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Internal audit department characteristics/activities and audit fees: some evidence from Hong Kong firms

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Abstract

This study provides preliminary support for the notion that internal audit function assists in reducing external audit effort and fees. Data on internal audit characteristics and activities are obtained from survey respondents of Hong Kong companies and audit fee model data are acquired from their annual reports. The results of this study suggest that the external auditor of firms in Hong Kong rely on the internal audit function and subsequently charge a lower fee. Lower external audit fees are associated with a larger internal audit department and certain activities carried out by the internal audit. Specifically, lower external audit fees are associated with more internal audit effort spent on activities relating to financial statements, systems development and maintenance, operating efficiency and effectiveness, fraud investigations and unlimited access to internal auditors' working papers. The results of this study suggest that the contribution of the internal audit may substitute for some substantive external auditing processes and lower monitoring costs.

Keywords: audit fees, internal audit, internal control, agency problem.

1. Introduction

An increasing number of earnings restatements along with allegations of financial statement fraud committed by high profile companies have eroded public confidence in corporate governance, the financial reporting process, and audit functions. Subsequently, firms' internal control environment, a vital part of corporate governance, is under scrutiny. Internal audit is an independent appraisal and monitoring function established within a firm to examine and evaluate the firm's activities. This independent review is part of the internal control structure of the firm. Thus, it is likely that the characteristics of the internal audit department and effectiveness of the various activities of the internal audit department may have a bearing on the auditors' assessment of internal control risk and hence audit effort and audit fees.

This study examines the linkages between various internal audit (IA) characteristics and activities of Hong Kong firms and external audit fees. While the majority of research on the link between the internal audit and external audit fees has been conducted in the U.S., there is little evidence from different environments. With the globalization of auditing standards (including internal auditing), it is important that evidence from different jurisdictions is available to improve our understanding of the

importance and role of IA. Research based on US firms may not be applicable to Hong Kong firms as business and institutional environments as well as ownership structure of firms from Hong Kong differ from those of the U.S. firms (Jaggi & Leung 2007). Unlike western firms where agency conflicts arise because ownership is separated from control due to disperse ownership (Type I agency costs), Hong Kong firms are characterized by dominant ownership and agency costs arise because resources are diverted from the minority shareholders. One or several family members tightly hold shares in a typical Asian corporation (Claessens & Fan 2002). As a result of family domination, the agency problem shifts from the manager-shareholder conflict to majority-minority shareholder conflict (Type II agency cost)¹. In family owned and controlled firms, there will be great potential for manager-owners to expropriate the interests of minority shareholders (Claessens & Fan 2002). The necessity for auditing controls is based on the assumption that individuals will withhold valuable information and act opportunistically in the absence of monitoring controls. This assumption may also be sensitive to the institutional and cultural setting. Consequently, the research question addressed in this paper is: What is the role of internal audit in substituting for external audit in the mitigation of Type II agency problems?

¹ Refer to Anderson & Reeb (2004) and Ali, Chen & Radhakrishnan (2007) for a discussion on Type I and Type II agency problems.

Our motivation for examining this issue is as follows. First, there is increasing emphasis in the profession and academia on the role of the internal audit as part of the firm's corporate governance. The Institute of Internal Auditors (IIA), for example, states that internal auditing can bring a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes (IIA 2005). In addition, professional auditing standards recommend that the internal auditing department should work closely with the external auditor. The Hong Kong standard on Auditing (HKSA) 610 (HKICPA 2005) explicitly states that the "external auditor should consider the activities of internal auditing and their effect, if any, on external audit procedures" (HKSA 610, para 2). The same standard also draws attention to the fact that effective internal auditing will allow a modification in the nature and timing and a reduction in the extent of audit procedures performed by the external auditor (HKSA 610, para 10). By studying the relationship between certain IA characteristics and activities and external audit fees, this paper sheds some light on whether there is a linkage between IA and the auditors' effort as envisaged in HKSA 610.

Furthermore, the relationship between the external auditors and the IA may be associated with cultural characteristics. For example, Kachelmeier & Shehata (1997)

suggest that collective values motivate cooperative efforts within the firm, so that divisions (such as the internal audit) voluntarily reveal private information for the firm's benefit (p.411). Kachelmeier & Shehata (1997) purport that Hong Kong and the People's Republic of China participants (collectivists) are more likely to reveal private information about internal auditing than Canadian participants (individualists).

Subsequent to the Asian financial crisis, the audit function is important for Hong Kong firms striving to increase the perception of better governance practices. To maintain Hong Kong's status as an international financial centre, Hong Kong firms purport to follow corporate governance standards and quality of financial disclosures corresponding to international best practice (Jaggi & Leung 2007). It is in this setting that we explore whether external auditors place greater reliance on the activities performed by the internal auditors and subsequently charge lower fees.

Finally, the link between internal auditing and external audit fees has been discussed in the literature (Whittington & Winters 1990). However, the few studies that directly examine the association between external audit fees and internal audit characteristics and activities have mixed results. Some studies show that internal audit activities are associated with a reduction in external audit fees (see for example, Elliott & Korpi

1978; Felix, Gramling, & Maletta 2001; Gramling 1999; Wallace 1984). Other studies find that IA assistance is not a significant determinant of external audit fees for either financial services clients or industrial firm clients (Stein, Simunic, & O'Keefe 1994). In contrast, further research finds a positive association between the internal audit budget (Carcello, Hermanson, & Raghunandan 2005) and the use of an internal audit (Goodwin-Stewart & Kent 2006a) and audit fees. The inconsistent results of prior research suggest that there is room for more research on the linkages between internal auditors' characteristics/activities and external audit effort.

The sample consists of 53 observations of firms that responded to a survey on internal audit characteristics and activities for the financial year 2004. Data for the audit fee models are obtained from the firm's annual reports. The IA characteristics we examine are the relative size of internal audit department and the qualification of internal audit staff. The IA activities we examine cover the efforts spent by internal auditors on the following: financial statements and external audit related matters; systems development and maintenance; operating efficiency and effectiveness including internal controls; fraud investigations and other special projects; and compliance with company policies, procedures and statutory requirements. Finally we also assess the extent of external auditors' unlimited access to internal auditors'

working papers.

We find that the following firm characteristics and IA activities are associated with lower external audit fees: (1) larger internal audit departments, (2) internal auditors who spend more time on examining financial statements and external audit related matters, (3) internal auditors who spend more time on systems development and maintenance, (4) internal auditors who spend more time on reviewing operating efficiency and effectiveness including internal controls, (5) internal auditors who spend more time on fraud investigations and special projects, and (6) internal auditors who give external auditors' more access to internal auditors' working papers.

This paper contributes to the internal auditing literature in the following ways. First, the study provides evidence that internal auditing characteristics/activities affect external audit fees in Hong Kong firms. Second, we find firms with internal auditing function having better accounting information disclosure. Third, unlike prior studies such as Felix et al. (2001) that consider the external auditors assessment of the internal auditors' contribution to the audit process, we determine the internal auditors' contribution by surveying companies with internal audit units. In this way we provide a stronger research setting. Further, our audit fee data are obtained from the annual

reports of the surveyed firms, thus employing a unique data set.

2. **Background and development of propositions**

Carey, Simnett, & Tanewski (2000) suggest that there may be several factors that increase demand for auditing in the family dominated firms such as in Hong Kong.

First, dominant shareholders might delegate some level of management responsibilities to management. This will increase information asymmetry between dominant owners and management and the demand for auditing increases due to higher Type I agency costs. Second, the demand for auditing increases as firms raise capital from outside investors. Ownership concentration creates Type II agency conflict because the dominant owners have incentives to divert resources for their personal use which in turn restricts resource flow to minority shareholders. The demand for monitoring increases with the proportion of minority ownership and director representation.

Agency theory suggests that the internal audit function is a means of reducing the monitoring costs of the statutory audit while signaling to the minority owners that the audit coverage is not diminished (Adams, 1994). Managers incur bonding costs, such as the cost of internal audit, to signal to minority owners that they are acting

responsibly. Moreover, the internal audit helps owners overcome some information asymmetry problems and monitor manager's activities cost-effectively (Adams 1994). Subsequently the internal audit, along with the external audit, helps to maintain cost-efficient contracting between owners and managers. Sherer & Kent (1983) argue that internal audit is an adjunct of external audit function. Since internal auditors have specific industry knowledge and expertise in systems and operational audits, the total cost of internal and external audit may be less than the perceived cost of external auditing on its own.

2.1. Internal audit and external audit fees

Jensen and Payne (2003) suggest that firms establish and maintain control systems to reduce the costs associated with poor decisions (e.g., poor performance evaluations, missed investment opportunities), as well as the costs associated with information risk in general (e.g., cost of capital, government oversight). Thus, a firm with poor control systems is likely to incur greater costs of capital and equity or lower equity values. To mitigate these costs, it is common for organizations to establish an internal auditing function, which serves as a part of the internal control system, to help management establish internal controls, review and monitor their operations and effectiveness. Ordinarily, apart from review of internal controls and review of economy, efficiency

and effectiveness of operations, internal auditing activities also include the examination of financial and operating information, which may include detailed testing of financial transactions, accounting balances and procedures (HKSA 610). Therefore external auditors may find certain parts of the internal auditing work useful and relevant and hence are able to reduce their own work.

Ali, Chen, & Radhakrishnan (2007: 242) identify factors that contribute towards mitigating Type II agency problems. Concentrated equity holdings provide dominant shareholders with substantial control as their voting rights exceeding their cash flow rights and the power to seek private benefits at the expense of other shareholders. However, when families engage in private rent seeking, their activities may be revealed to the market which in turn lowers the value of their lower equity. Consequently, in line with the bonding argument, we suggest that minority shareholders anticipate the expropriation by the insiders and therefore withhold capital (increasing the cost of equity and/or the cost of debt) unless the firm provides strong signals that expropriation is contained. One way of providing such a signal is to employ a high quality auditor who will not allow the management of earnings to hide private control benefit consumption (Leuz, Nanda, & Wysocki 2003). Another related signal is to have a strong and visible internal audit function that inhibits

expropriation of resources at the middle and lower managerial levels. A combination of strong external auditor and a strong and visible internal audit function is therefore a signal that will reduce the perception of potential misappropriation by the insiders. To the extent that a strong internal audit function creates a good internal control system and provides a signal that the insiders are not expropriating the resources of the firm, a substitutive relationship can be hypothesized for certain audit areas for which the external auditors can rely on the work on internal auditors.

Internal auditors can contribute to the financial statement audit by either assisting the external auditors or by performing the relevant work throughout the audit year. The internal auditors' participation in the external audit is similar to the vertical integration or outsourcing decision (Morrill & Morrill 2003). Audit services can be purchased from within or outside the firm and the optimal mix depends on the costs associated with each of the available sources. Transaction cost economics explains that the variation is primarily due to reducing the transaction costs of conducting the activity. Subsequently, reliance on internal audit work can reduce the evidence collected directly by the external auditors, which decreases external audit fees, thus reducing overall monitoring costs. The cost of an internal audit is incurred directly by the firm and owners have an incentive to incur the costs of internal audit if the total cost of the

audit process, both internal and external, is less than the perceived cost of external auditing on its own. These associations may be associated with the institutional and cultural setting of the firm.

Carey et al. (2000) find that voluntary demand for internal audit is more prevalent than the demand for external audit for family dominated Australian firms². They find that the demand for external audit is function of firm debt and the proportion of nonfamily management and nonfamily directors as a consequence of Type 1 agency costs. The negative correlation they find between the external audit and the IA suggests that they are substitute monitoring mechanisms.

2.2. Internal audit contribution to the external audit

Given the inconsistent results of prior research on the linkage between internal auditing and external audit fees, it is appropriate to consider the factors likely to be associated with internal auditors' contribution to the external audit. Prior research on external auditors' reliance on the internal audit function was mainly conducted before recent changes in the audit environment brought about by the recent corporate collapses. Research carried out before 2003 fails to account for the impact of

²This study was carried out in a period when neither was a statutory requirement.

legislation such as the Sarbanes Oxley Act in the US and the Corporate Law Economic Reform Program (Audit Reform and Corporate Disclosure) Act 2004, also known as CLERP 9 in Australia. In January 2004, the Hong Kong Exchange and Clearing Ltd issued its draft Code on Corporate Governance Practices (the Code), which became effective for accounting periods commencing January 1, 2005. Since then, listed companies in Hong Kong are expected to comply with the Code to conduct a review of the effectiveness of the internal control system, including financial, operational and compliance controls and risk management functions. Listed firms are also required to include a report on corporate governance practices in their summary financial reports and annual reports. Although the relevant changes have not yet become compulsory for firms in our sample period, they suggest that other criteria (e.g. internal control knowledge, systems development, and fraud investigations) might be important in assessing IA contribution to the audit process and consequently audit fees.

Although internal auditors perform many tasks that are unrelated to organizations' accounting information systems, many of their responsibilities are linked directly to the production and monitoring of accounting information (Moeller & Witt 1998). One of the primary responsibilities of internal auditors is to test, evaluate, and make

recommendations regarding an organization's accounting system and its internal accounting controls. Consequently, internal auditors reduce the risk of fraud and protect assets from theft or loss. External auditors generally perform similar activities with similar benefits and may substitute these activities if they can rely on the IA.

There has been considerable research investigating the association between the internal and external audits. Using mainly survey and experimental research methods (e.g. DeZoort, Houston, & Peters 2001; Gramling 1999), this area of research typically posits external auditors' reliance on the IA based on external auditors' evaluation of internal audit quality in terms of the three quality factors of competence, objectivity, and quality of work performance. Krishnamoorthy (2002) notes that even though the relative importance of these three factors differs between studies, they find generally that all three have an important impact on external auditor reliance on the internal audit (e.g. Maletta & Kida 1993; Margheim 1986; Tiessen & Colson 1990).

Auditing standard SAS No. 65 (AICPA 1991) describes the IA quality characteristics of competence (e.g. educational level, certification) and quality of work performance (e.g. adequacy of audit programs, scope of work performed). Similarly, the Hong Kong Standard on Auditing 610 (HKICPA 2005) requires external auditors to assess

the IA function in terms of organizational status, scope of function, technical competence and due professional care. We suggest that internal auditors' contribution to the external audit can be assessed based on quality factors such as IA staff size, qualifications (competence), and nature and quality of their work done. Subsequently, we can test the magnitude of IA contribution to the external audit by testing the association between the quality factors and external audit fees. Margheim (1986) finds competence and work performance have significant effect on budgeted external audit hours, that is, external auditors place greater reliance on IA work at a higher level of IA competence and work performance.

2.3. Internal audit characteristics

Prior research (e.g. Messier & Schneider 1988) suggests that the external auditor places greater reliance on the internal audit when the IA has the attributes associated with competence (e.g. criterion related to competence may be the percentage of professionally certified internal auditors). Previous research on auditors' assessment of the criteria of IA competence includes: IA training programs, with an emphasis on professional certifications (Brown 1983), and IA experience (Messier & Schneider 1988). Other research has surveyed the IA, external auditor, CFO and audit committee, and found the Certified Internal Auditor designation (Myers & Gramling

1997) or educational background of the IA (Reinstein, Lander, & Gavin 1994) as the most important criterion of competence. The results of prior research suggest that the external auditor places greater reliance on IA with accounting/auditing qualifications and also finds that firms with IA are more likely to detect or deter financial statement fraud (e.g. Beasley, Carcello, Hermanson, & Lapides 2000; KPMG Peat Marwick 1999). We expect that IA departments with more staff with professional accounting or auditing qualifications are likely to be associated with lower audit fees. An IA with qualified staff means the external auditor is able to place more reliance on the IA's ability to detect errors and omissions.

Research finds that the size of the IA is associated with many factors. Carcello et al. (2005) find that internal audit budgets are positively related to company size, leverage, industry, relative amount of inventory, operating cash flows, and audit committee review of the internal audit budget. Goodwin-Stewart & Kent (2006b) suggest that the size of the internal audit function is associated with risk management, internal control and corporate governance. They find that larger IA is associated with larger firms, reduced reliance on Big5 (now Big4) auditors and more frequent audit committee meetings (a more diligent audit function). Further, Al-Twaijry, Brierley, & Gwilliam (2004) find that external auditors express concern about the independence,

scope of work and small size of many internal audit departments. They also find that the extent of reliance by the external auditor on the work of the internal auditor varies with the quality of the internal audit department. Taken together, this research suggests that the size of the IA may be a contributing factor to the external auditor's reliance on the IA, which will influence the audit fee.

Goodwin-Stewart & Kent (2006b) find, in a study of Australian firms, that the number of employees in the IA is positively associated with external audit fees, suggesting that larger IA demands more substantive external audit testing. However, the significant results disappeared after scaling for size, suggesting that the association is due to client size rather than IA size. We expect that larger IA departments, relative to the size of the firm, are associated with lower external audit fees. The argument follows that the larger the size of the IA, the more resources available to the IA creating greater competence and more likelihood of detecting errors and omissions. In addition, the collectivist nature of Hong Kong firms means that IA is more likely to reveal private information to the external auditor thus reducing external audit testing³. The firm incurs bonding costs from increasing the size of the IA while reducing

³ In an individualistic culture with greater information asymmetry, the internal auditors may, acting in their own self-interest, prefer to keep private information to preserve their anonymity. Subsequently the external auditor does not rely on the IA as a substitute for external audit tasks.

expenditure on the external audit.

The preceding discussion leads to the following propositions:

Proposition 1(a): There is a negative association between external audit fees and the proportion of professionally qualified accountants in the IA department.

Proposition 1(b): There is a negative association between external audit fees and the size of the IA department.

2.4. Internal audit activities

Due to an increasing number of earnings restatements and allegations of financial statement fraud committed by high profile companies⁴, the IA has greater internal control responsibilities. The importance of IA work is demonstrated by prior research investigating IA effectiveness in ensuring the reliability of financial reporting. This area of research finds that fraud firms have less internal audit support than non-fraud firms (Beasley et al. 2000) and that internal auditors are more likely to discover fraud than external auditors (KPMG Peat Marwick 1999). Gramling, Maletta, Schneider, & Church (2004) suggest that we need to understand how the internal audit function interacts with the external auditors to achieve quality corporate governance. Clark, Gibbs, & Schroeder (1980) find that internal auditors' knowledge of company

⁴ Examples include Enron and World Corp in the U.S., HIH and OneTel in Australia, and Palamat in Italy.

operations, processes, and procedures is the most important criterion. It is suggested in this study that the external auditor places reliance on the work performed by the IA and access to that work means less audit effort.

Previous research has found that external auditors' assessment of IA work performance is the most important factor in determining IA quality (e.g. Brown & Karan 1986; Schneider 1985). Experimental and archival/survey research (e.g. Felix et al. 2001; Gramling 1999; Maletta & Kida 1993) suggests that budgeted external audit hours decrease with increased reliance on IA work. Furthermore, internal auditing is designed to add value and improve the organizations operations by assisting organizations achieve their goals through evaluating and improving the effectiveness of risk management, control and governance processes (Carcello et al. 2005). Consequently, the external auditor places greater reliance on the contribution of the IA on work that extends beyond examining financial statements and external audit related matters. The survey of Cooper, Leung, & Chau (1989) of CEOs in Hong Kong provides evidence that the role of IA extends beyond financial statement audit. They find that the majority of CEOs perceive the main role of internal audit as: independent appraisal of the internal control system (45.6 percent); independent review of the efficient operation of the organization (21.6 percent); and proper

safeguarding of assets and preventing and detecting fraud and error (19.2 percent).

The IA role also includes systems development and maintenance (Walker 1996), reviewing operating efficiency and effectiveness including internal controls (Fadzil, Haron, & Jantan 2005, Goodwin-Stewart & Kent 2006b), fraud investigations and special projects (Beasley et al. 2000; Gramling & Myers 2003); and assessing compliance with company policies, procedures and statutory requirements (Fadzil et al. 2005). These activities have potential financial implications and so too does the risk management responsibility of the IA. Thus, the internal audit has the potential to augment the external audit function and reduce the overall monitoring costs.

Before placing reliance on IA work, external auditors assess the IA function including IA work quality and scope. Having unlimited access to IA's working papers facilitates external auditors' assessment of whether IA work is performed by competent persons. Reinstein et al. (1994) find that external auditors access working papers to evaluate IA suggestions. Further, Felix et al. (2001) find the availability and cooperation of the IA with the external auditor is associated with IA contribution to the financial statement audit.

The preceding discussion suggests that the work performed by the IA is negatively associated with the degree of external audit effort. Therefore, we suggest that higher level of internal audit effort in performing audit activities will be associated with lower external audit fees. The criterion for determining the contribution of IA work performed in reducing external audit fees is related to the following. First, the external auditor's confidence in the IA work is related to the external auditors' unlimited access to internal auditors' working papers, as this provides evidence for the external auditors to assess the scope and quality of work done by the IA. Second, external auditor reliance on IA work is associated with the time commitment of the IA on the activities which reduce risk of materially misstated financial statements and the evidence to be collected by the external auditor, which in turn decrease audit fees. The IA activities include time spent by the IA on: examining financial statements and external audit related matters; systems development and maintenance; reviewing operating efficiency and effectiveness including internal controls; fraud investigations and special projects; and, assessing compliance with company policies, procedures and statutory requirements. The preceding discussion leads to the following propositions:

Proposition 2 (a): There is a negative association between external audit fees and the external auditors' unlimited access to internal auditors' working papers.

Proposition 2 (b): There is a negative association between external audit fees and the effort spent by internal auditors on examining financial statements and external audit related matters.

Proposition 2 (c): There is a negative association between external audit fees and the effort spent by internal auditors on systems development and maintenance.

Proposition 2 (d): There is a negative association between external audit fees and effort spent by internal auditors on reviewing operating efficiency and effectiveness including internal controls.

Proposition 2 (e): There is a negative association between external audit fees and effort spent by internal auditors on fraud investigations and special projects.

Proposition 2 (f): There is a negative association between external audit fees and the effort spent by internal auditors on assessing compliance with company policies, procedures and statutory requirements.

3. Methodology and model specification

A survey questionnaire was developed and pilot-tested with five practicing auditors to ensure that the questions were appropriate. After incorporating changes, the final questionnaire was sent by mail to the chief financial officers of the 200 largest non-finance sector companies listed on the Hong Kong Stock Exchange to collect information on their internal audit department characteristics and activities for the fiscal year ended 2004⁵. An extract of the questions that appeared in the questionnaire

⁵ Since it is not a compulsory requirement for listed companies in Hong Kong to establish an IA department, only the larger listed companies are likely to have an IA function. Therefore we sent questionnaires to the 200 largest non-finance sector listed firms as these firms are more likely to have

that are relevant for this study are reported in Appendix 1. The variables for testing the audit fee model are extracted from the Worldscope database and hand-collected from annual reports for the responded firms. The survey was conducted in 2005 and the data collected were for the fiscal year ending 2004.

Cross-sectional regression models based on prior audit fee literature are used to test the propositions. All experimental and control variables are first included in the regression model to test the propositions. We then take out individual experimental variable which does not show a significant association with audit fees to assess the impact of its exclusion. Inclusion of insignificant variables adds unwanted noise into the model. The full model used is specified as below:

$$LAF = \alpha_0 + \sum_{i=1}^2 \alpha_i IA_CHARAC_i + \sum_{j=1}^6 \beta_j IA_ACTY_j + \sum_{k=1}^9 \gamma_k CONTROL_k + \sum_{l=1}^3 \delta_l IND_l + \varepsilon \quad (1)$$

where

Dependent variable

LAF = natural logarithm of the external audit fee in Hong Kong dollars

Experimental variables

IA_CHARAC_i = measure of each of the following two (*ith*) *IA characteristics*:

IASIZE = natural logarithm of the number of internal audit staff divided by total number of employees

an IA department. Following prior audit fee literature, we exclude the finance industry since many of the financial ratios used to estimate audit fees are not relevant to financial institutions (e.g. Simunic 1980; Francis 1984).

QUALI = proportion of internal audit staff having professional accounting/auditing qualifications

IA_ACTY_j = measure of each of the following six (*j*th) *IA activities*:

ACCWP = a dummy variable, equals 1 if external auditors have unlimited access to all internal auditors' working papers, and 0 if otherwise

FIN = proportion of internal audit time spent on financial statements and external auditing related matters

OPEFF = proportion of internal audit time spent on reviewing operating efficiency and effectiveness including internal controls

SYSDEV = proportion of internal audit time spent on systems development and maintenance

FRAUD = proportion of internal audit time spent on fraud investigations & other special projects (e.g. due diligence and review)

COMP = proportion of internal audit time spent on assessing compliance with company policies, procedures and statutory requirements

Control variables

CONTROL_k = measure of each of the following nine (*k*th) *control variables*:

LTA = natural logarithm of total assets

LEV = total long term debts divided by total assets

CA = total current assets less cash divided by total assets

CR = total current assets divided by total current liabilities

BIG4 = a dummy variable, equals 1 if auditors are big 4 firms, and 0 if otherwise

YE = a dummy variable, equals 1 if fiscal year end is December 31, and 0 if otherwise

SUB = natural logarithm of the number of subsidiaries

ROA = net income divided by total assets

LOSS = a dummy variable, equals 1 if a net loss occurred in the last fiscal year, and 0 if otherwise

IND_l = an industry dummy variable, equals 1 if a firm belongs to an industry l , and 0 if otherwise

The proportion of internal audit staff having professional accounting/auditing qualifications ($QUALI$) and the relative size of the IA department ($IASIZE$) are used to test propositions 1(a) & 1(b) respectively. For proposition 2(a), we test whether the external auditor has unlimited access to internal auditors' working papers using a dummy variable ($ACCWP$) to determine the association with external audit fees. Propositions 2(b) to 2(f), which test the contribution of relative IA time spent on different activities in reducing external audit fees, are operationalized by the variables FIN , $SYSDEV$, $OPEFF$, $FRAUD$ and $COMP$ respectively. The coefficients for all the experimental variables are expected to be negative, since the IA characteristics and activities under examination contribute to reducing external audit effort and hence lower audit fees.

Consistent with prior research (e.g. Carcello, Hermanson, Neal, & Riley 2002; Gul, Chen, & Tsui 2003; Simunic 1980), control variables are included to reduce the possibility that the experimental variables proxy for other cross-sectional determinants of audit fees. The natural logarithm of total assets (LTA) controls for

higher audit fees charged for larger firms and leverage (*LEV*) controls for risk associated with highly leveraged firms. A positive association is expected for the above control variables and audit fee. The ratio of current assets to current liabilities (*CR*) is included as a measure of short-term financial risk, and a negative association is expected with audit fee. Return on assets (*ROA*) for the current year is included to control for the effect of firm performance and a negative association is expected. A dichotomous variable *LOSS* which equals one for firms reporting losses during the previous fiscal year is included to measure client-specific litigation risks to be borne by auditors, and a positive association is expected.

We control for cross-sectional differences in risky balance sheet components such as receivables and inventories among different auditees by including total non-cash current assets scaled by total assets (*CA*) and expect the coefficient to be positive. The natural logarithm of the number of subsidiaries (*SUB*) is used to control for client complexity and risk. In addition, increased subsidiaries are usually associated with greater decentralization, which leads to higher demand for monitoring; hence we expect a positive coefficient. A dummy variable *BIG4* is included and a positive coefficient is expected as prior research suggests that Big 4 auditors are able to charge a fee premium for higher quality and brand name. We also control for higher audit

fees charged for peak season when most clients have their fiscal year ends concentrated in December. Finally, industry dummies are included to control for variation across different industries.

4. Results

4.1. Response rate

As reported in Panel A of Table 1, a total of 74 companies responded to the survey, which represents a response rate of 37 percent. After excluding 11 companies with no internal audit department, and 10 companies which gave significantly incomplete responses, there was a total of 53 usable responses, representing a 26.5 percent usable response rate. A distribution of the respondents by industry is presented in Panel B of Table 1. The majority of the respondents (66%) are industrial companies⁶, followed by property firms (17%), then transportation (9%) and lastly utility companies (8%).

(Table 1 here)

4.2. Descriptive statistics

Table 2 reports descriptive statistics on the model variables. The mean and median audit fees for the sample companies for 2004 is HK\$2.8 million and HK\$1.6 million respectively⁷. The mean and median number of IA staff employed is 6 and 3

⁶ These also include consolidated enterprises since the Worldscope database classifies such companies as industrials.

⁷ The average exchange rate for the HK dollars to the US dollar for December 2004, the date of the

respectively (not reported in Table 2), which gives the proportion of internal audit staff to total employees a mean of 0.5% and a median of 0.25%. On average, 58% of the internal auditors in the sample possess professional accounting and/or auditing qualifications. More than half of the firms (57%) provide unlimited access of their internal auditors' working papers to external auditors⁸. Regarding IA activities, respondents on average spend most of their time (29%) on reviewing the operational efficiency and effectiveness of the firms. The next most frequently conducted activity is assessing compliance with company policies, procedures and statutory requirements (22%), followed by financial statements and external auditing related matters (19%), systems development and maintenance (12%), and fraud/special investigations (12%). The remaining 6% of IA time was spent on other miscellaneous matters, which the respondents did not specify.

(Table 2 here)

The remaining variables in Table 2 indicate the economic characteristics of firms in the sample. Table 3 reports the Pearson correlation matrix of the regression variables. Consistent with the hypothesized relationship, *LAF* is significantly negatively correlated with *IASIZE* and *FIN*. However, contrary to the proposition, *LAF* is

annual reports, is 0.1286.

⁸ Since the scope of internal auditing function is much wider than that of external auditing, some companies may not wish to provide external auditors unlimited access to all of its working files, some of which might contain confidential information irrelevant to the external auditing function.

significantly positively correlated with *OPEFF* and *COMP*, while no significant correlation with other experimental variables is observed. The correlations of *LAF* with most control variables are significant and in the expected directions, except for *ROA* and *LOSS*, which are in the opposite directions.

(Table 3 here)

4.3. Regression results

Regression results presented in Table 4 are obtained after winsorizing all continuous variables by the top and bottom 1% to control for the effects of outliers. The White (1980) corrected test is used to control for possible heteroskedasticity. We first regress *LAF* on all experimental variables and control variables together with the industry dummy variables. Since the proportion of time spent on each IA activity totals 100%, this variable are highly correlated, as reported in Table 3, and simultaneously including the major categories of activities as experimental variables in the regression creates multi-collinearity problems. Consistent with this fact, we find high variance inflation factors with the parameter estimates of IA activities. We therefore take out one IA activity, *COMP*, which is least relevant to the external auditors among the major IA activities and estimate the regression. As reported under M1 of Table 4, lower audit fees is associated with larger IA departments, unlimited

access to IA working papers by external auditors, and more IA effort spent on financial and external audit matters, assessment of operating efficiency and effectiveness including internal controls, systems development and maintenance, and fraud investigations ($p < 0.01$ for *ACCWP*, *FIN* and *SYSDEV*; $p < 0.05$ for *IASIZE*, *OPEFF* and *FRAUD*). The adjusted R^2 is 86 percent. Although insignificant, the coefficient for *QUALI* is negative as predicted. These results show support for most of the propositions. Since there is a relatively large size of regressors compared with the sample size, the experimental variable, *QUALI*, which is insignificant in M1, is excluded and the regression is re-estimated. The results are reported under M2 in Table 4 and are qualitatively similar to those for M1. The explanatory power of the two models remains consistent at 86%. Finally, the regression is re-estimated with all the insignificant experimental and control variables excluded. The results, reported under M3 in Table 4, are qualitatively similar to those for M1 and M2, and the adjusted R-square is increased slightly by 1 percent to 87%.

(Table 4 here)

In summary, the results suggest that lower external audit fees are associated with larger relative IA staff size, external auditors' having unlimited access to IA working papers, and more IA effort spent on major activities performed, which include

financial and external audit matters, systems development and maintenance, fraud investigations, and assessment of operating efficiency and effectiveness including internal controls. The insignificant result for *QUALI* may be explained by the study by Krishnamoorthy (2002), who finds that external auditors place less importance on IA competence (proxied by professional certification and experience) if they find strong evidence of satisfactory work performance by IA.

Finally, the regression coefficients for the control variables are in the predicted directions, except for *CR* and *LOSS*. However, our findings for *CR* and *LOSS* are also consistent with some prior studies. For example, Carcello et al. (2005) present competing arguments that financial characteristics such as liquidity and profitability reflect elements of both company risk and ability to pay for monitoring through auditing. Consequently, they do not make directional expectations for those variables. Following their argument, *CR* and *LOSS* may have a positive or negative association with audit fee. Our findings of a positive (negative) coefficient on *CR* (*LOSS*) support the argument for the firm's ability to pay for enhanced monitoring through auditing. Similar to the findings in this study, DeFond, Francis, & Wong (2000) report a negative insignificant coefficient on *LOSS* for their examination of Big 6 fee premiums for both general brand name and for industry specialization in the Hong

Kong market. As discussed respectively in Sections 3 and 2.1 above, *LOSS* measures client-specific litigation risks to be borne by auditors but Hong Kong auditors are likely to perceive low litigation risks associated with their engagements, compared with their US counterparts. Therefore the results for Hong Kong studies may differ from other US studies.

5. Additional Analyses

5.1. Corporate governance

Some corporate governance variables are identified from the annual reports of the firms in the sample and included in the regressions. The variables include the percentage of outside (non-executive and independent) directors on the board and the percentage of financial experts on the audit committee. When these two variables are included in the regressions (N=50⁹), the results remain qualitatively unchanged except that the association of audit fees with IA department size (*IASIZE*) is not significant. The coefficients for the percentage of outside directors and the percentage of financial experts are negative and significant at $p < 0.05$, with adjusted R-square increases slightly to 88%. These results suggest that even after controlling for corporate governance variables concerning board and audit committee characteristics, the

⁹ The sample size is reduced to 50 from 53 because data on those two variables are missing from some annual reports.

reported results still hold in general.

5.2. Relative impact of IA activities on external audit fees

To enhance our understanding of the impact of IA activities on external audit fees, we examine if some activities lower audit fees more than others. We assess the relative impact by testing whether the estimated coefficients on the time spent on different IA activities are significantly different from each other, using the Chi-square test. We find differences significant *at* $p < 0.1$ (two-tailed) among some of the activities. IA time spent on financial statements matters and systems development, respectively, reduces external audit fees more significantly than time spent on reviewing operating efficiency and effectiveness. Such results are consistent with the former activities being more important and directly relevant to the external audit work than the latter activity.

5.3. Alternative variable measurement

As an alternative measurement of IA staff qualifications, we use the natural logarithm of the number of internal audit staff with professional accounting/auditing qualifications and find a similar insignificant coefficient (not reported here) for the reported regression. Following Messier & Schneider (1988), we also test if IA work

experience contributes to competence and helps reduce external audit effort and fees.

We find no significant association with audit fees.

5.4. Late response biases

To test if the results are affected by late response bias, we divide the sample into the early response group (n=29) and late response group (responded at least one month later than the earliest respondent, n=24). A t-test is used to examine if there is any significant difference between the mean value of each regression variable between the two groups. No significant differences exist between the two groups (results not reported here), except that the late response group on average has a higher ratio of total debts to total assets (*LEV*). We also include in the regressions a dummy variable with the value of 1 for the late response group, and 0 for the early response group, and the results remain qualitatively the same.

5.5. Asymmetric timeliness of earnings

When putting conservatism in practice, accountants tend to require a higher degree of verification to recognize good news as gains in financial statements than to recognize bad news as losses (Basu 1997). Through its asymmetrical verifiability requirement, conservatism serves as an efficient financial reporting mechanism to constrain

managerial opportunistic behavior and offset managerial biases in reporting accounting measures used in contracting (Watts 2003). Based on the bonding argument discussed earlier in Section 2, we anticipate that firms with internal auditing function would have better accounting information quality and disclosure to provide credible signals to the market and minority shareholders. Hence these firms would likely adopt more conservative accounting and have more timely recognition of losses than earnings. To further provide evidence to support our arguments that internal auditing helps mitigate Type II agency problems and enhances financial reporting quality, tests on the asymmetric timeliness of earnings are conducted on the sample firms.

Following Basu (1997), we regress earnings per share, X , on contemporaneous annual returns, R . To control for possible heteroskedasticity, earnings per share are deflated by the opening stock price, P . Moreover White (1980) t-statistics are used. Buy-and-hold annual returns are calculated to end three or four months after the fiscal year end to ensure that market responses to the previous year's earnings are excluded (Easton & Harris 1991).¹⁰ The asymmetric effect of conservatism on accounting for good news and bad news is tested by the use of a dummy variable, DR , to take on the

¹⁰ The Listing Rules in Hong Kong requires listed companies to announce and publish their annual financial results within four months after the fiscal year end. Since firms in our sample made such announcement within three or four months after the fiscal year end, we use two measures of annual returns, one calculated to end three months, and the other calculated to end four months after the fiscal year end.

value of one if annual returns are negative, and zero if otherwise, see test model (2) below.

Since stock prices reflect information other than current earnings, stock prices lead accounting earnings by up to four years (see e.g., Ball and Brown 1968; Kothari and Sloan 1992). Conservatism results in more timely recognition of bad news in reported earnings than good news. Thus earnings are predicted to be more strongly and positively associated with concurrent negative returns, which proxy for bad news, than positive returns, which proxy for good news. Following Basu (1997), we specify the leading variable returns as the independent variable and the lagging variable earnings as the dependent variable in the following test model:

$$X_i / P_i = \alpha_0 + \alpha_1 DR_i + \beta_0 R_i + \beta_1 R_i * DR_i + \varepsilon_i \quad (2)$$

Panel A of Table 5 reports descriptive statistics on the model variables. The mean and median opening price deflated earnings per share is 0.10 and 0.09 respectively. The mean and median return dummy is 0.30 and 0 respectively. The mean and median annual returns calculated to end three months after the fiscal year end is 0.33 and 0.22 respectively. The mean and median interaction variable $R*DR$ is -0.07 and 0 respectively.¹¹

¹¹ Descriptive statistics for annual returns calculated to end four months after the fiscal year end and the corresponding dummy variable and interaction variable are qualitatively similar and are not tabulated in Table 5 for simplicity.

Panel B and Panel C report cross-sectional regression results for price deflated earnings on annual returns calculated to end three months and four months respectively after the fiscal year end. Regression results are obtained after deleting the lowest and highest values of the observations for opening price deflated earnings, X/P , and returns, R , to reduce the effects of outliers. It results in 50 and 49 observations respectively for Panel B and Panel C since some observations have price deflated earnings and returns falling in the same extreme ranking. As expected, the intercept and coefficients on returns and the interaction variable $R*DR$ are positive and significant. As reported in Panel B, adjusted R^2 is 17% for M1 and 22% for M2 respectively. They are higher than the reported 7.99% and 10.09% respectively in Basu (1997), suggesting that reported earnings of firms with internal auditing function are more explainable by (credible) market news. M2 uses a dummy variable, DR , to divide firms into “good news” and “bad news” observations. The interactive slope coefficient, β_1 measures the difference in sensitivity of earnings to positive and negative returns. It is significant and implies that earnings is about six times $[(0.09+0.47)/0.09 = 6.2]$ as sensitive to negative returns as it is to positive returns. This multiple is higher than that reported in Basu (1997), which is 4.66. Separate regressions on the positive and negative returns sub-samples reveal that the explanatory power of negative returns (adjusted $R^2 = 30\%$ for 14 firms) is greater

than positive returns (6% for 36 firms).

When annual returns are calculated to end four months after the fiscal year end, as reported in Panel C, the adjusted R^2 for all regressions are higher than in Panel B. The slope coefficient on negative returns is about five times $[(0.11+0.42)/0.11=4.82]$ that on positive returns. The explanatory power of negative returns sub-sample, 35% for 33 firms, exceeds that of positive returns sub-sample, 11% for 16 firms. To summarize, the above findings are consistent with earnings being more timely or concurrently sensitive in reporting publicly available “bad news” than “good news”, which in turn support our arguments that firms with internal auditing function would have better accounting information quality and disclosure.

(Table 5 here)

6. Conclusion

The results of this study indicate that certain IA characteristics and work performed are significant determinants of external audit fees. Specifically, in terms of IA characteristics, larger internal audit departments are associated with lower audit fees. Work performed by the IA is related to significantly lower audit fees where internal auditors spend more time on examining financial statements and external audit related

matters, on systems development and maintenance, on fraud investigations and, on reviewing operating efficiency and effectiveness including internal controls, and when internal auditors give unlimited access of their working papers to external auditors.

This study helps to clarify some of the inconsistencies of prior studies and provides further evidence to support the linkage between external audit fees and internal audit characteristics and activities. The results of this study suggest that IA contribution may substitute for some substantive external auditing processes and is associated with lowering Type II agency costs by incurring bonding costs and providing better accounting information quality and disclosure. Therefore, this study provides support to the international auditing standards requirement of external auditors assessing the activities of internal auditing and their impact on external audit procedures, and on the co-ordination of external and internal audit work. This study determines IA involvement in the external audit process and the nature of that involvement by assessing the relative significance of each of the IA activities on the audit fee in an institutional setting dominated by Type II agency problems where there is concentrated ownership and majority-minority shareholder conflict. In addition, the findings are consistent with the cultural argument of Kachelmeier & Shehata (1997) on collectivists versus individualists and the expectation that external auditors in

Hong Kong can place greater reliance on the activities performed by the internal auditors and subsequently charge lower fees. This study augments the emerging research on the increasing monitoring role of the IA since it determines IA involvement in the external audit process and the nature of that involvement. Future research may investigate whether IA involvement in the financial statement audit results in higher quality governance, and hence, higher quality financial reporting.

This study is subject to several limitations. First, there are only 53 useable responses and the results may be unique to these firms. Second, the results are for the year 2004. Third, our results are obtained in Hong Kong. These three factors limit the ability to generalize the results across firms, years and countries. Finally, we focus on a few aspects of internal audit department characteristics and activities. Clearly there may be other aspects of the internal audit unit that could affect the results, such as, the seniority and expertise of the head and staff of the internal audit unit and the degree of independence of internal auditors. These factors could affect the quality and objectivity of internal audit work and hence the degree of reliance on IA work by external auditors. Despite these limitations, the evidence reported here provides some preliminary evidence that a firm's internal audit function is associated with the external auditor's assessment of audit risk and hence audit effort and fees.

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Table 1
Sample description

	Number
Panel A: Sample determination	
Listed companies	<u>200</u>
Responding companies	74
Companies without an internal audit department	(11)
Incomplete responses	<u>(10)</u>
Usable responses	<u>53</u>
<hr/>	
Panel B: Sample industry distribution (n=53)	
Industrial	35
Properties	9
Transportation	5
Utilities	<u>4</u>
	<u>53</u>

Table 2
Descriptive statistics for 53 firms for year 2004

Variable	Mean	Std Dev	Minimum	Median	Maximum
<i>AF</i>	2.79	3.05	0.65	1.58	15.29
<i>LAF</i>	14.39	0.99	11.08	14.27	16.54
<i>IARATIO</i>	0.005	0.006	0.0001	0.0025	0.02
<i>IASIZE</i>	-6.06	1.34	-9.21	-5.99	-3.91
<i>QUALI</i>	0.58	0.37	0.00	0.63	1.00
<i>ACCWP</i>	0.57	0.50	0.00	1.00	1.00
<i>FIN</i>	0.19	0.18	0.00	0.15	0.80
<i>OPEFF</i>	0.29	0.15	0.10	0.30	0.70
<i>SYSDEV</i>	0.12	0.11	0.00	0.10	0.60
<i>FRAUD</i>	0.12	0.09	0.00	0.10	0.35
<i>COMP</i>	0.22	0.14	0.00	0.20	0.70
<i>TA</i>	12,222	20,603	37	2,387	110,962
<i>LTA</i>	21.90	1.79	17.42	21.59	25.43
<i>LEV</i>	0.11	0.12	0.00	0.07	0.51
<i>CA</i>	0.30	0.19	0.01	0.31	0.84
<i>CR</i>	2.13	1.47	0.36	1.62	7.91
<i>BIG4</i>	0.81	0.39	0.00	1.00	1.00
<i>YE</i>	0.68	0.47	0.00	1.00	1.00
<i>SUB</i>	3.11	0.87	0.00	3.09	4.71
<i>ROA</i>	0.05	0.09	-0.25	0.05	0.24
<i>LOSS</i>	0.08	0.27	0.00	0.00	1.00

Variable definition:

AF = external audit fee in millions of Hong Kong dollars

LAF = natural logarithm of the external audit fee

IARATIO = number of internal audit staff divided by total number of employees

IASIZE = natural logarithm of the number of internal audit staff divided by total number of employees

QUALI = proportion of internal audit staff having professional accounting/auditing qualifications

ACCWP = a dummy variable, equals 1 if external auditors have unlimited access to all internal auditors' working papers, and 0 if otherwise

FIN = proportion of internal audit time spent on financial statement and external auditing related matters

OPEFF = proportion of internal audit time spent on reviewing operating efficiency and effectiveness including internal controls

SYSDEV = proportion of internal audit time spent on systems development and

maintenance

FRAUD = proportion of internal audit time spent on fraud investigations & other special projects (e.g., due diligence, review)

COMP = proportion of internal audit time spent on assessing compliance with company policies, procedures and statutory requirements

TA = total assets in millions of Hong Kong dollars

LTA = natural logarithm of total assets

LEV = total long term debts divided by total assets

CA = total non-cash current assets divided by total assets

CR = total current assets divided by total current liabilities

BIG4 = a dummy variable, equals 1 if auditors are big 4 firms, and 0 if otherwise

YE = a dummy variable, equals 1 if fiscal year end is December 31, and 0 if otherwise

SUB = natural logarithm of the number of subsidiaries

ROA = net income divided by total assets

LOSS = a dummy variable, equals 1 if a net loss occurred in the last fiscal year, and 0 if otherwise

Note:

proportion of firms that provide IA working paper access to the external auditor = 0.57

proportion of firms audited by a Big4 auditor = 0.81

proportion of firms with fiscal year end of December 31 = 0.68

proportion of firms where a net loss occurred in the last fiscal year = 0.08

Table 3
Pearson Correlation Matrix (N=53)

	<i>IASIZE</i>	<i>QUALI</i>	<i>ACCWP</i>	<i>FIN</i>	<i>OPEFF</i>	<i>SYSDEV</i>	<i>FRAUD</i>	<i>COMP</i>	<i>LTA</i>	<i>LEV</i>	<i>CA</i>	<i>CR</i>	<i>BIG4</i>	<i>YE</i>	<i>SUB</i>	<i>ROA</i>	<i>LOSS</i>
<i>LAF</i>	-0.40***	0.14	0.06	-0.33**	0.31**	0.01	-0.16	0.32**	0.82***	0.31**	-0.15	-0.28**	0.52***	-0.03	0.74***	0.35***	-0.53***
<i>IASIZE</i>		-0.19	0.03	-0.05	-0.12	0.09	0.03	0.05	-0.19	-0.00	-0.04	0.29**	-0.21	0.26*	-0.19	-0.29**	0.23*
<i>QUALI</i>			0.00	0.12	0.16	-0.05	-0.09	-0.22	0.24*	0.15	-0.18	-0.03	-0.03	-0.08	0.15	0.00	0.07
<i>ACCWP</i>				-0.15	0.26*	-0.02	-0.28**	-0.01	0.24*	-0.03	0.09	0.26*	0.06	-0.03	0.02	-0.09	0.11
<i>FIN</i>					-0.45***	-0.37***	-0.13	-0.40***	-0.41***	-0.06	0.07	0.17	-0.30	-0.01	-0.12	-0.21	0.18
<i>OPEFF</i>						-0.17	-0.32**	-0.12	0.36***	0.25*	-0.05	-0.11	0.26*	-0.15	0.26*	0.01	0.12
<i>SYSDEV</i>							-0.06	0.09	0.10	-0.19	0.12	-0.01	0.12	0.19	-0.12	0.29**	-0.19
<i>FRAUD</i>								-0.27**	-0.18	0.00	-0.07	-0.15	-0.18	0.02	-0.11	-0.02	-0.12
<i>COMP</i>									0.26*	0.06	-0.01	-0.10	0.20	0.02	0.17	0.17	-0.23*
<i>LTA</i>										0.44***	-0.33**	-0.27*	0.50***	0.12	0.61***	0.27*	-0.39***
<i>LEV</i>											-0.43***	-0.29**	0.13	0.08	0.29**	0.09	-0.06
<i>CA</i>												0.11	-0.08	-0.44***	0.06	0.11	-0.16
<i>CR</i>													-0.06	-0.01	-0.30**	-0.24*	0.17
<i>BIG4</i>														0.08	0.25*	0.24*	-0.41***
<i>YE</i>															-0.20	-0.23*	0.20
<i>SUB</i>																0.36***	-0.44***
<i>ROA</i>																	-0.55***

*** significant at $p < 0.01$ (two-tailed)

** significant at $p < 0.05$ (two-tailed)

* significant at $p < 0.10$ (two-tailed)

Please refer to Table 2 for variable definition.

Table 4
Regression results with White (1980) corrected t-values in parentheses. Dependent variable:
LAF (N=53)

	Expected Sign	M1	M2	M3
<i>INTERCEPT</i>	?	5.74*** (5.97)	6.00*** (6.49)	5.84*** (6.96)
<i>IASIZE</i>	-	-0.08** (-1.71)	-0.07** (-1.68)	-0.08** (-1.69)
<i>QUALI</i>	-	-0.10 (-0.87)		
<i>ACCWP</i>	-	-0.24*** (-2.55)	-0.23*** (-2.50)	-0.24*** (-2.82)
<i>FIN</i>	-	-1.54*** (-3.01)	-1.64*** (-3.22)	-1.52*** (-3.32)
<i>OPEFF</i>	-	-0.93** (-1.74)	-1.01** (-1.87)	-0.94** (-2.00)
<i>SYSDEV</i>	-	-1.85*** (-2.83)	-1.93*** (-2.95)	-1.84*** (-2.98)
<i>FRAUD</i>	-	-1.45** (-2.02)	-1.51** (-2.11)	-1.32** (-2.06)
<i>LTA</i>	+	0.30*** (6.08)	0.28*** (5.75)	0.29*** (5.97)
<i>LEV</i>	+	0.46 (1.13)	0.50 (1.23)	
<i>CA</i>	+	0.04 (0.19)	0.06 (0.27)	
<i>CR</i>	-	0.11*** (3.31)	0.11*** (3.28)	0.11*** (3.30)
<i>BIG4</i>	+	0.24** (2.05)	0.26** (2.10)	0.28** (2.31)
<i>YE</i>	+	0.22** (2.16)	0.24** (2.32)	0.24** (2.26)
<i>SUB</i>	+	0.53*** (7.48)	0.53*** (7.43)	0.55*** (7.04)
<i>ROA</i>	-	-0.19 (-0.30)	-0.14 (-0.23)	
<i>LOSS</i>	+	-0.06 (-0.28)	-0.08 (-0.37)	
Adj. R-Sq.		0.86	0.86	0.87

Note 1: The results are obtained after controlling for industry differences using industry dummies (their coefficients & t-statistics are not reported here). Please refer to Table 2 for variable definition.

Note 2: Since there is a relatively large number of regressors compared with the sample size, *QUALI*, which is insignificant in M1, is excluded and the regression is re-estimated in M2. Furthermore, all insignificant independent variables are excluded and the regression is re-estimated in M3.

*** significant at $p < 0.01$ (one-tailed); ** significant at $p < 0.05$ (one-tailed)

Table 5
Panel A. Descriptive statistics for earnings-returns tests of 53 firms for 2004

Variable	Mean	ST Dev	Min.	Median	Max.
<i>X/P</i>	0.10	0.17	-0.32	0.09	0.82
<i>DR</i>	0.30	0.46	0.00	0.00	1.00
<i>R</i>	0.33	0.90	-0.64	0.22	5.96
<i>R*DR</i>	-0.07	0.15	-0.64	0.00	0.00

Panel B. Regression results with annual returns calculated to end three months after fiscal year end. Dependent variable: *X/P*

	Expected Sign	M1	M2 Positive returns	Negative returns	
<i>Intercept</i>	+	0.06*** (3.35)	0.08*** (4.24)	0.08*** (4.24)	0.14*** (3.45)
<i>DR</i>	?		0.07 (1.51)		
<i>R</i>	+	0.13*** (2.64)	0.09** (1.76)	0.09** (1.69)	0.56** (2.38)
<i>R*DR</i>	+		0.47** (2.30)		
Adj. R-Sq.		0.17	0.22	0.06	0.30
Sample size		50	50	36	14

Panel C. Regression results with annual returns calculated to end four months after fiscal year end. Dependent variable: *X/P*

	Expected Sign	M1	M2 Positive returns	Negative returns	
<i>Intercept</i>	+	0.06*** (3.22)	0.09*** (3.36)	0.09*** (3.61)	0.11*** (3.02)
<i>DR</i>	?		0.02 (0.42)		
<i>R</i>	+	0.17*** (2.49)	0.11** (2.07)	0.11** (2.23)	0.53*** (4.38)
<i>R*DR</i>	+		0.42*** (2.6)		
Adj. R-Sq		0.29	0.36	0.11	0.35
Sample size		49	49	33	16

*** significant at $p < 0.01$ (one-tailed); ** significant at $p < 0.05$ (one-tailed); White (1980) corrected t-values are in parentheses; *X/P* = opening price deflated earnings per share; *R* = annual returns calculated to end three or four months after fiscal year end (note: reported in Panel A are for returns ending three months after the fiscal year end); *DR* = a dummy variable, equals 1 if annual returns are negative, and 0 if otherwise; *R*DR* = interaction variable of *R* and *DR*

Appendix 1
Abstract of the Survey Questionnaire

Respondents were asked to provide information for the financial year of 2004 regarding the following questions:

1. What is the approximate number of full-time employees in your whole organization?

2. State the total number of staff in your in-house (internal) audit section/unit. _____

3. How many of these staff identified in Question (2) have recognized accounting/auditing qualifications (e.g., IIA, HKICPA, ACCA, CA, CISA, CPA Australia, etc.)? _____

4. Do the external auditors have unlimited access to all the internal auditors' working papers?
 Yes
 No

5. What approximate percentage of internal audit time was spent in the following activities in the financial year ended in 2004?

Financial statements and external auditing related matters	_____%
Operating efficiency and effectiveness including internal controls	_____%
System development and maintenance including IT-based systems	_____%
Fraud investigations & other special projects (e.g., due diligence, review)	_____%
Compliance with company policies, procedures and statutory requirements	_____%
Others, pl. specify: _____	_____%
	100 %