INDONESIA'S AGGREGATED ACCOUNTING REGULATORY COMPLIANCE

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Abstract

The purpose of this study is to examine aggregate Indonesian Accounting Regulatory Compliance (IARCagg) by analyzing 220 Indonesian non-financial companies annual reports for yearly-ending 2006 listed on the Indonesia Stock Exchange (IDX). Agency theory offers insights into the listed companies' IARC practices, particularly in ascertaining whether enhanced corporate governance and differing ownership and governance structures lead to increased IARC.

This study uses a 29-item index derived from Indonesian accounting standards on inventory, fixed assets, and depreciation to measure the level of regulatory compliance of Indonesian listed companies.

Analysis reveals a level of 60.61% compliance with accounting rules. Regression analysis shows that the variables of firm size and return on assets are significant predictors of IARCagg. Bigger and more profitable companies have far higher compliance with accounting rules.

There is a data limitation in that this study is a cross sectional examination that focuses on Indonesian accounting standards: inventory, fixed assets, and depreciation. Nevertheless, this cross sectional examination provides the latest version of firms listed on the IDX and accurate information on the business environment in Indonesia as at 31 December 2006.

Although Indonesian firms may have complied with more than 50% of the key accounting rule provisions, regulatory intervention is still needed to ensure there is full compliance with Indonesian accounting regulations. Such regulation might include sanctions as promulgated by multilateral financial organizations.

No previous accounting compliance studies have been performed using an Indonesian data sample set. Critically, this study considers whether the concepts of ownership structure and corporate governance determine accounting compliance.

Keywords: *Indonesia, listed firms, compliance, and accounting standards*

Abstrak

Kajian ini bertujuan untuk meneliti agregat Indonesian Accounting Regulatory Compliance (IARCagg) dengan menganalisa laporan tahunan dari perusahaan-perusahaan non keuangan pada akhir tahun 2006 yang terdaftar pada Bursa Efek Indonesia (BEI). Teori keagenan menawarkan pandangan terhadap praktek IARC pada perusahaan-perusahaan yang terdaftar tersebut khususnya dalam memastikan apakah penguatan corporate governance dan pembedaan kepemilikan dan struktur kepemimpinan dapat menyebabkan peningkatan IARC.

Penelitian ini menggunakan indeks 29-aitem yang diturunkan dari standar akuntansi Indonesia dalam inventarisasi, aset tetap, dan depresiasi untuk mengukur tingkat regulatory compliance pada perusahaan-perusahaan Indonesia yang terdaftar di BEI.

Hasil analisis menunjukkan bahwa tingkat kesesuaian terhadap peraturan akuntansi adalah sebesar 60.61%. Hasil analisis regresi menunjukkan bahwa variabel ukuran perusahaan dan return on assets merupakan prediktor yang signifikan bagi IARCagg. Perusahaan-

perusahaan yang lebih besar dan memiliki profitabilitas tinggi memiliki tingkat kepatuhan yang jauh lebih tinggi terhadap peraturan akuntansi.

Data dalam penelitian in terbatas karena pengujian yang dilakukan bersifat lintas bidang dengan berfokus pada standar-standar akuntansi Indonesia seperti inventarisasi, aset tetap, dan depresiasi. Akan tetapi, penelitian lintas bidang ini memberikan infromasi mengenai versi terbaru dari perusahaan-perusahaan yang terdaftar di BEI dan informasi akurat mengenai lingkungan bisnis di Indonesia per 31 Desember 2006.

Meskipun perusahaan Indonesia telah memenuhi tingkat kepatuhan hingga lebih dari 50 % dari ketentuan pokok peraturan akuntansi, intervensi peraturan masih perlu dilakukan untuk memastikan kesesuaian secara penuh dengan peraturan akuntansi Indonesia. Peraturan demikian dapat memasukkan sanksi sebagaimana yang banyak digunakan oleh organisasi keuangan multilateral.

Selama ini belum terdapat penelitian mengenai kepatuhan terhadap aturan akuntansi yang menggunakan perangkat sampel data dari Indonesia. Secara kritis, penelitian ini masih mempertimbangkan apakah konsep struktur kepemilikan dan corporate governance dapat menentukan kepatuhan akuntansi.

Kata kunci : *Indonesia, perusahaan yang terdaftar di BEI, kepatuhan, dan standar akuntansi*

INTRODUCTION

This study considers the level of aggregated accounting regulatory compliance (both measurement and disclosure compliance) of Indonesian listed firms for the year ending 2006. The benefits of accounting compliance have been extolled by many commentators. It is supposed to reduce financial and auditing reporting costs for listed firms (Levich, 2001; Mayhew, et al., 2001; Spathis, 2002). It is also seen as a way to improve comprehensiveness, comparability, and analyzability of corporate financial reports for the capital market, with better quality information on which to base investment and credit decisions (Graham, et al., 2005). Further, it is perceived as advancing harmonized international financial accounting information (Bartlett, 2007) and assisting listed firms with limited funds available to prepare financial statements (Gregoriou and Gaber, 2006). It also removes barriers to capital flows by reducing differences in financial reporting requirements for firms (White, 2000).

Indeed, according to the Indonesian Capital Market Supervisory Agency (CMSA), the regulatory body in Indonesia, accounting compliance is a critical issue in Indonesia's financial markets (Bapepam, 2007). Accounting compliance results in more confidence and protection of stakeholders and contributes to the national economy by encouraging conformity with rules set by Bapepam in the running of Indonesia's businesses (Bapepam, 2007). Notably, it has been suggested that in an Indonesian context, compliance brings about decreased audit costs (Alba, et al., 1998), and in a developing country context, compliance satisfies lending conditions from key international donors (Mir and Rahaman, 2005). Yet, despite these benefits, little empirical research has been conducted on the level of, and reasons for, accounting compliance in Indonesia in recent times. This study rectifies this issue by investigating the level of Indonesian Accounting Regulatory Compliance (*IARCagg*) of listed firms on the Indonesia Stock Exchange (IDX) in terms of inventory, fixed assets, and depreciation of fixed assets (IAI, 2006). This study also examines factors that influence listed companies' *IARCagg.*

Since 1994, International Accounting Standards have been used as the basis for the development of Indonesian accounting standards (IAS Plus, 2007). However, as clearly stated by the World Bank (2005), Indonesian accounting standards are still not satisfactory. Although international institutions (ADB, 2003; World Bank, 2005) have allocated large amounts of money to improve accountancy practices in Indonesia, the quality of their accounting standards remains substandard (Nasution, 2004; Saudagaran, 2004). As pointed out by the World Bank (2005), Indonesian ac-

counting standards need to comply completely with International Accounting Standards. Moreover, auditing practices in Indonesia are still problematic and lack independence (ADB, 2003; World Bank, 2004, 2005). The World Bank (2004; 2005) has expressly stated the need for Indonesian auditing standards to embrace the International Standards on Auditing (ISA).

Accounting rule sanctions issued by Bapepam for Indonesian-listed companies are considered equivocal, weak, and very light (Christiantoko, 2000; Bappenas, 2002; Sinar Harapan, 2004; World Bank, 2005). No companies are required to re-do and re-send their financial statements. Consequently, companies may feel there is little benefit in complying with accounting rules. This raises the question as whether there is a process of verifying and double-checking the companies' financial statements in terms of whether these financial statements adhere to the accounting regulations. For instance, Leuz, et al. (2003) study of 31 different countries found that the lowest level of law enforcement was in Indonesia.

Compliance tends to be higher in developed countries than in developing countries (Street and Gray, 2002; Taplin, et al., 2002; Glaum and Street, 2003; Bohren, et al., 2004; Akhtaruddin, 2005; Karim and Ahmed, 2005; Islam, 2006; Dahawy and Conover, 2007; Setyadi, et al., 2007; Fekete, et al., 2008). There are a number of reasons for this. In contrast, developing countries have relatively weak law enforcement, corporate governance, implementations of capital markets, and there is usually no legal backing for their domestic accounting rules (ADB, 2003; World Bank, 2004, 2005). Moreover, while Indonesia has a Code for Good Corporate Governance (ICGCG) (NCCG, 2001), this current study finds that corporate governance is not working in practice in Indonesia. This is consistent with Suhardjanto, et al.'s (2008) study finds that corporate governance is not working in Indonesia for environmental accounting disclosures.

This paper proceeds as follows. Section 2 discusses past literature and hypotheses development. The research method employed is described in Section 3. Results are highlighted in Section 4. Finally, implications and conclusion are covered in Section 5.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Agency theory advances the notion that, in capital markets, agency problems arise where there is a conflict of interest arising from divergent goals between the principal and agent, which necessitates agents' actions (Eisenhardt, 1989). Information asymmetry may occur because the communication between agents and principals might not always be effective (Brennan, 2006), allowing agents to conceal deficiencies in performance from the principal (Kunz and Pfaff, 2002). Brennan (1995) and McColgan (2001) also argue that agency problems arise due to the difficulty of perfectly contracting for every possible action of agents whose decisions affect both the agent's own welfare and the welfare of the owners.

Such problems generate agency costs (Foss and Klein, 2007). In capital markets, stakeholders could reduce the costs that they want to pay for a company's shares by predicting the extent of managers' agency costs (Kurth and Lehnert, 2006). One way of doing this is to examine the company's ownership and corporate governance structures that can potentially reduce agency costs (Fauver and Fuerst, 2006). Shleifer and Vishny (1997) and McColgan (2001) suggest that ownership concentration and independent directors (in Indonesia: independent commissioners) are key determinants in reducing 'agency costs'. By varying the governance and ownership structures, conflicts of interests between principals and agents could be reduced if ownership is less concentrated and if the monitoring between the agent and principal is improved by greater independent scrutiny.

In the light of this proposition, this research offers a useful and practical application of agency theory in the Indonesian context by seeking to answer the following research questions: 1) What is the level of accounting regulatory compliance of Indonesian listed compa-

nies? 2) What factors explain variations in the level of accounting regulatory compliance of Indonesian listed companies?

Ownership concentration (H_1)

Some owners, by virtue of the size of their equity positions, effectively have some control over the firms they own (Villalonga and Amit, 2006). In modern companies, conflicts of interest between corporate insiders, for example controlling shareholders and managers, and outside investors, is central to the discussion of ownership structure (Prasad, et al., 2001). This presumes that the company's ownership structure is a primary determinant of the extent of agency problems between controlling insiders and outside investors.

Berglof and Claessens (2004) note that because of the ownership concentration being held by a very few large shareholders, who have power to manage the whole activities of the firm, the characteristics of the agency problem moves from a management versus owners problems to a minority shareholder versus controlling shareholder problem. Further, Gilson (2007) argues that dominant shareholders are keen to maximize their wealth and operate in their own interests. Consequently the smaller-owners' interests are brushed aside. Studies by La Porta, et al. (1998) and Shleifer and Vishny (1997) show the problems associated with high ownership concentration and the agency conflict that ensures between large and small shareholders. When large shareholders effectively control corporations, their polices may result in the expropriation of wealth from minority shareholders. The conflicts of interest between large and small shareholders can be numerous, including controlling shareholders enriching themselves by transferring profits to other companies they control.

As discussed earlier, one unique institutional feature, in the case of Indonesia, that is different from developed economies, such as US and UK, is the concentration of ownership. Ownership concentration in Indonesia is highly concentrated (Claessens, et al., 1999). Claessens, et al. (2000) found that there is evidence of expropriation of minority shareholders' wealth by majority or controlling shareholders. As a result, McKinsey (2001) advises that distinct ownership structures, should be scrutinised more explicitly. To formally test the impact of ownership concentration, the following hypothesis is examined:

H_1: There is a negative relationship between the level of ownership concentration and the level of IARCagg of the Indonesian-listed firms

Corporate governance (independent commissioners) (H_2)

Monks and Minow (2001) define corporate governance as the relationship among various participants in determining the direction and performance of corporations. In Indonesia, the primary participants are the shareholders, the management, and the Board of Commissioners (IFC, 2003). It generally deals with the relationships and obligations between stakeholders (OECD, 2006). The importance of corporate governance is derived from its contribution to business prosperity and to accountability (Yong and Guan, 2000). Corporate governance is also an important issue in all industrial and emerging economy countries, such as Indonesia, and it is accepted as an important pillar in the architecture of the future global economy (Sarkar and Sarkar, 2000).

Corporate governance emphasizes the accountability and fiduciary duty of the corporation and the commissioners of the corporation towards their stakeholders (Easterbrook and Fischel, 1993). Sound mechanisms and guidelines have to be drafted and implemented to ensure effective and reliable management within the corporation and to protect the rights of the stakeholders (Blagescu, et al., 2005). For stakeholders to confidently invest in businesses, they need to be able to trust the accounting figures, know that all regulations are being complied with (OECD, 2002), and be sure that the Boards of Directors/Commissioners are not serving their own interests. Good corporate governance can make a significant contribution to the preven-

tion of malpractice and fraud (Zingales, et al., 2006). Yet there is an ongoing concern that in Asia corporate governance is more a matter of form over substance, especially in Indonesia (Roche, 2005).

Pursuant to the Company Law (1995), Indonesia has a two-tiered board structure, Board of Directors and Board of Commissioners. The Board of Commissioners requires directors to represent management. The Board of Commissioners oversees and guides the Board of Directors to protect the owners' interest (Company Law, 1995).

The Board of Commissioners, which has the power to hire, fire, and compensate management teams, serves to resolve conflicts of interest among decision makers. This scenario should reduce agency costs associated with the separation of ownership and control. In turn, this encourages managers to accept agency control mechanisms. In the context of corporate governance mechanisms, the Board of Commissioners is viewed as an important safeguard for problems arising from agent-principal relations. The existence of independent commissioners on the Board of Commissioners may help to prevent collusion among managers (Nam and Nam, 2004).

In Indonesia, the Bapepam and Indonesia Stock Exchange now require all companies listed on the Stock Exchange to have at least 30% of the board as independent commissioners (FCGI, 2001; Amirudin, 2004; JSX, 2004; Effendi, 2008). The objective of this new rule is to induce the listed companies to improve transparency and the oversight role of the board by installing independent commissioners (Capital Market Law, 1995). It is thought likely that the agency conflict between managers and shareholders can be reduced by a greater level of independent commissioners. For instance, a study by Fitzpatrick (2000) in Indonesia argues that external or independent commissioners can improve corporate governance.

Adams and Mehran (2003) suggest that increases in the proportion of independent commissioners on the Board should increase a firm's performance as they are more effective monitors of company managers. The Asian Development Bank (ADB, 2001) recommendations to the Indonesian government include appointing independent commissioners and mandating their functions and responsibilities to public stakeholders. Therefore, the general expectation is that the more independent the Board of Commissioners are the greater the compliance of the firm, and in turn, the greater the performance of the firm. To test the degree of corporate governance as measured by independent commissioners, the following hypothesis is examined:

H_2: There is a positive relationship between the level of independence of the commissioners and the level of IARCagg of the Indonesian-listed firms

Size of firm (H_3)

The business environment is such that the large firm is likely to spend more money than a small firm on corporate reporting (Alchian, 1969).

Company accounting expenses are likely to reduce as a proportion of overall costs as firm size increase, since all firms are required to obey the regulations for corporate reporting. Furthermore, small firms might have more difficulty in publishing corporate reports in detail than big firms (Rahman, et al., 2002).

Salamon and Dhaliwal (1980) argue that big firms are more confident in the capital markets than small firms. Past studies (Wallace, et al., 1994; Inchausti, 1997) indicate a positive association between firm size and compliance with corporate reporting requirements. It is, therefore, hypothesised in the relationship between firm size and compliance with corporate reporting requirements in Indonesia, that:

H_3: There is a positive relationship between the level of firm size and the level of IARCagg of the Indonesian-listed firms

Auditor type (H_4)

Choice of external auditor is a mechanism that helps improve conflicts of interest between agent and owner (principal) (Craswell and Taylor, 1992). Large auditor firms

can act as a mechanism to minimise agency cost and exert more of monitoring role by limiting opportunistic behaviour by agents (Jensen and Meckling, 1976). DeAngelo (1981) finds that companies audited by the major auditor firms have substantial agency costs, and try to reduce agency costs by employing the major auditor firms. The major auditor firms are likely to encourage their clients to provide a greater amount of information in published corporate reports (DeAngelo, 1981; Schwartz and Soo, 1996).

The larger external auditor firms tend to make sure all material errors are made public and that client companies comply with the relevant regulatory and legal requirements (Owusu-Ansah, 2005). There are reasons for this preference: the major auditor firms have better technical skills, experience and expertise, and Big 4 auditor firms have an incentive to keep their reputation of high quality audits (Owusu-Ansah, 2005). The level of compliance with International Accounting Standards requirements may be positively associated with companies in developed countries audited by the major international auditor firms (Street and Gray, 2002; Ali, et al., 2004). Thus, on the basis of this position, it is hypothesized that:

H_4: There is a positive relationship between firms audited by a Big 4 auditor firm and the level of IARCagg of the Indonesian-listed firms

ROA (Return on Assets) (H_5)

ROA represents the result of good management in a firm (Owusu-Ansah, 2005). Profitable firms are likely to release more business information on their annual reports, in order to present good reasons for management compensation (Cerf, 1961). Management thus discloses detailed information to improve its compensation arrangements as per agency theory (Inchausti, 1997). The capital market compensates profitable firms by giving greater share prices; in turn, the people who run the business might have greater earnings and therefore, are inclined to issue greater information on their annual reports compared to unprofitable firms or loss making firms.

Previous studies (Wallace and Naser, 1995; Inchausti, 1997) argue that ROA is an important factor affecting the level at which firms release obligatory data on corporate reports. Support for this position is outlined below. First, net income is a measurement of management accomplishment; a firm which has net profits tends to release more business information in order to maintain managers' positions in a firm and their salaries (Owusu-Ansah, 1998). Second, when management has positive profit information, there is a tendency to release more business data to the capital market, rather than negative information, in order to keep stock prices strong (Inchausti, 1997). Likewise, firms with positive information (successful results) are likely to be more responsible to the stakeholders than those with negative information (sustained losses) (Dye and Sridhar, 1995). In this case, it might be that ROA influences and determines a firm's efficiency and effectiveness (Owusu-Ansah, 1998).

Dumontier and Raffournier (1998) suggest that compliance with International Accounting Standards by profitable firms is one way to signal superior performance to the market. It is, therefore, hypothesised on the relationship between ROA and compliance requirements in Indonesia, that:

H_5: There is a positive relationship between firms with larger profit and the level of IARCagg of the Indonesian-listed firms

Industry (H_6)

The application of accounting policies might differ by industry (Mubarak and Hassan, 2006). Firstly, because of the nature of work involved, firms in certain industries could have problems in reporting effectively. For example, oil and gas industries might have difficulties in accounting and reporting for the complex area of oil and gas wells of exploration, depreciation, and depletion (Lin and Peasnell, 2000). Secondly, type of product line and diversity of product might cause firms to disclose differently (Redda, 2007). Thirdly,

specific industries have varying degrees of regulation due to their overall contribution to the national income of a country. Therefore, it is possible they may be subject to specific supervision by regulators (Friedman and Grose, 2006). The regulation might affect how companies disclose and report.

The characteristics of industries may reveal differences in reporting regulatory compliance (Ghose, 2006). In Indonesia, the consumer goods industry might be concerned with its public image; therefore, this industry might comply with all obligatory requirements from the regulator. Likewise, the miscellaneous products industry has a propensity to impart information on more than one product line. Prior studies (Ettredge, et al., 2001) supported an association between industry and the extent of financial reporting. Other studies (Mitchell, et al., 1995) noted that the compliance with financial information on corporate reports is influenced by the industry type.

The industry environment in Indonesia is unique. Rosser (1999) and Craig and Diga (1998) note that the real estate industry is one of the dominant factors in Indonesian economy activities. Therefore, real estate industries are included. Financial industries are excluded, because they are fundamentally different and they have their own rules from Central Bank (*Bank Indonesia*). Consistent with Tower et al. (1999) and Taplin et al. (2002) this study uses four industry categories for industry classification. They are resources firms, manufacturers, real estate companies, and services entities industries.

Firms in a certain industry are likely to comply with accounting standards; however, different industries are likely to have different degree of compliance with accounting standards. Therefore, on the basis of this position, a non-directional hypothesis is proposed that:

H_6: There is a relationship between industry categories and the level of IARCagg of the Indonesian-listed firms

RESEARCH METHODS

Dependent variable (Indonesian Accounting Regulatory Compliance: *IARCagg*)

The dependent variable *IARCagg*, measured as a compliance index, is the level of compliance (both measurement and disclosure compliance) with the Indonesian accounting standards by listed-companies. Compliance can be described as adherence to those legal requirements, regulations, rules, ordinances, or other externally imposed requirements whereas non-compliance may have a financial effect and non-financial effect on the reporting entity (Scott and Ilako, 2005). An item is obligatory if the item must be reported in the financial statements of companies in accordance with financial reporting requirements of a regulator body. These actions on the part of firms are seen as mandatory reporting. Firms may also be seen to participate in voluntary reporting. Williams (1999) explains that voluntary reporting provides further clarification regarding the information to be disclosed by organizations; for example organizations' activities, programs and application of resources. This current study focuses on accounting compliance.

Measurement is defined by the International Accounting Standard Board (IASB) as the process of determining the monetary amounts at which the elements of the financial statements are to be recognised and carried in the balance sheet and income (IAS Plus, 2001). Most germane, Indonesian accounting standard setting has been adapted from the definition of IASB. The Indonesian standard setting body is *Dewan Standar Akuntansi Keuangan* - DSAK (Financial Accounting Standard Board). Company Law (1995) forces companies to comply with the Indonesian accounting standards. DSAK has had a policy of using International Accounting Standards as the basis for developing Indonesian accounting standards since 1994 (IAS Plus, 2007). However, as stated earlier the rigour of the Indonesian regulatory compliance effort is problematic (Nasution, 2004; World Bank, 2005).

Disclosure is defined as qualitative and quantitative accounting information communicated by the company through its formal and informal channels and its main objective is to provide useful data to users (Gibbins, et al.,

1990). Disclosure, the final key concept to be defined in this section, can also be explained as the condition of financial information and non-financial information included in a company's annual reports and accounts on a regular basis for those monitoring the company's economic activity (Law and Owe, 2005). Disclosure involves the entire system providing financial information for investment and broader decision-making (Staking and Schulz, 1999). Disclosure of company information is provided through regulated financial reports. The level of disclosure of accounting information depends on a number of external factors. These include the environment; the requirements of users; information from society and its competitors; the disclosure of population socio-economic data, such as tax payment; and existence of structured capital markets (Ball and Foster, 1982).

The composite level of compliance with Indonesian accounting standards - inventory, fixed assets, and depreciation - is measured by a self constructed compliance index consistent with prior studies (Al-Basteki, 1995; Dumontier and Raffournier, 1998; El-Gazzar, et al., 1999; Murphy, 1999; Tower et al., 1999; Street and Bryant, 2000; Street and Gray, 2002; Taplin et al., 2002; Glaum and Street, 2003; Tarca, 2004). Marston and Shrives (1991) note that a properly constructed compliance index is seen as a reliable measurement device.

This study examines factors that influence listed companies compliance with three key Indonesian accounting standards: PSAK 14 (Inventory), PSAK 16 (Fixed Assets), and PSAK 17 (Depreciation) (IAI, 2006). These standards have a number of requirements explicitly identified within each standard: PSAK 14 (Inventory) has nine requirements; PSAK 16 (Fixed Asset) has 16 requirements, and PSAK 17 (Depreciation) has four requirements (see Appendix B). In total, these are 29 items required to be met within a company's financial reporting compliance obligations. These three standards are analyzed because they are: relevant and applicable to the Indonesian business environment and to company reporting practices (World Bank, 2006). Table A of Appendix A provides a breakdown of the Indonesian Accounting Regulatory Compliance Index by measurement and disclosure.

In terms of minimizing uncertainty in coding, the entire annual report of each firm was read thoroughly. The purpose of reading the full annual report before scoring was to understand the nature and complexity of each firm's operations. This was consistent with prior compliance studies (for example, Tower et al., 1999; Street and Bryant, 2000).

This current study analyses the extent of accounting compliance in the Indonesian context. High levels of compliance are considered a critical factor for both domestic and international investors who have an interest in the financial reporting performance of firms-listed on the IDX.

The next step is to complete a compliance scoring work-sheet for each annual report to determine the extent of compliance with Indonesian accounting standards; this is based on the checklist. In this study, the overall level of mandatory compliance with Indonesian accounting standards is measured using an aggregated *IARCagg* score (labelled *IARCagg*). *IARCagg* is calculated as the actual total number of required items provided by the Indonesian-listed companies on their annual reports divided by the maximum applicable number of items. Each required item on the checklist is coded '1' if it is disclosed and '0' if the item is not disclosed. The index is expressed as a percentage ratio ranging from 0% - 100%, and it is the dependent variable in the regression models.

IARCagg, Indonesian Accounting Regulatory Compliance (aggregate):

$$\frac{\text{Actual number of items in report}}{\text{29 total items}}$$

Measurement of predictor variables and control variables

The level of ownership concentration is proxied by Top one shareholder. Top one shareholder ownership is measured by the proportion of shares owned by the Top one shareholder to the total number of shares is-

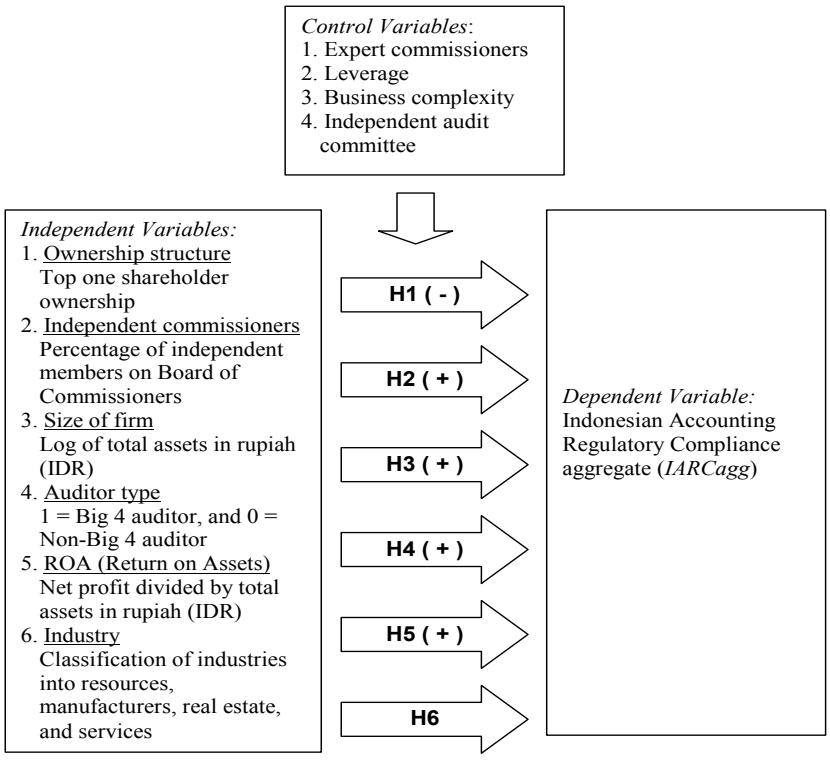
sued. Corporate governance systems are most often measured by the ratio of the number of independent commissioners to the total number of commissioners on the Board of Commissioners. In the context of this study the ratio of the number of independent commissioners to the total number of commissioners on the Board of Commissioners is used as a proxy for corporate governance. The use of firm size as a predictor variable is consistent with prior studies (Nasir and Abdullah, 2004; Haw, et al., 2006). Size of firm is measured by the log of a firm's total assets in rupiah. In this study, auditor type is measured by the presence of Big 4 auditors versus non-Big 4 auditors in publicly listed firms where 1 if Big 4, and '0' if otherwise. This is consistent with previous research (Barako, et al., 2006). In this study, ROA is measured as net profit divided by total assets. Finally, industry is measured as classification of industries into resources, manufacturers, real estate, and services (Tower et al., 1999; Taplin et al., 2002).

Expert commissioners are measured as a ratio of the number of expert commissioners to the total number of commissioners on the Board of Commissioners (Haniffa and Cooke, 2002; Baber, et al., 2005), expert commissioners are commissioners qualified in business, law or accounting divided by total number of commissioners on Board of Commissioners.

In this study, leverage is measured as a debt ratio defined as total debt to total assets (Barako et al., 2006; Morris, et al., 2006). Prior studies (Haniffa and Cooke, 2002; Tsui-Auch, 2004) find that business complexity plays a role in the extent of compliance with accounting standards. Business complexity is measured as a presence of a subsidiary of a listed firm where 1 is a firm which has at least one subsidiary; and '0' is a firm which does not have any subsidiaries. Independent audit committee is measured as ratio of the number of independent audit committee members to the total number on the audit committee.

Conceptual schema

Figure 1 below provides this paper's conceptual schema.



Source: adapted from *Setyadi, et al. (2007)*

Figure 1: Conceptual Schema

Statistical analysis

This study uses multiple regression with one metric dependent variable (*IARCagg*) and six independent variables (top one shareholder, independent commissioners, firm size, and ROA as metric; and industry and auditor type as a non-metric categorical), with four control variables (business complexity as a non-metric categorical; and expert commissioners, leverage, and independent audit committee as metric (see Tables 1 and 2 below). In this study, the main statistical method utilized to test the hypotheses is Ordinary Least Square (OLS) regression.

Sample selection and data source

This study examines a random sample of 220 annual reports of non-financial listed companies on the Indonesia Stock Exchange for the period of 1 January to 31 December 2006. The sample is 78% (or 220 annual reports) and derived from the population of 282 non-financial firms listed on Indonesia Stock Exchange. This study focuses solely on non-financial Indonesian-listed companies. Annual reports are chosen as source of data because they are easily accessed (McQueen, 2001), useful (Yeoh, 2005), communicated widely (Anderson, 1998; Beattie, et al., 2004), and financially focused. Regression diagnostics carried out for the study are explained in Appendix C.

Descriptive statistics

Table 1 provides descriptive statistics for all of the observations. It shows the mean of aggregate compliance *(IARCagg)* is 60.61% with a standard deviation of 14.12%, a minimum of 34.48% compliance, and a maximum of 100.00%. There is only one company (PT Jakarta Setiabudi Internasional Tbk), a service firm that complied completely with the accounting standards requirements.

The 60.61% level of average compliance found in this study is somewhat more than recent compliance rates for other Asian listed companies. For example, compliance of entities from Thailand, Singapore, Malaysia, Hong Kong, and the Philippines ranged from 28% to 53% (Tower et al., 1999). On the other hand, this finding is quite similar to a study finding 61% compliance in Egypt performed by Dahawy and Conover (2007). However, given each past study measured compliance differently, caution should be taken when seeking to do direct comparison.

For the independent variables, Table 1 shows that on average, top one shareholder ownership (*TopOne)* is 46.17%, ranging from 6.64% to 93.60%. The mean and median scores reveal that the average top one shareholder in Indonesia has close to clear majority ownership. In previous studies, Samad (2002) found that the mean of the largest shareholder was 30.30% for Malaysian companies and Guo and Yeh (2007) found 32.11% for Hong Kong, Singaporean, and Malaysian companies; all lower than the Indonesian figure.

Table 1: Descriptive statistics of variables observed

Type	Variables	Mean	Median	Std. Deviation	Minimum	Maximum
DV	*IARCagg*	60.61	58.62	14.12	34.48	100.00
IV	*TopOne*	46.17	48.47	20.56	6.64	93.60
IV	*IndCom*	40.45	33.33	10.53	20.00	80.00
IV	*Size (Assets)**	3,492,237	809,622	9,484,259	7,000	82,333,378
IV	*Size (log)***	13.64	13.60	1.68	8.85	18.23
IV	*ROA*	2.16	2.81	11.61	-78.01	37.22
CV	*ExpCom*	47.76	50.00	32.75	0.00	100.00
CV	*Leverage*	56.02	51.45	44.31	0.10	459.85
CV	*IndAC*	30.61	33.33	14.79	0.00	66.67

Notes: *Size (Assets): Total assets (in million rupiah). ** Firm's Size is transformed into log form to avoid skewness.

Source: 220 annual reports of firms listed on IDX as per 31.12.2006

The mean level of the independent commissioners (*IndCom*) variable is 40.45% with wide disparity from 20% to 80%. Interestingly, some companies (7.27%) had less than the 30% benchmark mandated by the Indonesian requirement rules for independent commissioners (FCGI, 2001; Amirudin, 2004; JSX, 2004; Effendi, 2008).

The average firm size (*Size (Assets)*) of Indonesian companies is IDR3,492,237 million (or US$366,831,617) yet the median score is a far lower IDR809,622 million figure with a standard deviation of IDR9,484,259 million (or US$966,245,693).

Average return on assets *(ROA)* is relatively low at 2.16% with a standard deviation of 11.61%. The smallest *ROA* figure (PT Rimo Catur Lestari Tbk) was -78.01%, varying widely to the biggest sample company (PT Unilever Indonesia Tbk) *ROA* to 37.22%. These *ROA* figures are somewhat lower than other Asian countries, for instance Ali et al. (2004) found that the average returns on total assets were 5.71% (Bangladesh), 5.25% (India), and 3.84% (Pakistan); Aksu and Kosedag (2006) noted *ROA* was 5.9% in Turkey.

The Table 1 control variables reveal that expert commissioners *(ExpCom)* average is 47.76% this is very similar to the figure of 43% found by Haniffa and Cooke (2002) for Malaysia.

The average *Leverage* variable is 56.02%. The range varies considerably: the smallest sample company (PT Toko Gunung Agung Tbk) has virtually no borrowings (0.10%), whereas the biggest sample company (PT Texmaco Jaya Tbk) has a massive *Leverage* figure of 459.85%. Aksu and Kosedag's (2006) study in Turkey found that the average *Leverage* was 51%. In comparison, Jiangli, et al. (2008), in their research on companies of Indonesia, Korea, the Philippines, and Thailand, calculated leverage in Indonesia as 35.43%, while Mitton (2002), based on his study of Indonesia, Korea, Malaysia, the Philippines, and Thailand, arrived at a figure of 46.0%. Thus, the *Leverage* finding of this current study is higher than that of previous studies (Mitton, 2002; Aksu and Kosedag, 2006; Jiangli et al., 2008).

For the independent audit committee *(IndAC)* variable the average is 30.61% with a standard deviation of 14.79%, ranging from 0.00% to 66.67%. This is much lower than in other Asian studies. Zain, Subramaniam and Goodwin (2004) found in Malaysia a mean for the independent audit committee variable of 73%; Guo and Yeh (2007), for Hong Kong, Singapore and Malaysia, computed 73.82%; while, Nowland's (2008) study in seven East Asian countries (Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, and Thailand) calculated Indonesia's average to be 91%.

Table 2 shows the frequency of auditor type indicating that the *Big 4* firms audit 46% (or 101) of the listed companies in Indonesia. It also shows that 80% (or 176) of the companies have at least one *subsidiary*. Table 2 also reveals the *Industry* of listed companies in Indonesia cover a wide range firms. *Resources* has 18% (or 41 firms), *manufacturers* has 36% (or 78 firms), *real estate* has 15% (or 33 firms), and *services* has 31% (or 68 firms).

Table 2 also shows that on average, *Big 4* audit firms have higher mean *aggregate* compliance than *non-Big 4* audit firms. It also shows that the mean *aggregate* compliance of *large* size companies is higher than that of *small* size companies; and the mean *aggregate* compliance of businesses with *no subsidiary* is higher than businesses with at least one *subsidiary*.

As part of this section on descriptive statistics, univariate T-tests and ANOVA statistical analysis reveal that the difference in means of aggregate compliance of *business complexity* is not statistically significant. However, the results illustrate that the difference in means of aggregate compliance between *Big 4* and *non-Big 4* auditor firms is statistically significant with a p-value of 0.04 ($p<0.05$). Table 2 also illustrates that the different means of *manufacturers* (64.54) are higher than *resources* (56.27), *real estate* (59.67) and *services* (59.18). Moreover, there are clear industry differences; the results indicate that *industry* is statistically highly significant with a p-value of 0.01 ($p<0.01$). The following section provides further statistical analysis.

Table 2: Frequency and comparison of means (T-test and ANOVA)

	N	Percent of companies	*IARCagg* mean	*IARCagg* t-test	
				t-value	Sig.
Auditor type:					
non-Big 4	119	54	58.79		
Big 4	101	46	62.75		
Total	220	100	60.61	4.35	.04**
Business complexity:					
Company has no subsidiary	44	20	60.66		
Company has subsidiary	176	80	60.60		
Total	220	100	60.61	.00	.98
				IARCagg ANOVA	
				F	Sig.
Industry:					
Resources	41	18	56.27		
Manufacturers	78	36	64.54		
Real estate	33	15	59.67		
Services	68	31	59.18		
Total	220	100	60.61	3.73	.01*

Legend: * denotes statistically highly significance at p<0.01.
** denotes statistically significance at p<0.05.

FURTHER STATISTICAL ANALYSIS

To test for mulitcollinearity problems, Table 3 reports Spearman correlation coefficients. For Spearman correlations, *aggregate compliance* is positively correlated with *top one shareholder*, *size of firm, auditor type*, *ROA*, and *expert commissioners*. For Spearman correlations, *aggregate compliance* is negatively correlated with *independent commissioners, industry, leverage, business complexity* and *independent audit committee.* However, these correlations are not significant.

Spearman correlations show a statistically significant correlation between *size* and *auditor type* (p<0.01) and give the highest correlation coefficients, 0.383 and 0.409 respectively. Since the variables are to be used in regression analysis and as these correlation values are below the critical limits of 0.80 (Hair, et al., 1995; 2006), it is suggested that a multicollinearity problem between independent variables is not a serious concern.

Table 4 shows the results of multiple regressions. The table provides p-values and coefficients of all independent variables in the regression model. The table shows that *top one shareholder* (0.605), *independent commissioners* (0.603), *auditor type* (0.682), *industry* (0.431), *expert commissioners* (0.224), *leverage* (0.931), *business complexity* (0.232), and *independent audit committee* (0.678) are not significant predictors of the extent of *IARCagg* since their p-values are greater than 0.05 (p>0.05) significant level.

Although, the adjusted r-square score (.063) is very low, *firm size* is highly significant with its p-value (0.001) smaller than 0.01 (p<0.01) and *ROA* is significant with p-value (0.027) smaller than 0.05 (p<0.05). Therefore, hypothesis 3 (H_3: *size of firm*) and hypothesis 5 (H_5: *ROA*) are accepted.

Table 3: Spearman correlations

		DV	IV					CV			
		IARCagg	*TopOne*	*IndCom*	*Size (log)*	*AudType*	*ROA*	*Industry*	*ExpCom*	*Lever-age*	*Business*	*IndAC*
DV	*IARCagg*					.						
IV	*TopOne*	.025										
	IndCom	-.074	.023									
	Size (log)	.248**	-.094	-.003		.						
	AudType	.127	.204**	.137*	.409**		.					
	ROA	.198**	.134*	.016	.265**	.221**						
	Industry	-.019	-.057	.062	-.253**	-.107	-.144*					
	ExpCom	.125	.053	.007	.092	.104	.024	.133*				
CV	*Leverage*	-.027	-.025	-.049	.113	.039	-.215**	.039	-.063			
	Business complexity	-.031	-.015	.001	.289**	.050	.056	.046	.055	.036		
	IndAC	-.026	-.007	.072	.031	.051	.044	-.082	-.055	-.034	-.075	

Spearman Correlations

Notes: DV: Dependent Variable, IV: Independent Variables, and CV: Control Variables.

Legend: * Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).

Table 4: Results of multiple regression analysis of *IARCagg*

Variables	Prediction	*IARCagg*	
		t-statistic	Sig.
(Constant)		3.325	.001
Independent variables:			
TopOne	Negative	-.518	.605
IndCom	Positive	-.521	.603
Size (log) [1]	Positive	2.969	.001*
AudType	Positive	.410	.682
ROA	Positive	1.940	.027**
Industry	Non-directional	.788	.431
Control variables:			
ExpCom		1.219	.224
Leverage		.086	.931
Business complexity		-1.198	.232
IndAC		-.415	.678
Model Summary			
Adj. R-Squared		.063	
F-Statistic		2.465	
Sig.		.004*	
Sample Size		220 Annual Reports	

Notes: [1] Firm's Size is transformed into log form to avoid skewness.

Legend: * Highly significant p<0.01 (one-tailed). ** Significant p<0.05 (one-tailed).

This current study's ROA result is consistent with earlier accounting compliance studies in developing countries. Owusu-Ansah (1998) in Zimbabwe; Taplin et al. (2002) in Hong Kong, Malaysia, the Philippines, Singapore, and Thailand; and Karim and Ahmed (2005) in Bangladesh. The finding is also consistent with findings for developed countries: Wallace et al. (1994) in Spain; and Owusu-Ansah (2005) in New Zealand. However, the

finding is inconsistent with other studies in developing countries: Wallace and Naser (1995) in Hong Kong; Tower et al. (1999) in the Philippines, Hong Kong, Singapore, Malaysia, and Thailand; Ali et al. (2004) in India, Pakistan, and Bangladesh; and Akhtaruddin (2005) in Bangladesh. Likewise, the finding is inconsistent with others in developed countries: Street and Bryant (2000) in the United States; Taplin et al. (2002) in Australia; Tower et al. (1999) in Australia; and Glaum and Street (2003) in Germany. These findings both support and oppose this current study's finding There are several possible reasons. Profitable firms tend to adhere more to accounting rules than non-profitable firms (Leuz, 2003). Owusu-Ansah (2005) argues that profitability symbolizes the outcome of good quality of management in running a company. Cerf (1961) and Li (2008) assert that profitable firms are more likely to issue more complete information of their business activities in annual reports than non-profitable firms, possibly because profitable firms need to provide better reasons to pay higher compensation for management. Compared to non-profitable firms, profitable firms are allocated higher share prices by the capital market. It follows that management will have higher earnings and thus management is likely to release more detailed information in annual reports than non-profitable firms. Profitable companies adhering to accounting rules is one indicator of superior performance adhering to the market (Dumontier and Raffournier, 1998). Profitable firms tend to adopt more accounting policies and tend to release detailed information in annual reports, giving sound reasons for financial performance and reducing agency costs (Dumontier and Raffournier, 1998).

IMPLICATIONS AND CONCLUSION

Regression analysis shows that the variables of firm size and ROA are significant predictors of *IARCagg* (aggregated Indonesian Accounting Regulatory Compliance). The results support hypothesis 3 (H_3: size of firm) and hypothesis 5 (H_5: ROA). The findings highlight the importance of the enforcement issue for firms listed on Indonesia Stock Exchange to comply with the regulator's rules. The goal is to enhance firms' exposure to stakeholders. The benefits derived from compliance with the Indonesian accounting standards could include a reduction in costs associated with agency costs. In terms of research question, the results demonstrate that corporate governance and ownership concentration do not explain accounting regulatory compliance.

A major implication from findings of this study is that law enforcement mechanisms currently utilized in Indonesia are not fully effective. Indonesia is recognized as a civil law country with poor law enforcement and no clear bankruptcy laws (Gul, 2001; World Bank, 2005).

The issue of corporate governance is crucial in dealing with lax law enforcement in Indonesia. This current research finds no evidence that corporate governance has redressed Indonesia's accounting regulation compliance problems. Corporate governance reform, at least in Indonesia, appears to be ineffective.

Indonesia's level of compliance of 60.61% highlights the importance of the regulatory enforcement issue for firms listed on the IDX (Indonesia Stock Exchange). Stronger regulatory enforcement of the compliance issue could encourage better professional practice and business (Mitchell and Sikka, 2004). The benefits derived from enforced compliance with the Indonesian accounting standards could include a reduction in costs associated with agency costs, such as monitoring (audit) and bonding.

Such enforced regulations might include sanctions promulgated by multilateral financial organizations (ADB, 2003; World Bank, 2005). To ensure public accountability regulation should be administered with vigorous monitoring (Tower, 1993; CIPE, 2002). La Porta, et al. (2004) emphasize the importance of government enforcement roles in capital markets, harmonization with international accounting standards, and suggest the crucial need for legal reform to support capital market development.

Notes:

1. Compliance with accounting standards ensures good professional practice and business (Mitchell and Sikka, 2004). For example, the Financial Reporting Review Panel of the Financial Reporting Council in the United Kingdom enforces companies to comply with accounting rules; in turn, the result is an improvement in the quality of financial reporting (Fearnley, et al., 2002). In another example, China adopted accounting system that apparently produced better information disclosures; China adopted compliance rules to International Accounting Standards in 1993 (Zou and Xiao, 2006).
2. Compliance leads to particular individual sacrifice, therefore the obligatory norms have to be made compulsory by an authoritative body (Hechter, 2008). It is quite common that regulatees will have strategies to resist regulations or rules if they perceive no sanctions will be applied once they break the rules (Shapiro and Matson, 2008). Accounting and accountability have been practiced with enforcements and sanctions in business since ancient Egypt and Mesopotamia; moreover, both accounting and accountability have been applied in different businesses, both in private and public areas (Carmona and Ezzamel, 2007). In Australia, it is a legislative requirement for companies to comply with accounting standards (Bassett, et al., 2007).
3. Bapepam is Capital Market Supervisory Agency and reports, and responsible to the Ministry of Finance (Capital Market Law, 1995; Ministry of Finance, 2006). According to the Capital Market Law (1995), the roles of Bapepam include to provide guidance, regulation, and day-to-day supervision of the Indonesia's capital markets. In providing guidance, regulation, and supervision, Bapepam has to act with the purpose of ensuring that the capital market is orderly, fair, and efficient, and that the interests of investors and the public are protected (Capital Market Law, 1995).
4. Since December 2007, the Jakarta Stock Exchange (JSX) has now changed to the Indonesia Stock Exchange (IDX), and in the same year IDX commenced its operations (IDX, 2008).
5. In this case, it could be that managers have the information and capacity to exert significant domination over assets which belong to shareholders and in order to maximize their wealth (Bricker and Chandar, 2000).
6. According to the Company Law No.1/1995, Indonesian company has a two tier management structure comprising of a board of directors headed by a president director and a board of commissioners headed by a president commissioner (Company Law, 1995). Directors are to manage and represent the company on a day to day basis. Commissioners are responsible for supervising and advising the directors. Directors and Commissioners are appointed by the general meeting of shareholders (Company Law, 1995).
7. Independent commissioner is an independent member on Board of Commissioners in Indonesian company (Company Law, 1995; FCGI, 2001). The independent commissioner has to meet the following requirements: (1) The Commissioner is not a member of management; (2) The Commissioner is not substantial shareholder of the company or an officer of or otherwise associated directly or indirectly with substantial shareholders of the company; (3) The Commissioner has not within the last three years been employed in an executive capacity by the company/another group member or been a commissioner after ceasing to hold any such employment; (4) The Commissioner is not a principal of a professional adviser to the company or another group member; (5) The Commissioner is not a significant supplier or customer of the company or another group member or an officer of or otherwise associated directly or indirectly with a significant supplier or customer; (6) The Commissioner has no significant contractual re-

lationship with the company or another group member other than as a commissioners of the company; (7) The Commissioner is free from any interest and any business or other relationship which could, or could reasonably be perceived to, materially interfere with the Commissioner's ability to act in the best interest of the company (Company Law, 1995; FCGI, 2001).

8. The Asian Development Bank (ADB, 2001) recommendations to Indonesian government include: appointment of independent commissioners and mandating their functions and responsibilities to public stakeholders.
9. The major international auditor firms categorised in earlier studies (the Big 6 auditor firms) consisted of Coopers & Lybrand, Ernst & Young, Pricewaterhouse, Deloitte Touche Tohmatsu, Arthur Andersen, and Klynveld Peat Marwick Goerdeler (KPMG) (Choi, et al., 2000). Coopers & Lybrand merged with Pricewaterhouse to become PricewaterhouseCoopers (PWC), in 1999. Because of the Enron scandal, Arthur Andersen ceased operation, after 2002 (Cullinan, 2004; Cunningham and Harris, 2006). Thus, the Big 4 auditor firms are now: PricewaterhouseCoopers (PWC), Deloitte Touche Tohmatsu, Klynveld Peat Marwick Goerdeler (KPMG), and Ernst and Young (Moore, et al., 2003).
10. In this study, ROA (return on assets) showed the smallest figure of -78.01 for PT Rimo Catur Lestari Tbk. This company has been experiencing major losses for five consecutive years (2002–2006: IDR13.09 million, IDR15.96 million, IDR20.10 million, IDR11.65 million, and IDR52.27 million).
11. One company had a surprisingly high leverage figure of 459%. The company 'PT Texmaco Jaya Tbk' has total liabilities of IDR2,034,701 million and total assets of IDR442,471 million. The company's (PT Texmaco Jaya Tbk) financial statement as at 31 December 2006 was audited by external audit firm of Hendrawinata, Gani & Rekan. The auditor issued a 'no-opinion' for the financial statement, since there was no guarantee the company stated would continue its business operations. Over five years (2002 – 2006) the company reported losses in its financial statements: IDR168,141 million, IDR275,782 million, IDR345,379 million, IDR143,668 million, and IDR32,651million respectively. The Board of Directors stated that the company had dismissed 3,860 employees since September 2004. Their Board of Commissioners did not provide any specific details as to how the company planned to overcome these losses.
12. Nowland's (2008) study measured differently independent audit committee by proportion of independent directors on the audit committee.

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Appendix A
Measurement and disclosure

Table A below shows the measurement and disclosure components of the aggregated IARCagg.

Table A: *IARCagg*: measurement and disclosure components

	Measurement components		Disclosure components		Total components
Inventory	*4 item*		*5 items*		*9 items*
	INV1=	lowering of cost and net realizable value	*INV5=*	accounting policy	
	INV2=	the cost of inventories	*INV6=*	total carrying amount	
	INV3=	cost definition	*INV7=*	appropriate classification to the entity	
	INV4=	recognition as an expense	*INV8=*	fair value less costs to sell	
			INV9=	the amount of inventories recognized as an expense during the period	
Fixed Assets	*6 item*		*10 items*		*16 items*
	FA1=	fixed assets that qualifies for recognition as an asset	*FA7=*	measurement bases used for determining the gross carrying amount	
	FA2=	recorded at its cost	*FA8=*	the gross carrying amount	
	FA3=	amount of accumulated depreciation	*FA9=*	accumulated depreciation at the beginning and end of the period	
	FA4 =	revaluation of fixed assets	*FA10=*	effective date of the revaluation	
	FA5=	explain the effect of revaluation	*FA11=*	independent valuer was involved	
	FA6 =	difference between revaluation value and book value must be recorded on equity account	*FA12=*	the revaluation methods used for fixed assets	
			FA13=	significant assumptions for items' fair values	
			FA14=	items' fair values were determined	
			FA15=	each re-valued class of fixed asset	
			FA16=	the amount of revaluation reserve	
Depreciation	*2 items*		*2 items*		*4 items*
	DEP1=	allocation on a systematic basis	*DEP3 =*	the depreciation method used	
	DEP2=	consistent from period to period	*DEP4 =*	useful life	
Total	*12 items*		*17 items*		*29 items*

Source: Adapted from *Setyadi et al.* (2007)

Table A above reveals there are 12 measurement components (inventory, 4 items; fixed assets, 6 items; and depreciation, 2 items) and 17 disclosure components (inventory, 5 items; fixed assets, 10 items; and depreciation, 2 items). These items are used as the basis to analyze in detail the annual reports as at 31 December 2006.

The initial step in constructing the compliance index is developing the checklist, which is based on the standards for the three areas of inventory, fixed assets, and depreciation.The checklist distinguishes between disclosure and measurement practices because compliance may differ between them (Street and Gray, 2002). Each standard was obtained from the latest volume of Indonesian accounting standards (*Pernyataan Standar Akuntansi Keuangan* - PSAK), of which 2004 is the most recent year.

The following validation methods were undertaken. Detailed compliance checklists for each standard were confirmed with expert members of the Indonesian Institute of Accountants (IAI), Jakarta. The expert members come from two organisations that are part of the IAI: the Accounting Standard Board (*Dewan Standard Akuntansi Keuangan – DSAK*) and the Public Accountant Compartment (*Kompartemen Akuntan Publik - KAP*). The expert member from the Accounting Standard Board (*Dewan Standard Akuntansi Keuangan – DSAK*) is an academic (a professor in accounting), and the expert member from Public Accountant Compartment (*Kompartemen Akuntan Publik -*

KAP) is the chief of a public accountant firm with more than 30 years experience as a professional accountant and auditor, both in Indonesia and overseas.

In terms of minimizing uncertainty in coding, the entire annual report of each firm was read thoroughly. The purpose of reading the full annual report before scoring was to understand the nature and complexity of each firm's operations. This was consistent with prior compliance studies (for example, Tower et al., 1999; Street and Bryant, 2000).

Appendix B
Dependent Variable

Based on Table A in Appendix A, the followings 29 items for inventories (PSAK 14) (Table B.1), fixed assets (PSAK 16) (Table B.2), and depreciation (PSAK 17) (Table B.3) are used as the core checklist. These are used to measure whether each Indonesia-listed company complies with these standards. Consistent with Street and Gray's (2002) study, this checklist differentiates between measurement requirements and disclosure requirements.

These three standards are derived from the newest version of Indonesian accounting standards (*Pernyataan Standar Akuntansi Keuangan* - PSAK) year 2004 as the latest volume at the time of writing. The results of the checklist are used as basis of calculations for accounting compliance index to measure the extent of accounting compliance with Indonesian accounting standards for each variant of the dependent variable.

As shown in Table B.1, there are four measurement requirements and five disclosure requirements for inventories.

Table B.1: Inventories (PSAK 14)

No.	Measurement Requirements
1	Inventories shall be measured at the lower of cost and net realisable value.
	The cost of inventories:
2	The cost of inventories shall comprise all costs of purchase, costs of conversion, and other costs incurred in bringing the inventories to their present location and condition.
	Cost definition:
3	The cost of inventories shall be assigned by using the first-in, first-out (FIFO), weighted average cost formula, or last-in, first-out (LIFO). An entity shall use the same cost formula for all inventories having a similar nature and use to the entity. For inventories with a different nature or use, different cost formulas may be justified.
	Recognition as an expense:
4	When inventories are sold, the carrying amount of those inventories shall be recognised as an expense in the period in which the related revenue is recognised.
No.	**Disclosure Requirements**
	The financial statement shall disclose:
5	The accounting policy adopted in measuring inventories, including the cost formula used.
6	The total carrying amount of inventories, and
7	The carrying amount in classifications appropriate to the entity.
8	The carrying amount of inventories carried at fair value less costs to sell.
9	The amount of inventories recognised as an expense during the period.

For fixed assets (see Table B.2), there are six measurement requirements and ten disclosure requirements.

Table B.2: Fixed Assets (PSAK 16)

No.	Measurement Requirements
	Fixed Asset:
10	An item of fixed asset that qualifies for recognition as an asset shall be measured at its cost.
11	Cost Model. After recognition as an asset, an item of fixed assets shall be carried at: its cost
12	less any accumulated depreciation and any accumulated impairment losses.
13	Revaluation of Fixed Asset is generally not allowed due to Financial Accounting Standard of Fixed Asset is based on historical cost. The exception to this Standard could be encompassed by government rules. In this case, the financial statement has to: explain the exception of the historical concept of fixed asset and
14	The effect of this exception on the financial statement.
15	The difference between revaluation value and book value of fixed asset must be recorded on the equity account with the title "revaluation of fixed asset".
No.	**Disclosure Requirements**
	The financial statements shall disclose, for each class of fixed asset:
16	The measurement bases used for determining the gross carrying amount.
17	The gross carrying amount and the accumulated depreciation (aggregated with accumulated impairment losses) at the beginning and end of the period
	If items of fixed asset are started at re-valued amounts, the following shall be disclosed:
19	(a) The effective date of the revaluation
20	(b) Whether an independent valuer was involved
21	(c) The methods and significant assumptions applied in estimating the items' fair values.
23	(d) The extent to which the items' fair values were determined directly by reference to observable prices in an active market or recent market transactions at arm's length terms or estimated using other valuation techniques
24	(e) For each re-valued class of fixed asset, the carrying amount that would have been recognised had the assets been carried under the cost model
25	(f) The revaluation reserve

Finally, as shown in Table B.3, there are two measurement and two disclosure requirements.

Table B.3: Depreciation (PSAK 17)

No.	Measurement Requirements
	Depreciation:
26	The depreciable amount of an asset shall be allocated on a systematic basis over its useful life
27	That method is applied consistently from period to period unless there is a change in the expected pattern of consumption of those future economic benefits.
No.	**Disclosure Requirements**
	The financial statements shall disclose, for each class of fixed asset:
28	The depreciation method used.
29	The useful life or the depreciation rate used.

A summary of the number of measurement and disclosure requirements is tabulated below.

Table B.4: Summary of measurement and disclosure requirements

Total	Description
9	Inventory (PSAK 14)
16	Fixed Asset (PSAK 16)
4	Depreciation (PSAK 17)
29	Items

Source: Adapted from *Setyadi, et al. (2007)*

The use of this index is consistent with prior accounting compliance studies (Street, et al., 1999; Tower, et al., 1999; Street and Bryant, 2000; Street and Gray, 2001; Glaum and Street, 2003).

There are 59 Indonesian accounting standards (*Pernyataan Standar Akuntansi Keuangan* - PSAK) which are mainly adopted from the International Accounting Standards and the United States Generally Accepted Account-

ing Principles (ADB, 2003). Interestingly, there is a time lag between the year standards were promulgated by International Accounting Standards Committee (IASC) or United States Financial Accounting Standard Board (US FASB) and the year at which these standards were promulgated by the Indonesian Institute of Accountants (IAI). The time lag ranges from 1 year (PSAK 10, 11, 14, 16, 22, 23, 24, 25, 34, 46, and 55) to 45 years (PSAK 51) with an average of 9 years, suggesting that there is a need to update the Indonesian accounting standards.

Two standards (PSAK No. 9 and 20) have been superseded by PSAK No. 1, effectively since 1 January 1999, and PSAK No. 19, effectively since 1 January 2001, effectively leaving 57 standards. PSAK No.9 related to Disclosures on Current Assets and Short Term Liabilities (*Penyajian Aktiva Lancar dan Kewajiban Jangka Pendek*) and No. 20 to Research and Development Costs (*Biaya Riset dan Pengembangan*).

Of the 57 standards, 27 standards derive from International Accounting Standards (IAS) - for instance PSAK No.2 Cash Flow Statement is IAS No.7. Of the 30 (57-27) standards, 14 standards are based on US GAAP for example, PSAK 3 Interim Financial Statements is APB Opinion No. 28 (1973). A further 10 standards are derived from specific guidances. These include PSAK No. 27 Accounting for Cooperation (*Akuntansi Perkoperasian*), No. 29 Accounting for Oil and Gas industry (*Akuntansi Minyak dan Gas Bumi*), No. 31 Accounting for the Banking Industry (*Akuntansi Perbankan*), No. 32 Accounting for Forestry Enterprises (*Akuntansi Pengusahaan Hutan*), No. 33 Accounting for General Mining Industry (*Akuntansi Pertambangan Umum*), No. 35 Accounting for Revenues from Telecommunication Services (*Akuntansi Pendapatan Jasa Telekomunikasi*), No. 37 Accounting for Toll Roads (*Akuntansi Penyelenggaraan Jalan Tol*), No. 47 Accounting for Land (*Akuntansi Tanah*), No. 49 Accounting for Mutual Funds (*Akuntansi Reksadana*), and No. 59 Accounting for Syariah Banking (*Akuntansi Perbankan Syariah*)[1].

Finally, six (16-10) standards have been issued for different objectives; for example, PSAK No. 39 Accounting for Joint Operations (*Akuntansi Kerjasama Operasi*) exposes regulations for joint operations in Indonesia.

All the Indonesian accounting standards have been prepared to harmonize with International Accounting Standards in order to ensure high-quality accounting principles (ADB, 2003), including the three accounting standards (inventory, fixed assets, and depreciation) which are the focus of this study. All three accounting standards are examined, because they are related and applicable to business practices in Indonesia, and to the practices of corporate reporting in Indonesia (World Bank, 2006).

Appendix C
Mahalanobis distance and Cook's distance

Further to the discussion in the main text on the multiple regression results of *IARCagg*, this appendix further explore the results for Mahalanobis distance and Cook's distance of *IARCagg.*

C.1. Mahalanobis distance and Cook's distance of *IARCagg*

Outliers are values that are well above the critical values for evaluating Mahalanobis distance Cook's distance values (Pallant, 2007). Mahalanobis distance is the distance of a particular case from the centroid of the remaining cases where the centroid is the point created by the means of all variables (Tabachnick and Fidell, 2007). Further, outliers can be checked by inspecting the Mahalanobis distance and Cooke's distance that are produced by the multiple regression program of SPSS (Pallant, 2007). The Mahalanobis distance score should be under 25 (Barnett and Lewis, 1978; Field, 2005).

Cook's distance is a summary measure of the influence of a single case (observation) based on the total changes in all other residuals when the case is deleted from the estimation process (Hair, et al., 1998; Field, 2005; Pallant, 2007). In this case, large values or greater than 1 indicate substantial influence by the case in affecting the estimated regression efficients (Hair et al., 1998). In other words, Cook's distance score should be less than 1 (Cook and Weisberg, 1982; Field, 2005). In this study, SPSS version 15.0 for Windows computes both Mahalanobis distances and Cook's distances using the regression menu.

Mahalanobis distance of *IARCagg* is presented below in Table C.1.

Table C.1: Mahalanobis distance of *IARCagg*
Source: 220 annual reports of firms listed on IDX as per 31.12.2006

	Minimum	Maximum	Mean	Std. Deviation
Mahalanobis distance	2.317	90.325	9.955	8.307

Table C.1 illustrates Mahalanobis distance scores with minimum 2.317 and maximum 90.325. This suggests that possible outliers in the model as the maximum score is higher than the score limits of 25 (Barnett and Lewis, 1978; Field, 2005).

[1] In general, only certain Indonesian accounting standards (PSAK) are applicable to a particular type of industry. So, specific Indonesian accounting standards (PSAK) cannot be applied for all industries.

Table C.2 below reveals the results of Cook's distance scores of *IARCagg*.

Table C.2: Cook's distance of *IARCagg*
Source: 220 annual reports of firms listed on IDX

	Minimum	Maximum	Mean	Std. Deviation
Cook's distance	0.000	0.042	0.005	0.008

As presented in Table C2, the figures demonstrate that there is no multivariate outliers in the data set, since the values of Cook's distance are less than 1 (Cook and Weisberg, 1982; Field, 2005).

The results of Mahalanobis distance indicate that there are five companies that are potential multivariate outliers. These figures are greater than the score limits of 25 (Barnett and Lewis, 1978; Field, 2005). In theory, these five outliers of Mahalanobis distance could be removed from the data set. However, the Cook's distance scores for these companies are all within the specified limits. Thus, the question arises as to the treatment of these possible outliers? One approach (shown on Table C.4) is to remove these companies to see if the overall statistical conclusions changes.

Tables C.3 and C.4 below illustrates the results of multiple regression analysis of *IARCagg* before and after five possible outliers were removed.

Table C.3: Results of multiple regressions analysis of *IARCagg* before possible outliers removed

Source: 220 annual reports of firms listed on IDX

Variables	Prediction	*IARCagg*	
		t-statistic	Sig.
(Constant)		3.325	0.001
Independent variables:			
TopOne	Negative	-0.518	0.605
IndCom	Positive	-0.521	0.603
Size (log)	Positive	2.969	0.001*
AudType	Positive	0.410	0.682
ROA	Positive	1.940	0.027**
Industry	Non-directional	0.788	0.431
Control variables:			
ExpCom		1.219	0.224
Leverage		0.086	0.931
Business		-1.198	0.232
IndAC		-0.415	0.678
Model Summary			
Adj. R-Squared		0.063	
F-Statistic		2.465	
Sig.		0.004*	
Sample Size		220 Annual Reports	

Legend:
* Highly significant p<0.01 (one-tailed).
** Significant p<0.05 (one-tailed).

Table C.4: Results of multiple regressions analysis of *IARCagg* after possible outliers removed

Source: subset of 215 annual reports of firms listed on IDX

Variables	Prediction	*IARCagg*	
		t-statistic	Sig.
(Constant)		3.254	0.001
Independent variables:			
TopOne	Negative	-0.795	0.428
IndCom	Positive	-0.594	0.553
Size (log)	Positive	3.060	0.001*
AudType	Positive	0.372	0.710
ROA	Positive	1.952	0.026**
Industry	Non-directional	0.708	0.480
Control variables:			
ExpCom		1.309	0.192
Leverage		0.011	0.991
Business		-1.360	0.175
IndAC		-0.401	0.689
Model Summary			
Adj. R-Squared		0.067	
F-Statistic		2.541	
Sig.		0.003*	
Sample Size		215 Annual Reports	

Legend:
* Highly significant p<0.01 (one-tailed).
** Significant p<0.05 (one-tailed).

As shown in Table C.4 (five outliers removed), the two independent variables of *Size* and *ROA* are significant predictors of the extent of *IARCagg*; their p-values of 0.001 and 0.026 are smaller than 0.01 (p<0.01) and 0.05 (p<0.05) respectively. Four independent variables (*TopOne, IndCom, AudType,* and *Industry*) are not significant predictors since their p-values (0.428, 0.553, 0.710, and 0.480 respectively) are greater than the 0.05 significant level (p>0.05). Thus, hypothesis 3 (H_3: size of firm) and hypothesis 5 (H_5: return on assets) are accepted. *ExpCom, Leverage, Business,* and *IndAC* – the four control variables – are not significant predictors (p>0.05).

As noted in Table C.3 (five possible outliers not removed), *Size* and *ROA* - the two independent variables - are significant predictors of the extent of *IARCagg*; for their p-values (0.001 and 0.027 respectively) are smaller than 0.01 (p<0.01) and 0.05 (p<0.05). *TopOne, IndCom, AudType,* and *Industry* - four independent variables – have p-values (0.605, 0.603, 0.682, and 0.431 respectively) higher than 0.05 (p>0.05). Accordingly, hypothesis 3 (H_3: size of firm) and hypothesis 5 (H_5: return on assets) are not rejected. Four control variables (*ExpCom, Leverage, Business,* and *IndAC*) are not significant predictors (p>0.05). Thus, Tables C.3 and C.4 demonstrate that there are no different statistical findings between the two possible outliers: before and after five possible outliers were removed.

To conclude, Cook's distance indicates that there are no multivariate outlier problems in the model. Mahalanobis distance, however, shows five possible outliers in the model. Therefore, additional statistical examinations have been run with and without possible Mahalanobis-linked outliers. The results reveal that, before removing the outliers, these two independent variables of *Size* (p-value 0.001; p<0.01) and *ROA* (p-value 0.027; p<0.05) are sig-

nificant predictors. Similarly, after removing the outliers, the two independent variables of *Size* (p-value 0.001; $p<0.01$) and *ROA* (p-value 0.026; $p<0.05$) are significant predictors. These results, either before removing or after removing the outliers, suggest that hypothesis 3 (H_3: size of firm) and hypothesis 5 (H_5: return on assets) are accepted. None of the four control variables – *ExpCom, Leverage, Business,* and *IndAC* – are significant predictors ($p>0.05$). This suggests that the results of multiple regression analysis show no difference, both before removing and after removing the outliers, confirming the significant predictors are these two independent variables of *Size* and *ROA*. There are no difference by including or excluding the outliers. Therefore, the complete data set has been used in the statistical analysis of this study.