and non-Big Four firms are not similar, which result in different audit effort. The existence of some auditing standards on risk assessment (such as ISA 315 (Revised) and ISA 330), are not fully helping to standardise the auditing job. The finding concurs with AOB's statement that maintaining uniform audit quality is one of the major hurdles faced by Malaysian audit firms.

5.3.6   *Further analysis*

In this section, three major sensitivity analyses were conducted to evaluate the robustness of the results. The first two analyses consisted of replacement of independent and dependent variables in the main model with other alternative variables. The final analysis was to determine fee premium (discount) for different types of auditors.

5.3.6.1   Replacement of independent variables

Several independent variables were replaced with alternative variables. The first replacement involved independent variables which caused multicollinearity problem; and the next replacement was the Malaysian AOB (AOBYR). The result for

auditor choice model is presented in Table 5.25 and the result for audit fee model is

shown in Table 5.26.

Table 5. 25

Inclusion/exclusion of CURR, LEV and AOBYR in the models

Panel A: Panel data regression result for auditor choice

Model (n=2451)	Main model			Model 1 (without CURR)			Model 2 (without LEV)			Model 3 (replace AOBYR with AOBAPR)		
Variable	Coef	Z	P>|z|	Coef	Z	P>|z|	Coef	z	P>|z|	Coef	z	P>|z|
Audit risk												
lnSUBS	-0.69	-0.92	0.356	0.79	1.65	0.100	-0.39	-0.79	0.428	-0.73	-1.29	0.197
FORSUBSP	0.05	2.00	0.046**	0.06	3.72	0.000***	0.03	2.15	0.032**	0.02	0.63	0.530
SUBEVENT	0.75	1.14	0.256	0.75	1.28	0.199	0.62	1.03	0.303	0.61	0.94	0.349
AUDOP	1.51	0.77	0.441	-1.43	-0.93	0.352	-1.08	-0.72	0.470	1.02	0.38	0.701
Auditor business risk												
BUSY	1.54	1.23	0.218	1.54	1.69	0.091*	-0.02	-0.02	0.986	-0.66	-0.50	0.618
lnNAS	0.76	3.23	0.001***	1.26	6.59	0.000***	0.63	3.30	0.001***	0.83	3.77	0.000***
Client business risk												
ROA	-16.51	-3.06	0.002***	-22.23	-4.88	0.000***	-15.00	-2.69	0.007**	-10.61	-1.36	0.175
LOSS	-0.80	-0.85	0.395	-0.60	-0.74	0.458	-1.64	-1.98	0.048**	-0.73	-0.83	0.409
LEV	-3.96	-1.40	0.160	-10.41	-5.00	0.000***				-3.77	-0.92	0.359
CURR	-0.25	-1.19	0.233				-0.12	-0.60	0.551	-0.05	-0.15	0.878
FINDISTRESS	-2.97	-2.66	0.008***	-4.08	-4.45	0.000***	-3.45	-3.79	0.000***	-1.83	-1.78	0.074*
NED	4.24	2.12	0.034**	10.92	5.84	0.000***	3.73	2.08	0.038**	1.62	0.81	0.420
ACMEET	0.02	0.05	0.960	0.30	1.14	0.254	-0.08	-0.21	0.833	-0.14	-0.36	0.722
ACB4	-0.79	-0.73	0.468	-0.23	-0.32	0.747	-0.52	-0.67	0.505	-0.82	-0.83	0.409
CEOSOS	0.22	0.24	0.807	-0.17	-0.21	0.837	-0.74	-0.88	0.381	0.96	0.94	0.348
CEONEW	-0.10	-0.09	0.926	-0.11	-0.11	0.910	1.14	1.22	0.223	0.38	0.37	0.713
IAP	-1.40	-1.60	0.110	-3.23	-3.94	0.000***	-2.06	-2.61	0.009***	-0.32	-0.36	0.722
lnTA	2.90	3.56	0.000***	5.27	12.60	0.000***	2.47	5.53	0.000***	3.76	6.59	0.000***
AOBYR	-2.73	-5.00	0.000***	-3.51	-6.33	0.000***	-3.16	-5.94	0.000***			
AOBAPR										-3.54	-5.37	0.000***
CONSTANT	-22.52	-2.45	0.014**	-66.13	-12.37	0.000***	-17.36	-3.12	0.002***	-30.55	-3.88	0.000***
Wald chi^2	120.15			858.46			182.69			149.28		
Prob>chi^2	0.000			0.000			0.000			0.000		
Log likelihood	-802.70			-766.73			-811.90			-806.80		
Pseudo R²	0.18			0.18			0.18			0.18		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Table 5.25 (continued)

Panel B: Panel data regression result for audit fee

Model (n=2451)	Main model			Model 1 (without CURR)			Model 2 (without LEV)			Model 3 (replace AOBYR with AOBAPR)		
Variable	Coef	t	P>|t|	Coef	t	P>|t|	Coef	t	P>|t|	Coef	t	P>|t|
Audit risk												
lnSUBS	0.16	3.53	0.001***	0.16	3.42	0.001***	0.16	3.60	0.000***	0.15	3.29	0.001***
FORSUBSP	0.00	2.71	0.007***	0.00	2.72	0.007***	0.00	2.76	0.006***	0.00	2.73	0.006***
SUBEVENT	0.01	1.17	0.242	0.01	1.21	0.226	0.02	1.49	0.138	0.01	1.12	0.264
INVREC	-0.15	-1.36	0.175	-0.15	-1.36	0.175	-0.11	-1.04	0.301	-0.15	-1.34	0.180
AUDOP	0.06	1.66	0.097*	0.06	1.63	0.103**	0.07	2.11	0.035**	0.07	1.77	0.077*
Auditor business risk												
BUSY	0.01	0.12	0.903	0.01	0.14	0.885	-0.03	-0.45	0.651	0.01	0.11	0.914
lnNAS	-0.00	-0.26	0.797	-0.00	-0.21	0.837	-0.00	-0.26	0.799	-0.00	-0.33	0.740
Client business risk												
ROA	-0.03	-0.24	0.812	-0.04	-0.26	0.794	-0.06	-0.43	0.668	-0.04	-0.29	0.772
LOSS	0.01	0.32	0.749	0.01	0.29	0.774	-0.01	-0.51	0.608	0.01	0.47	0.638
LEV	0.20	2.12	0.035**	0.16	1.68	0.094*				0.20	2.14	0.032**
CURR	0.01	0.82	0.412				0.01	0.47	0.636	0.01	0.80	0.426
FINDISTRESS	-0.01	-0.41	0.683	-0.02	-0.68	0.498	-0.00	-0.02	0.983	-0.01	-0.47	0.636
NED	-0.06	-1.63	0.103	-0.06	-1.74	0.083*	-0.06	-1.59	0.113	-0.04	-1.18	0.238
ACMEET	0.01	1.37	0.171	0.01	1.33	0.185	0.01	1.40	0.161	0.01	1.57	0.116
ACB4	0.00	0.05	0.964	0.00	0.08	0.939	-0.00	-0.06	0.950	0.00	0.04	0.969
CEOSOS	0.03	1.10	0.272	0.03	1.06	0.291	0.03	1.06	0.290	0.02	0.85	0.397
CEONEW	0.06	1.79	0.074*	0.06	1.76	0.079**	0.06	1.74	0.083*	0.06	1.70	0.089*
IAP	-0.00	-0.18	0.857	-0.01	-0.26	0.792	-0.00	-0.20	0.845	-0.01	-0.25	0.802
lnTA	0.17	3.11	0.002***	0.17	3.10	0.002***	0.17	3.08	0.002***	0.18	3.14	0.002***
AOBYR	0.10	10.19	0.000***	0.10	10.17	0.000***	0.10	10.12	0.000***			
AOBAPR										0.11	10.91	0.000***
AUDQUAL	0.19	3.56	0.000***	0.19	3.53	0.000***	0.19	3.47	0.001***	0.19	3.41	0.001***
CONSTANT	2.07	3.19	0.001***	2.16	3.37	0.001***	2.12	3.20	0.001***	1.96	2.90	0.004***
R² within	0.16			0.16			0.16			0.16		
R²between	0.75			0.76			0.74			0.75		
R² overall	0.73			0.74			0.72			0.73		
F	12.59			12.64			12.83			11.92		
Prob>F	0.000			0.000			0.000			0.000		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

(i)   Replacement of LEV and CURR

Based on results of correlation matrix, LEV and CURR caused multicollinearity issue. Two tests were performed to see the impact of these variables on auditor choice. The first test was without CURR and the second test excluded LEV in the model. The same procedures were applied for the audit fee model.

In auditor choice model as shown in Table 5.25 Panel A (models 1 and 2), audit risk component (i.e. FORSUBSP) is not affected with the replacement of the variables. As for auditor business risk, both of the models still show the significance of lnNAS. The only new significant variable is BUSY (in the model with LEV). As for client business risk, model with LEV show LEV is negative and significantly associated with auditor choice. For model with CURR, CURR is not significant at all. Variables which are not significant in main model but significant in models 1 and 2 are LOSS and LEV.

With regards to audit fee model displayed in Table 5.25 Panel B (Models 1 and 2), the result is found to be stable. All the variables which are (in)significant in the main model remained the same. The minor difference is LEV; the level of significance has reduced from $p=0.05$ in the main model to $p=0.01$ in Model 1.

(ii)   Replacement of AOBYR

The next analysis involved substitution of AOBYR (Model 3). Initially, AOBYR was coded as "1" for all the companies with 2010 as their financial year end (the year AOB was established) and "0" for otherwise. To consider the real impact of AOB introduction in 1 April 2010 (AOBAPR), companies with year end between 1 April 2010 to 31 December 2010 were coded as "1" and companies with year end 31 March 2010 and before were coded as "0". This resulted in reduction of 135

companies, from 824 (based on AOBYR) to 689 companies (based on AOAPR). In other words, 689 out of 824 (83.6%) companies in 2010 had their financial year end on 1 April onwards. When AOBYR was replaced with AOBAPR, result shown in Table 5.25 Panel A (Model 3) again indicates that AOB establishment has significant influence on auditor choice. Also, two risk variables; lnNAS and FINDISTRESS remains significant. This could be explained by the fact that the plan to establish AOB has been announced since 2007 and this announcement might influence audit practice (source: http://www.maref.org.my/pdf/AOB_brochure.pdf.). In fact, from the year 2009 to 2010, the total auditor change (refer Appendix B) to non-Big Four is much higher (59 cases) than change to Big Four (8 cases). As for audit fee, result in Table 5.25 Panel B (Model 3) shows there are no major differences with the result obtained from audit fee main model.

5.3.6.2   Replacement of dependent variable

Since measurement of quality auditor (AUDQUAL) is not limited to Big Four versus non-Big Four firms, the dependent variable in auditor choice main model was replaced with other types of auditor quality. The proxies of quality auditor were auditor specialisation (SPEC30FEE and SPECNUMAUD), affiliated audit firms (AFFILIATE) and GAFN. Auditor specialistion based on audit fee is represented by SPEC30FEE only. This is due to the results form the first part of Chapter 5 which revealed SPEC30FEE and SPEC10FEE produced similar industry specialist auditor; i.e. Ernst & Young and PwC.

Table 5. 26
Replacement of Big Four with other proxies of auditor quality
Panel A: Panel data regression result for auditor choice

Model	Main model (BIG FOUR)			Model 1(SPEC30FEE)			Model 2 (SPECNUMAUD)			Model 3 (AFFILIATE)			Model 4 (GAFN)		
Variable	Coef	Z	P>|z|	Coef	z	P>|z|	Coef	z	P>|z|	Coef	z	P>|z|	Coef	z	P>|z|
Audit risk															
lnSUBS	-0.69	-0.92	0.356	0.42	1.25	0.210	0.00	0.02	0.980	0.20	0.53	0.599	-1.13	-2.75	0.006***
FORSUBSP	0.05	2.00	0.046**	0.01	0.75	0.451	0.01	1.24	0.217	-0.00	0.27	0.784	0.04	2.73	0.006***
SUBEVENT	0.75	1.14	0.256	0.26	0.62	0.535	-0.13	-0.53	0.596	0.01	0.03	0.977	-0.23	-0.48	0.629
INVREC	0.45	0.15	0.882	-3.45	-1.60	0.109	0.36	0.53	0.594	5.62	3.50	0.000***	1.66	0.82	0.410
AUDOP	1.51	0.77	0.441	2.14	1.81	0.071*	-1.78	-2.04	0.042**	-2.90	-1.72	0.085*	-2.98	-1.52	0.128
Auditor business risk															
BUSY	1.54	1.23	0.218	-0.43	-0.61	0.539	-0.32	-1.25	0.211	-0.21	-0.26	0.793	-0.78	-0.79	0.428
lnNAS	0.76	3.23	0.001***	0.33	2.54	0.011**	0.19	2.79	0.005**	-0.39	-2.80	0.005***	0.52	3.45	0.001***
Client business risk															
ROA	-16.51	-3.06	0.002***	-0.74	-0.25	0.806	0.30	0.18	0.860	3.01	1.24	0.216	0.52	0.16	0.873
LOSS	-0.80	-0.85	0.395	-0.05	-0.09	0.929	0.07	0.25	0.806	0.26	0.54	0.588	-0.32	-0.49	0.620
LEV	-3.96	-1.40	0.160	-3.01	-1.68	0.094*	-3.13	-3.97	0.000***	1.10	0.69	0.488	0.45	0.25	0.800
CURR	-0.25	-1.19	0.233	-0.03	-0.16	0.874	-0.13	-1.56	0.118	-0.16	-0.98	0.325	0.00	0.03	0.980
FINDISTRESS	-2.97	-2.66	0.008***	0.07	0.11	0.915	-0.05	-0.18	0.857	-0.72	-1.16	0.245	-2.90	-4.12	0.000***
NED	4.24	2.12	0.034**	3.35	2.22	0.027**	0.31	0.45	0.656	-0.54	-0.40	0.689	5.56	3.20	0.001***
ACMEET	0.02	0.05	0.960	-0.12	-0.46	0.646	-0.03	-0.23	0.817	-0.18	-0.76	0.446	-0.16	-0.63	0.529
ACB4	-0.79	-0.73	0.468	-0.04	-0.07	0.943	-0.22	-0.97	0.334	0.98	1.57	0.116	-0.38	-0.60	0.551
CEOSOS	0.22	0.24	0.807	-1.25	-2.06	0.039**	-0.10	-0.39	0.693	0.12	0.18	0.857	0.1	0.21	0.831
CEONEW	-0.10	-0.09	0.926	-0.17	-0.27	0.790	-0.33	-0.93	0.350	1.70	2.19	0.029**	-2.35	-2.74	0.006***
IAP	-1.40	-1.60	0.110	-0.74	-1.24	0.217	-0.27	-1.09	0.274	0.76	1.37	0.172	-0.38	-0.53	0.599
lnTA	2.90	3.56	0.000***	1.15	3.84	0.000***	0.49	3.53	0.000***	-0.93	-2.63	0.008***	2.70	7.77	0.000***
AOBYR	-2.73	-5.00	0.000***	-1.11	-2.74	0.006***	-0.28	-1.30	0.194	-0.01	-0.02	0.984	-2.45	-5.89	0.000***
CONSTANT	-22.52	-2.45	0.014**	-24.32	-5.98	0.000***	-4.34	-2.40	0.016**	-3.01	-0.64	0.521	-28.93	-6.09	0.000***
Wald chi^2	120.15			91.55			71.57			61.43			310.05		
Prob>chi^2	0.000			0.000			0.000			0.000			0.000		
Log likelihood	-802.70			-478.83			-486.19			-720.78			-651.72		
Pseudo R^2 squared	0.18			0.16			0.04			0.05			0.15		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Table 5.26 (continued)
Panel B: Panel data regression result for audit fee

Model	Main model (BIG FOUR)			Model 1 (SPEC30FEE)			Model 2 (SPECNUMAUD)			Model 3 (AFFILIATE)			Model 4 (GAFN)		
Variable	Coef	t	P>|t|	Coef	t	P>|t|	Coef	t	P>|t|	Coef	t	P>|t|	Coef	t	P>|t|
Audit risk															
lnSUBS	0.16	3.53	0.001***	0.15	3.51	0.000***	0.16	3.53	0.000***	0.16	3.56	0.000***	0.16	3.53	0.000***
FORSUBSP	0.00	2.71	0.007***	0.00	2.77	0.006***	0.00	2.67	0.008***	0.00	2.70	0.007***	0.00	2.68	0.000**
SUBEVENT	0.01	1.17	0.242	0.01	1.36	0.175	0.01	1.32	0.187	0.01	1.32	0.188	0.01	1.30	0.194
INVREC	-0.15	-1.36	0.175	-0.15	-1.32	0.187	-0.15	-1.30	0.195	-0.15	1.33	0.184	-0.15	-1.34	0.181
AUDOP	0.06	1.66	0.097*	0.07	1.83	0.067**	0.06	1.64	0.101	0.06	1.71	0.087*	0.06	1.75	0.080*
Auditor business risk															
BUSY	0.01	0.12	0.903	-0.06	-0.59	0.554	-0.01	-0.26	0.796	-0.00	-0.06	0.953	-0.00	-0.02	0.983
lnNAS	-0.00	-0.26	0.797	0.00	0.10	0.922	-0.00	-0.03	0.979	0.00	0.00	0.996	-0.00	-0.11	0.914
Client business risk															
ROA	-0.03	-0.24	0.812	-0.06	-0.46	0.642	-0.06	-0.43	0.666	0.06	0.43	0.666	-0.06	-0.42	0.672
LOSS	0.01	0.32	0.749	-0.01	-0.30	0.762	0.01	0.32	0.749	0.01	0.31	0.759	0.01	0.30	0.767
LEV	0.20	2.12	0.035**	0.18	1.92	0.055**	0.19	2.01	0.044**	0.19	1.98	0.048**	0.19	2.01	0.045**
CURR	0.01	0.82	0.412	0.01	0.77	0.440	0.01	0.82	0.414	0.01	0.81	0.421	0.01	0.80	0.421
FINDISTRESS	-0.01	-0.41	0.683	-0.02	-0.74	0.461	-0.02	-0.69	0.488	-0.02	-0.68	0.497	-0.01	-0.54	0.591
NED	-0.06	-1.63	0.103	0.04	1.23	0.219	-0.05	-1.40	0.162	-0.05	-1.36	0.175	-0.05	-1.47	0.142
ACMEET	0.01	1.37	0.171	0.01	1.33	0.183	0.01	1.37	0.171	0.01	1.38	0.167	0.01	1.52	0.129
ACB4	0.00	0.05	0.964	-0.01	-0.29	0.771	-0.01	-0.23	0.818	-0.01	-0.24	0.807	-0.01	-0.18	0.860
CEOSOS	0.03	1.10	0.272	0.03	1.06	0.291	0.03	1.13	0.260	0.03	1.13	0.29	0.03	1.09	0.275
CEONEW	0.06	1.79	0.074*	0.06	1.71	0.088**	0.06	1.66	0.097*	0.06	1.68	0.093*	0.06	1.77	0.077*
IAP	-0.00	-0.18	0.857	-0.01	-0.32	0.753	-0.01	-0.23	0.816	-0.01	-0.2	0.802	-0.00	-0.23	0.817
lnTA	0.17	3.11	0.002***	0.18	3.15	0.002***	0.17	3.16	0.002***	0.17	3.15	0.002***	0.17	3.13	0.002***
AOBYR	0.10	10.19	0.000***	0.09	9.68	0.000***	0.10	9.72	0.000***	0.10	9.54	0.000***	0.10	9.95	0.000***
AUDQUAL	0.19	3.56	0.000***	0.11	-1.10	0.270	0.03	0.47	0.640	0.02	0.39	0.695	0.07	1.59	0.111
CONSTANT	2.07	3.19	0.001***	2.13	3.25	0.001***	2.11	3.23	0.001***	2.11	3.21	0.001***	2.10	3.20	0.001***
R² within	0.16			0.16			0.15			0.15			0.15		
R² between	0.75			0.73			0.74			0.75			0.75		
R² overall	0.73			0.71			0.72			0.73			0.73		
F	12.59			11.41			11.49			11.30			11.99		
Prob > F	0.000			0.000			0.000			0.000			0.000		

*** significant at 0.01, ** significant at 0.05 and * significant at 0.10 (2 tailed).

Result of auditor choice model displayed in Table 5.26 Panel A indicates different risk factor is associated with different types of auditors. None of the models produced similar result with main model, where FORSUBSP, lnNAS, ROA, FINDISTRESS were significantly associated with Big Four firm. Nevertheless, the result showed that one of the component in auditor business risk; lnNAS, is positively significant in many of the tested models.

The choice of specialist auditor, which is represented by SPEC30FEE and SPECNUMAUD (Model 1 and Model 2) showed the significant risk variables are AUDOP, lnNAS and LEV. Result for the choice of affiliated audit firm in Model 3 revaled none of client business risk factor is significant. In addition, only in the GAFN model that the lnSUBS is found to be significant. The analysis also showed there is inconsistency on the direction of some variables against type of auditor chosen. For instance, AUDOP is negative for SPECNUMAUD and AFFILIATE, but it is positive in SPEC30FEE model.

In the case of audit fee model, regardless of auditor type employed, the result is almost similar with main audit fee model (refer Table 5.26 Panel B). However, the role of different type of auditor on audit fee is less present, including GAFN, which mainly consists of Big Four in the group. This indicates that Big Four firms remain a strong variable in explaining the association between type of auditor quality and audit fees. The insignificance of other auditor proxies against audit fee also suggests no quality of service differentiation among specialists, affiliated firms and GAFN.

5.3.6.3   Fee premium for different types of auditors

The purpose of this analysis is to determine fee premium among different types of auditors. The existence of premium could be due to the nature of the audit

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market, such as high concentration, limited number of audit suppliers to be selected and high barrier entry into the audit market (Clatworthy et al., 2009; Campa, 2013). The presence of audit fee premium is also associated with other factors, such as insurance coverage, potential lawsuit against auditor, higher audit cost structure or monopoly pricing and signal of high quality audit services (Firth, 1997b; Chaney et al., 2004, 2005; Clatworthy et al., 2009). Table 5.27 reveals audit fee premium among different types of auditor quality.

Table 5. 27
Audit fee premium among different types of auditor quality

Type of auditor quality:	Coef. value (sig.)	Premium (discount) (%)
Big Four firms		
Year by year analysis		
2008	0.24 (0.000)	27.12
2009	0.17 (0.000)	18.53
2010	0.13 (0.000)	13.88
Pooled sample analysis	0.18 (0.000)	19.52
Panel data analysis	0.19 (0.000)	20.92
Among Big Four firms*:		
i. Deloitte	0.03 (0.296)	3.05
ii. Ernst & Young	-0.24 (0.213)	-21.34
iii. KPMG	0.16 (0.098)	17.35
iv. PwC	0.56 (0.455)	75.07
Other type of auditor quality:		
SPEC30FEE	0.11 (0.270)	11.63
SPECNUMAUD	0.03 (0.640)	3.05
AFFILIATE	0.02 (0.695)	2.02
GAFN	0.07 (0.111)	7.25

*Results of audit fee regression among Big Four firms are available in the Appendix J. There are no differences in terms of engagement risk variables that significantly associated with fee among Big Four firms. For all the firms, lnSUBS, lnTA and AOBYR are consistently significant. The regression results in Appendix J reveal that the association between Deloitte, Ernst & Young, PwC and audit fee is not significant, thus, do not attract audit fee premium.

Observation on three years' data shows the highest premium was in 2008 (27.12%) and the lowest in 2010 (13.88%). Based on result from panel data and pooled OLS regression, the premium is around 20%; thus, there is not much difference in terms of audit fee premium, in spite of using two analyses. Comparing this result with other studies that employed post 2002 data (Big Four era), the

premium of Big Four firm is getting higher. Based on Big Four's coefficient in Yatim et al. (2006), the premium in 2003 was merely 5.97% and increased to 11.6% in 2005 (Johl et al., 2012). This explains that Andersen's collapse, which affected the US audit market structure (Hogan & Martin, 2009, DeFond & Lennox, 2011), perhaps lead to high audit fee among Big Four firms in Malaysia. In addition, the increment indicates large audit firms clearly want to differentiate their audit quality services and reputation from non-Big Four firms.

Apart from reputation and audit quality factors, the increment possibly was contributed by the risk factor in the Malaysian audit market. Earlier findings show the risk, especially client business risk, was higher in 2008 than 2010. After year 2008, interestingly, the premium was reduced by half. The premium represents Big Four firm's precautionary behaviour during high risk period (incorporation of high insurance cost in the audit fee). This also supports findings in the US, where the premium increased post-Enron, as compared to prior years (Asthana et al., 2009).

The next calculation was to determine fee premium among Big Four firms. Result from the above table shows that the premium charged by KPMG is marginally significant (p=0.10) compared to other three firms. This might be explained by firm's consistent percentage market share from 2008 to 2010 for both number of audits and audit fees. Meanwhile, fee premium analysis among specialist (SPEC30FEE and SPECNUMAUD) and non-specialist industry auditor indicates no significant differences. Similarly, the existence of fee premium is insignificant among clients of AFFILIATE and GAFN.

The above result indicates premium among quality auditors is more pronounced among large audit firms rather than specialist industry auditors, AFFILIATE and GAFN. The prevalence of high premium among Big Four firms is

associated with their fee income contributed by large size of their auditees. The investment incurred by the specialist auditor to develop expertise in particular industry seems not to be reflected in audit fee. To recoup the investment in developing audit expertise, the firms need to increase awareness on their specialist skills and reputation among clients. This is because firm's statement about their specialisation is not clearly expressed, and it is rather broad (such as in firm's website) (Cahan et al., 2011). By highlighting their skills in particular industry, it can probably enlarge their market share and image, especially on the amount of revenue earned.

5.3.7 Conclusion

The second part of Chapter 5 examines the impact of risk on audit market. The investigation is based on 2,451 sample companies. The examination includes risk characteristics of companies and the influence of risk on auditor choice and audit fee model.

Descriptive statistics and univariate analysis reveal both Big Four and non-Big Four firms have different types of engagement of risk characteristics. The differences are prevalent in the case of auditor business risk and client business risk. Audit risk, however, is not much different between them. Auditor business risk is higher for large audit firms, and their client business risk is lower than non-Big Four firms. As for corporate governance, companies audited by Big Four have a better governance practice than non-Big Four firms. The differences of engagement risk characteristics of both types of audit firms might be due to their business strategy adaptation.

Comparison between years 2008 and 2010 reveals that changes in business landscape and regulations impact client risk composition. Companies are more likely

to appoint non-Big Four than Big Four firms in 2010. While it is too early to suggest that companies' decision to appoint non-Big Four auditors in 2010 is due to AOB establishment, the result provides preliminary evidence that companies keep distance from Big Four auditors. The appointment of non-Big Four auditor could avoid detailed audit procedures performed by large audit firms which are highly monitored by the AOB. Even though non-Big Four firms are the preferred choice, companies probably face limited choice of auditors. This is because the number of small audit firms in 2010 has reduced. This makes the companies, in future, "have" to appoint any audit firm left in the market, including those from the Big Four group. There are also changes in risk characteristics of Big Four and non-Big Four firms, where the changes are more prevalent in Big Four portfolio. The noted changes faced by Big Four firms are reduction in client business risk, increment in auditor business risk and bigger size of clients. The client business risk is reduced because those financially risky clients have shifted to non-Big Four firms. This makes the majority of Big Four clients consist of low client business risk and also bigger size clients. The high demand for NAS by large companies leads to high auditor business risk for Big Four firms. Big Four firms attract and retain large companies because the companies can contribute additional revenue to the firms through NAS activity. This makes small size companies with less requirement for NAS not as interesting to Big Four firms.

The year-by-year regression analysis indicates that changes in business climate has more impact on auditor choice than audit pricing. Panel data analysis shows that, for audit risk, only foreign subsidiaries (Hypothesis 2) are significantly (positive association) associated. This suggests that complex auditing problem lead to demand on quality auditor. Meanwhile, for auditor business risk component, NAS (Hypothesis 7) is positively assiociated with the choice of quality auditor. This relationship can be

explained by the capability of large audit firms to package audit and various non-audit services and offer it to auditee, especially to big size companies. In the case of client business risk, two components of the risk are negatively associated with auditor choice. Companies with high profitability (Hypothesis 8) and probability of bankruptcy (Hypothesis 12) are less likely to choose quality auditor (i.e. Big Four firms). It could be explained by the inability of audit quality to minimise the agency cost. As for big audit firms, they might want to be disassociated with financially poor performing companies, since it is not cost effective where those companies pose immediate danger of failing.

The role of engagement risk, however, slightly differs in audit fee determinants. As for audit fee, including fee for Big Four and non-Big Four group, audit risk is more dominant as compared to auditor business risk and client business risk. Audit risk components which show significant association with audit fee are number of subsidiaries (Hypothesis 1), foreign subsidiaries (Hypothesis 2) and audit opinion (Hypothesis 5). All these variables are positively associated. The outcome of audit process has a significant role in audit pricing decision since the consequences of issuing incorrect audit opinion leads to business loss (monetary and reputation damage of the firm). Clients' financial performance, however, is less important in audit pricing. This is because companies can use audit opinion to signal financial reports' users on the possibility of financial problems faced by the companies. The audit opinion then would minimise litigation exposure or auditor business risk. The result indicates that emphasising on audit risk by audit firms would result in increment of audit fees since it requires more audit effort, but the most important thing is it would decrease auditor business risk.

Further analysis reveals that all three type of risks are significantly influence the auditor choice. However, there are changes of the result on sub-components of the risk, mainly audit risk and client business risk. Result of auditor business risk component; NAS (Hypothesis 7), is the most consistent and significant. As such, for Research Question 2, this study concludes that engagement risk has influence on auditor choice. For sub Research Questions 2, this study demonstrates that audit risk, auditor business risk and client business risk are associated with auditor choice. Nevertheless, the role of auditor business risk, especially NAS, is the most dominant.

Meanwhile, additional analysis on audit fee regression produces almost similar results with the main model. In addition, number of subsidiaries (Hypothesis 1), foreign subsidiaries (Hypothesis 2), audit opinion (Hypothesis 5) and leverage (Hypothesis 10) remain significant and the hypotheses are fully supported. Therefore, for Research Question 3, this study confirms that engagement risk has influence on audit fee. As for sub Research Question 3, result of the study indicates that audit risk, auditor business risk and client business risk are associated with audit fee. From these three types of risk, audit risk is the main factor in determining audit fee.

Finding from further analysis also suggest that the audit fee model is more robust than auditor choice model. One possible reason is that there is no single theory that can comprehensively explain auditor choice. In discussing auditor choice theory, Williams (1988) includes several concepts, namely agency theory, stewardship hypothesis and audit quality. Whereas, for audit fee, Simunic (1980) and Simunic and Stein (1996) clearly stated that the cost of audit consist of: (i) cost of resources; and (ii) expected cost of future loss. Due to incomprehensive theory to explain auditor choice, it is not surprising that a prior Malaysian study (i.e. Che Ahmad, 2006a) indicates that the determinants of auditor choice are time-sensitive. As opposed to

auditor choice studies, Hay et al. (2006) state that many of independent variables in audit fee studies produce consistent results.

Finally, as for audit fee premium, Big Four audit fees are higher than non-Big Four firms (by 20%) and the highest was in 2008. Higher audit fee premium recorded in 2008 is possibly due to higher risk exposure facing by the firms.

CHAPTER 6: CONCLUSION AND RECOMMENDATION

6.1 Overview

After the debacle of Andersen in 2002, and various financial scandals which occurred after that, auditors are in risky position and many parties are interested to observe auditor behaviour. In addition, various rules and regulations have been formulated with the aim of protecting relevant business stakeholders. This scenario is not restricted to developed or English speaking countries, but also in developing countries or Asia. These developments have changed the audit market landscape.

One of the factors that contributes to changes in the audit market is risk factor. Due to the impact of risk in business, both companies and auditors are reconsidering their business relationship. As for auditors, their firms might tighten their client acceptance decision policy. This policy is in line with risk based auditing approach. Under this approach, the clients are carefully evaluated before the acceptance decision is made. Further, the auditing process mainly focuses on high risk impact areas or activities, rather than auditing all aspects of the companies. Just like auditors actively screening the potential client and risk involved, companies also adopt similar practice. As for companies' managers or shareholders, they favour auditors who can accommodate their business agenda, thus helping to avoid unnecessary risks. Apart from risk possibly determining the auditor and auditee relationship (i.e. the auditor choice), risk also determines the audit fee amount (based on required audit effort and risk pricing during the client acceptance process).

Therefore, the main purpose of this study is to describe the audit market structure in Malaysia and examine the impact of risk on auditor choice and audit fee in Malaysia during the Big Four era (i.e. from 2008 to 2010). The Malaysia market is

examined since the presence of large audit firms is not so dominant, and their market share shows decreasing trend. As such, the presence of non-large audit firms cannot be underestimated. The relatively low presence of quality auditors is partly due to unique business ownership structure, low threat of auditor litigation risk and socio-political reasons. Detailed studies on Malaysian audit market have only focused on the early 2000s (e.g. Big Five era), with a lack of emphasis on the impact of risk on the audit market.

From the literature, it is suggested that engagement risk has an impact on the audit market structure, through the auditor selection process and audit pricing activity. The association between risk and both auditor selection and audit pricing is explained by agency theory and its related hypotheses.

The engagement risks are divided into three: audit risk, auditor business risk and client business risk. Audit risk is the risk that relates to issuing unqualified audit opinions for materially misstated financial statements, or the probability that the auditor is willing to accept the risk of issuing an unqualified opinion on materially misstated financial statements (Houston et al., 1999). Auditor business risk is the risk in which the audit firms suffer a loss from the engagement (Bedard & Johnstone, 2004). According to Johnstone (2000), client business risk is the risk that either negatively affects the client's economic condition in the short or long-terms. Because of engagement risk taking into account auditor and auditee characteristics, it is able to cover all aspects of risk that arise in auditor and auditee relationship.

In building audit firm's client portfolio and expertise, auditors adopt various risk management strategies. These strategies include risk avoidance, risk elimination, risk reduction and risk acceptance. In light of this, this study presumes that the risk

can affect companies' auditor choice decision, and each type of auditor prices risky clients differently.

Based on the argument that the auditor is pricing the risk and risk would influence the audit market structure, the relevant hypotheses on the association between risk and auditor choice and fee are developed. Specifically, the hypotheses test the impact of audit risk, auditor business risk and client business risk on auditor choice and audit fee. Thus, two separate models of auditor choice and audit fee are formulated to test those hypotheses. All the risk variables employed in auditor choice are also used in the audit fee model. Other variables, which are corporate governance components, size of auditee and audit oversight, are treated as control variables.

Before examining the impact of risk on auditor choice and audit fee, it is firstly important to understand the audit market structure. Examination of audit market structure provides information about the firms' approach in building clients' portfolio, the influence a group of auditors or individual firms in the market, pricing strategy and their specialisation. To understand the overall audit market structure, the data is gathered from a population of Malaysian PLCs. However, those companies without publicly available annual reports or those incorporated outside Malaysia are excluded. After the screening process, the number of companies included in the study is 958, 956 and 941 for the years 2008, 2009 and 2010, respectively. Total companies applicable for market structure analysis is 2,854. The related research questions and findings are as follows:

(i)   What is the state of audit market structure in Malaysia?

The results suggest that there are slight changes in the Malaysian audit market during the period under study. Specifically, the noted changes are the reduction of audit suppliers and the increment of audit fee. Based on audit fee and market share by

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company size, the Malaysian audit market is classified as a tight oligopoly, since market share of the highest four firms is over 60%. In fact, market share based on the number of audits also indicate the concentration ratio of the four highest firms is almost approaching tight oligopoly cut-off.

Examination on the rate of audit fee against company size reveals the rate is increasing for small companies. However, the rate is decreasing for big size companies which indicates big size companies enjoy the benefit of economies of scale.

In terms of Big Four firms' market share, their number of audits has clearly reduced, but interestingly, the size of clients has becomes bigger from time to time. This suggests, in general, that client's size factor is highly considered in building audit firm's portfolio, where large audit firms prefer big clients and avoid small and high risk companies. Meanwhile, an analysis of individual audit firm's market share reveals Ernst & Young and PwC are the most influential audit firms. Ernst & Young had the highest number of clients for three consecutive years. However, based on revenue, Ernst & Young lost their top rank position to PwC in 2010. The stiff competition between these two firms indicates that despite having a low number of clients, it does not preclude the firm from earning high audit fee by focusing on audit appointment with big size companies.

Also, Deloitte is not a serious threat to other Big Four firms, since their share, especially audit fees, has become smaller from year to year. At the same time, the main market players should be concerned with the empowerment of firms from non-Big Four firm group, particularly Crowe Horwath. It is the strongest firm among non-Big Four firms, and in some cases, their share is larger than a firm in the Big Four group. A similar trend is also observed for auditor industry specific concentration.

The specialist status is mostly held either by Ernst & Young or PwC. Also, one of the specialist auditor industries is held by Crowe Horwath.

The availability of non-Big Four firms (particularly medium firms) as one of the main market players, is a positive sign to the Malaysian audit market. The emergence of this type of firms offer more options for the listed companies in auditor appointment since the quality of audit services provided by second tier firms is comparable to Big Four firms (Cassell et al., 2013). Having more options on auditor choice is a sign of better competition where the market is not fully dominated by Big Four players, as what has happened in the US and UK. This situation provides an early sign that the dominance of Big Four firms in the audit market of listed companies has begun to collapse, at least in Malaysia.

After examination of the market structure, the impact of risk on auditor choice and audit fee are examined. Based on 2,451 total companies included in the audit market study, a screening process was done. The number of companies left in 2008, 2009 and 2010 are 801, 826 and 824, respectively. Total sample size used for analysis is 2,451.

Based on preliminary analysis, both Big Four and non Big Four firms face a different type of engagement risk. As for audit risk, differences on risk characteristics between Big Four and non-Big Four firms is not obvious. However, as for auditor business risk (as measured by financial year end and NAS fees), it is higher for Big Four than non-Big Four firms. In terms of client business risk (as measured by ROA, leverage, current ratio, loss in the prior year and financial distress), auditees of the Big Four firms are financially well performing compared to non-Big Four firms. In the context of governance practices, clients associated with Big Four have better practices than clients of non-Big Four firms.

Comparison between 2008 and 2010 shows reduction number of companies appointed Big Four firms and more companies selected non-Big Four as their preferred auditor. The risk, particularly client business risk, is higher in 2008 than 2010. Risk classification, when based on the type of audit firm, indicates Big Four firms are more concerned with risk than non-Big Four firms. The changes on risk characteristics from 2008 to 2010 for non-Big Four only appear in client business risk factor, whereas for Big Four firms, the changes occur in auditor business risk and client business risk (auditor business risk has increased and client business risk has decreased). Total audit fees for Big Four firms are found to increase during the period. This is consistent with the increase of the clients' size (as proxied by total assets). This suggests that the high number of audits obtained by non-Big Four firms is more likely through low pricing strategy.

In order to examine the impact of risk, it was done through various regression analyses; year-by-year, pooled sample and panel data analysis. Further analysis was also done to investigate whether the results are sensitive to the specifications of the research model and the choice of proxy variables. In addition, fee premium on various types of auditors was calculated. The next sections summarise the findings on the effect of engagement risk on auditor choice and audit fee.

(ii)   Does engagement risk influence auditor choice?

Results of auditor choice indicate that changes in business climate (such as the subprime crisis in the US, and the introduction of AOB), affect auditor choice decision. Based on the results from panel data analysis, foreign subsidiaries variable is the only audit risk factor that is significantly associated with auditor choice. Companies with high percentage of foreign subsidiaries favour Big Four firms' appointment. This is consistent with the monitoring hypothesis that argues companies

with high complexity are expected to issue less accurate financial reporting and have greater problems in agent monitoring. Meanwhile, companies with high NAS expenses, as a proxy for auditor business risk, are more likely to hire Big Four firms. The tendency is motivated by the fact that large firms are equipped with better audit resources and this makes the conduct of other assurance services efficient. However, excessive NAS may lead to the impairment of audit quality. As for client business risk, the company's profitability and financial distress are the main drivers of auditor choice. Contradictory to suggestions that managers use quality auditors in order to show that the stakeholders' interests are protected, profitable companies are found less likely to hire big firms. Also, due to high risk and cost effective factors, it may inhibit quality auditors to be associated with financially problematic companies. In sum, engagement risk influences auditor choice and based on further analysis performed, auditor business risk is relatively more dominant in determining the choice.

(iii)   Does engagement risk influence audit fee?

Results from panel data analysis indicate that audit risk components significantly associated with audit fees are number of subsidiaries, foreign subsidiaries and audit opinion. These variables are positively associated and in line with the hypothesis formulated. The significance of subsidiaries and foreign subsidiaries explains the lengthy audit process and auditor's effort. Meanwhile, the significance of audit opinion (i.e. other than unqualified opinion issuance) informs about the difficulty faced by auditors in accomplishing the audit. This problem may increase the risk faced by auditors and the amount of audit work needed. As riskiness and complexity of the audit lead to extra audit work, it indicates both are closely related and complexity may pose high risk as proposed by Ireland and Lennox (2002).

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Nevertheless, as compared to audit risk, the role of auditor business risk is less common since none of the risk components highly influences audit pricing. Also, leverage is one of the proxies for client business risk that is significantly associated with positive direction. It implies that high leverage companies have high agency cost. The overall result suggests that from three types of engagement risk, audit risk is found to be dominant as compared to auditor business risk and client business risk.

Overall result suggests that engagement risk has significant influence on auditor choice and audit fee. However, the risk affects the auditor choice and audit fee differently. In particular, auditor business risk component is significantly influence auditor choice, whereas audit risk factor is highly associated with audit fee. The differences exist possibly because some of the audit firms adopt different risk management strategies in building their firms' portfolio.

This study also suggests that the audit fee premium between 2008 to 2010 is about 20%, and based on year-by-year analysis, the highest premium recorded was in 2008 (28%). The fee premium reported in this study is also higher than other previous studies in Malaysia (around 10%). This suggests that audit pricing and quality of audit services in Malaysia, in general, have increased and improved over time. Further, Big Four firms charge higher fees than non-Big Four firms.

Results from this study confirms the theoretical model developed. The analysis that is based on auditor's engagement risk reveals that auditors assess the risk, and this assessment affects auditor choice and the level of audit pricing. By assessing the risk, audit firms can reduce the threat of engagement risk; therefore, auditors can develop their clients' portfolio effectively. The rigid process in the client acceptance decision, indicates that audit firms have established certain criteria in developing the portfolio, where the level of client risk and client size are audit firms' priority

(clientele adjustment). This risk management strategy consequently results in low risk of loss from audit engagement. While this strategy leads to less audit effort, at the same time, the firms can maximise the profit through engagement with big size clients. From the clients' perspective, this strategy allows them to get high quality audit since the service providers are among the best in the clients' industry.

The evidence obtained suggests that the essence of auditor appointment is not to reduce the agency costs or as a monitoring tool to supervise the act of management behaviour. Also, less emphasis is given to the level of audit quality service in auditor appointment. Instead, the appointment of an auditor is more likely driven by the ability of the audit firm to fulfill the companies' objective; and companies have a tendency to choose an auditor that suits or is aligned with their business characteristics. Further, it is found that few risk factors are consistently incorporated to determine the audit fee by the audit firm. It indicates that the arguments on the need of audit as a form of insurance, and auditor as one of the sources to recover the losses, are getting recognised in the Malaysian audit setting. Due to the threat of auditor litigation and auditor reputation impairment, it increases audit fee, and to bear this cost, audit firms pass it on to the auditee.

6.2   Significance of the study

Findings of this study have some significant effects to auditing fraternity. The implications of the study can be divided to audit practice and theory.

6.2.1 Implication to practice

The AOB in discussing the importance of the role of audit firms in audit quality setting, states that:

"...given that the financial reporting ecosystem consists of many parties, it is important that every party plays its role to ensure the quality of financial reporting and auditing is enhanced. Notwithstanding that, we believe that audit firms are the primary group which determines the quality of audit and the diversity of performance by other parties should not be an excuse for not attaining high quality audit." (AOB Annual Report 2011, page i).

The trend of audit firms to manage the risk through adjustment of their clients' portfolio should raise a concern among regulators and audit clients. The current audit practice indicates that high quality audit firms in Malaysia avoid small and risky clients. Such practice precludes companies from having a wider choice on the quality of auditor choice decision, increases the company's difficulty to access capital market and delays the growth of small and medium companies in the country. As responsible business players, auditors need to ensure that their audit strategy will not cause harm to other players in the market. Therefore, it is important for the audit firm to properly evaluate the engagement risk and plan comprehensive audit before implementing any audit strategy. In order to ensure the capital market is not heavily affected by this action, it is vital for the audit firms to provide adequate training for their personnel and understand the risk factors in clients' acceptance decision and audit engagement process. By doing so, the relevant risk would be sufficiently addressed and this will enable the staff to perform audit procedures accordingly.

As for clients, they may need to re-consider the importance of firm's competence together with the auditor's independence factor in selecting the auditor. Neglecting the independence factor will lead to the users questioning the credibility of audit outcome (audit report) and inhibit the auditors from carrying out their duty without fear or favour. Also, the companies should consider certain factors in developing the risk management and internal control policies. It is important for the companies to incorporate audit risk and client business risk factors in the policies. By

considering these factors, it might reduces the business failure and the company able to maintain good relationship with their auditor. Further, it helps the company to rectify the risk or problem in an effective manner.

The finding of this study also enlightens the policy makers in establishing or improving the relevant accounting and auditing policies. To reduce the gap (i.e. market share, audit quality) between Big Four and non-Big Four firms, and to minimise the burden of audit firms, merger or firm's affiliation activities among non-Big Four firms should be encouraged. The affiliation might prevent the disappearance of small audit firms in the public companies' audit market, as what happened in the US, due to the introduction of SOX (Defond & Lennox, 2011). This is because the enactment of AOB might impose some barriers for small audit firms to enter the market of PLCs, whereby it has become much more complicated; and auditors now are faced with higher risk of litigation. Nevertheless, the impact of affiliation should be cautiously considered as it would pressure the firm to achieve business targets and compromise audit quality. High tax incentives can also be offered for the merged audit firms to show the seriousness of government in promoting audit firm merger activity. The incentive would ease the operations and cost management of the audit firm.

Since the audit profession has become more challenging and many Malaysian non-Big Firms are heavily dealing with small and risky PLCs, it is imperative for regulators to improve Limited Liability Partnership (LLP) Act 2012, so that the interest of small firms is protected. This is because the Act only deals with two aspects regarding partnership for professional practice (i.e. accountant), i.e. partnership composition and professional indemnity insurance. Other aspects of

partnership, such as partner's participation and partner's negligence, are not covered under the Act.

Meanwhile, the AOB should reform their modus operandi in monitoring audit practice. Apart from scrutinising audit working papers, audit policy and procedures of registered audit firms, the Board should consider the audit firm's portfolio and firm's client acceptance decision aspects. The client acceptance decision is the most critical area in the audit engagement decision since it has influence on the firms' risk portfolio. By investigating their portfolio, the Board can tackle the issue of auditor independence and improve audit quality.

6.2.2 *Implication to theory*

As for academicians, this study provides evidence whether risk influences auditor choice and audit fee. The researchers should employ standard terms to explain various types of risk. Different types of risk, such as audit risk and auditor business risk, lead to different results in determining auditor choice and audit fee. In addition, the usage of Big Four firms and non-Big Four to represent the level of quality should be used with caution, at least in the Malaysian context. As suggested by Francis (2004), audit differentiation and quality should no longer rely on Big Four or non-Big Four dichotomy. The structure of the Malaysia audit market reveals that the term "Big Four" does not necessarily reflect their quality and market power. Instead, the usage of specialist and non-specialist firm should be promoted in the market, since it portrays the reality of audit quality performed even though the concept of specialist measurement is a challenging area.

This study further suggests that the application of deep pocket hypothesis in explaining Malaysia audit market is not well recognized. The disassociation of large audit firms with small and risky clients indicates that large audit firms want to

minimise auditor litigation risk. In fact, Malaysian large audit firms are interested to build their relationship with companies with good financial performance and low audit risk. Therefore, the argument that large audit firms to be sued due to their better wealth than smaller firms is not fully applicable; and the reason deteriorating of audit quality services might be more relevant in the Malaysian market.

6.3   Limitations and suggestion for future research

Several factors may limit the usefulness of the results. Results of the study should be interpreted with cautious in the difference audit market and time. The limitation, however, offers an avenue for future research on the audit market. Future research on the audit market could be conducted in the area of audit market concentration, auditor choice and audit fee.

Using secondary data from publicly available information is not without criticism. Choi et al. (2004) argue that this method is unable to determine the real motivation or reasons of audit firms' client portfolio changes. In addition, the results of the study may not provide an overall view of the audit firms' clientele portfolio, as the data for private companies are not obtainable from public domain sources (Johnstone & Bedard, 2004). Since this study tested listed companies, investigation on non-PLCs market is a possible area. This market may consist of a bigger number of clients for Big Four and provide a better picture of their clients' portfolio. The non-PLCs market is also the place where the Big Four firms earn more revenue, and where non-PLCs are less scrutinised by the public. With the implementation of the AOB, the Big Four may shift their business focus to this area. Also, the interview can be conducted among audit practitioners to further confirm the findings and get their personal insight on the impact of AOB on audit practice and firm's direction.

In addition, the period covered under this study is three years and conducted in a single audit market. Study of the impact of risk on audit market would be more useful if it covered a longer period of study (i.e. post AOB or full convergence of IFRS or merger between Baker Tilly Monteiro Heng and Moore Stephens AC in January 2013) to obtain a better view and generalisibility of the results. In addition, future studies could examine the impact of the Competition Act 2010, and the increment rate of PII on audit firm business practice. Also, it can be conducted in other audit markets with a different set of rules and culture. This is because auditing and corporate governance are different among countries where the country's legal system plays a role in the local business landscape. Thus, the interaction between risk and corporate governance factors may also be considered.

Another limitation is measurement. The measurement is purely based on quantitative factors, and there is possibility that the variables in the engagement risk overlap each other (such as audit risk and client business risk). Also, there are shortage of proxies of auditor business risk since only two variables represent auditor business risk. Nevertheless, Johnstone (2000) argues that it is not easy to identify auditor business risk variable in practice.

This study is also not able to fully determine whether audit programme plans and risk management strategies are really adjusted as a response to changes in the business environment. Mock and Wright (1999) suggest that the audit programme plans are not strongly associated with risk adjustment, because the firms have used standardised audit tests; and it is complex to design programmes that suit particular clients. With the advancement of technology, however, the adjustment of audit programmes is not as difficult as before. Each of the large audit firms probably has a computerised system in client acceptance and continuance risk evaluation. For

instance, KPMG has their own computerised decision aid, which is known as KRisk (Bell et al., 2002). The argument of the difficulty in adjustment of audit planning and risk management strategy may be valid for certain types of audit firms (e.g. small audit firms). Therefore, future studies might examine how the use of computerised decision aid can help to adjust audit planning and pricing.

Findings of this study indicate there are differences among Big Four clients' portfolio and strategy used in pricing risky clients. Future studies may consider examining another aspect of audit practice among Big Four firms (such as setting of materiality level and audit partner compensation policy); and formulating relevant theories to explain such differences, if any. Apart from audit fee studies being mostly conducted at the firm level, future studies can also be carried out at individual audit partner level.

Omitted variables is another potential limitation of the study. This study does not take into consideration the institutional factors which is relevant to Malaysia audit market setting. Future research might consider the influence of ethnicity, political connections and institutional shareholders on auditor and auditee relationship. Also, due to the importance of risk management committee in the organisation, study on the effect of risk management committee (committee size, composition, quality of the committee) on audit practice is another fruitful area to investigate.

Finally, the inconsistency of findings on auditor choice suggests there is a need for more study on audit choice, particularly development of a more sound theory of auditor choice. Examination on auditor choice should also include both factors that influence demand and supply of audit, and inclusion of non-financial data may provide further valuable insights.

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