印尼股票市場財務資訊透明度之檢核

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摘 要

　　資訊透明與揭露是衡量公司治理的重點之一，本研究探討全世界人口第四多的新興國家---印尼的股票市場資訊透明與揭露程度。研究期間為 2007 年至 2010 年，研究對象為印尼前 100 大公司，資訊透明度使用 Standard & Poor's (S&P)公司所發展的指標，以迴歸分析探討資訊透明度與各項財務變數之關係。研究結果顯示研究對象公司揭露了 110 項的資訊指標中的 76.9%，此比率比過去類似文獻結果為高。2008 金融危機之後，資訊透明度呈現顯著的提升。此外，負債比率、市值規模、以及股利發放率對資訊揭露也有顯著的影響。

關鍵詞：公司治理、資訊揭露、印尼、透明度

An Investigation on the Information Transparency and Disclosure in Indonesian Stock Market

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Abstract

The issue of transparency and disclosure is one of the key factors for corporate governance. This study investigates the practices of transparency and disclosure in Indonesia, which has the fourth largest population in the world. Using data from the 100 largest Indonesian companies from 2007 to 2010, the measures of transparency and disclosure proposed by the Standard & Poor's (S&P) and the methodology of regression, this study finds that the 100 largest Indonesian firms disclosed 76.9% of the 110 S&P information attributes, which is higher than the percentages obtained in previous studies. The level of transparency and disclosure following the 2008 financial crisis is significantly higher than in the pre-crisis period. In addition, this study shows that debt ratio, market capitalization, and the dividend payout ratio have significant effects on the level of information disclosure.

Keyword: Corporate Governance, Disclosure, Indonesia, Transparency

I. Introduction

In the popular Hollywood movie "The Fantastic Four," Invisible Woman, Susan Richards, has the superpower of transparency, enabling her to become invisible to fight antagonists. Transparency is a common theme in science fiction movies and stories, with the common implication being that transparency stands for power and ability, whether it is possessed by a protagonist or an antagonist. In reality, humans cannot make themselves invisible. However, transparency is an important issue in corporate governance (CG) for financial markets and investment practices.

In recent years, financial scandals such as those of WorldCom and Enron have weakened investors' faith in financial statements and have made CG practices an important issue to both academics and finance practitioners. Many studies have investigated the effects of CG on various financial issues, such as stock returns, operating performance, and earnings management. For example, Bhagat and Bolton (2008) and Klapper and Love (2008) found CG to be significantly positively correlated with operating performance. Mashayekhi and Bazaz (2008) reported that board size is negatively associated with firms' performances. Using the Fama and French three-factor model, Carvalhal and Nobili (2011) concluded that the CG variables better explain stock returns than do firm size and the book-to-market ratio. Hossain et al. (2011) suggested that the Sarbanes-Oxley Act (SOX) of 2002, an important CG milestone, has affected management reporting choices more than improvements in governance and internal control over financial reporting. Krishnan et al. (2011) showed that more reputable venture capitals (VCs) exhibit more active post-IPO involvement in the CG of their portfolio firms and that this sustained VC involvement positively influences post-IPO firm performance.

The concept of CG is well accepted. However, there is no conclusive method for measuring the degree of CG. Previous studies have used various financial measures or indices to represent the level of CG. One frequently used index was developed by Gompers, Ishii, and Metrick (GIM, 2003). In 2004, the Organization for Economic Cooperation and Development (OECD) released the updated *OECD Principles of Corporate Governance* to provide a set of CG standards and guidelines.[1] These principles define CG on the basis of six areas: (1) ensuring the basis for an effective CG framework; (2) the rights of shareholders and key ownership functions; (3) the equitable treatment of shareholders; (4) the role of stakeholders; (5) disclosure and transparency; and (6) the responsibilities of the board. That *disclosure and transparency* is one of the six principles of CG defined by the OECD demonstrates that transparency and disclosure are crucial factors for evaluating the degree of CG. In addition, Millar et al. (2005) proposed that the common factor that determines the success of a CG structure is the extent to which the CG structure is transparent to market forces.

For stock markets and corporations, transparency means increased disclosure and the dissemination of financial information. Beeks and Brown (2006) presented empirical evidence supporting the positive association between CG and informative disclosure. Transparency enables stakeholders to obtain more information to better understand corporations and assess their values. Millar et al. (2005) proposed that firms can adopt voluntary disclosure practices to strengthen their position in the market. However, some stock investors, dealers, or corporation managers do not want transparency because it makes controlling a corporation and manipulating stock prices more difficult.

Not only is transparency a crucial issue at the corporate level, it is critical at the financial market level. The theoretical model by Bloomfield and O'Hara (2000) has demonstrated that low-transparency dealers earn more profit than do their more transparent competitors and that most dealers choose to have low transparency when given a choice. Bushman et al. (2004) showed that, although financial transparency is primarily related to

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[1] Available online. http://www.oecd.org/daf.

political economy, governance transparency is chiefly related to a country's legal/judicial regime. Yu (2005) found that firms with a high transparency index tend to have low credit spreads. Francis et al. (2009) concluded that corporate transparency facilitates the allocation of resources across industry sectors.

Emerging Indonesia has the fourth largest population in the world and the performance of stock market attracts intensive attention coming from international markets. The financial transparency and disclosure will be an important issue for investors. To measure the level of transparency for Indonesian companies, this study employs the transparency and disclosure score (TDS) mechanism developed by of the Standard and Poor's (S&P). Although the S&P TDS system has a complete assessment structure, the S&P has not assessed the transparency and disclosure practices of all Indonesian stocks. Therefore, the S&P TDS data set cannot provide the transparency and disclosure scores of all Indonesian firms. Aksu and Kosedag (2006) used the S&P approach to investigate the practices of the Istanbul Stock Exchange. Following the S&P TDS methodology, this study uses 110 attributes (the same as the S&P report on Russian companies in 2010)[2] to assess the practices of Indonesian companies.[3] Patel et al. (2002) reported that the percentages of information attributes in the annual reports for the 19 emerging markets ranged from 22% to 55%. The 2010 S&P TD report for Russian companies showed that the Transparency Index (calculated as the average score for the 90 largest public Russian companies) was 57.5%. Compared to these emerging-market figures, the higher Indonesian TDS average of 76.9% demonstrates that Indonesian financial reports disclose more information.

Using the S&P transparency and disclosure scores, this study analyzes transparency and disclosure from various perspectives. First, this study examines the effect of the 2008 financial crisis on Indonesia's TDS performance. The influence of the financial crisis in 2008 on financial markets inspired a plethora of academic studies investigating crisis-related financial issues.[4] A comparison of the TDS scores of the pre- and post-crisis periods shows that the transparency of Indonesia's market increased substantially following the 2008 financial crisis.

Individual investors cannot calculate transparency indices by themselves and must use available financial figures or ratios to identify firms that are more transparent. From the perspective of financial ratios, this study found that firms with high debt ratio values, payout ratio values, or market capitalization have significantly higher transparency and disclosure scores.

This study's contributions to the literature on transparency and disclosure are as follows. Extant studies on transparency and disclosure have been subject to the availability of transparency measures. The AIMR corporate disclosure ranking database and the S&P transparency and disclosure scores only include major firms in certain countries and times. Researchers may be unable to obtain sufficient data on the transparency index to complete their research. No database or financial institute provides a relevant transparency evaluation of the Indonesian market. To investigate the practices of accounting disclosure in the emerging Indonesia stock market, this study follows the methodology of the S&P transparency and disclosure score to assess Indonesian disclosure practices. To the best of our knowledge, this study is the first to investigate information disclosure in the Indonesian stock market. This study uses the 110 attributes of the S&P transparency and disclosure index to assess the 100 largest

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[2] Source: *Transparency and Disclosure by Russian Companies 2010: Moderate Improvement in Transparency Led by Power Utilities*. A Joint study of the Standard & Poor's Governance Services and the Centre for Economic and Financial Research at the New Economic School. Available online: http://www.russianipo.com/publications/5_S&P%20report%20on%20transaprency_ENG.pdf

[3] One of the coauthors worked in the auditing division of an Indonesian accounting firm. She is familiar with accounting systems, the structure of financial reports, and the crucial points of auditing practices. Therefore, she was able to analyze the accounting disclosure of each S&P TDS attribute from the available financial information.

[4] For example, Afonso et al. (2011) explored the issue of liquidity in the U.S. overnight interbank market, Lin et al. (2012) focused on corporate ownership structure, and Erkens et al. (2012) investigated the influence of CG on financial firms' performances.

Indonesian corporations, which constitute 74% of market capitalization in Indonesia. In addition, this study demonstrates that transparency and disclosure are significantly related to the financial variables of debt ratio, market capitalization, and dividend payout ratio.

The remainder of this study is organized as follows. The following two sections introduce the background of the emerging Indonesia stock market and the S&P transparency and disclosure score, respectively. Thereafter, we describe our research methods and present the empirical results. Finally, we offer concluding remarks.

II. The Indonesian Stock market

In early 2000, Goldman Sachs proposed the term "BRICs" in its investment report, predicting the substantial economic performances of Brazil, Russia, India, and China. In 2006, Goldman Sachs created the term "Next-11," which included 11 specific countries that are expected to experience substantial economic growth. Among these nations, Indonesia deserves increased attention from investors. With a population of nearly 250 million, Indonesia is the most populous country among the Next-11, and it is the fourth most populous country in the world. Indonesia's estimated economic growth rate in 2011 was 6.4%, which ranked 37th worldwide. In addition, Indonesia has abundant natural resources, including petroleum, natural gas, nickel, timber, copper, fertile soil, coal, gold, and silver.[5] Learning from the experiences of other emerging markets, Indonesia is becoming a large and important emerging market, and CG is a critical issue regarding regulation and management in Indonesia's stock market. The practices of transparency and disclosure can provide valuable information for stock investors. Therefore, this study investigates the practices of transparency and disclosure using the TDS mechanism of the S&P.

The steady economic growth in Indonesia has positively affected the number of listed companies in the Indonesia Stock Exchange (IDX) in the past few years. As shown in Table 1, the GDP per capita growth rate was approximately 5% from 2007 to 2010. The impact of the financial crisis that occurred in late 2008 on market performance in 2009 was limited. In addition, Table 1 shows that the number of listed companies increased from 383 in 2007 to 420 in 2010. The 2008 financial crisis significantly influenced market capitalization in Indonesia, and resulted in a significant decrease from IDR1,988 trillion to IDR1,076 trillion. Following the financial crisis, market capitalization returned to the pre-crisis level and grew at a rate of 60% in 2010.

As published in the *IDX Fact Book* in 2011,[6] the IDX market indicators at the end of 2010 showed significant improvement, particularly for the growth of the Jakarta Composite Index (JCI), which has more than doubled in the last 5 years. In 2010, the JCI, using all listed stocks as the basis for index calculation, increased by 46.13%, from 2,534 at the end of 2009 to 3,703 at the end of 2010. In addition to the increased benchmark

Table 1　Facts of the Indonesian Market

Year	2007	2008	2009	2010
GDP per capital growth (annual %)	5%	5%	4%	5%
GDP per capita (current USD)	1,859	2,172	2,272	2,946
Total listed companies	383	396	398	420
Market capitalization (trillion, IDR)	1,988.3	1,076.5	2,019.4	3,247.1

Source: http://data.worldbank.org and *the IDX Fact Book* 2011

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[5]　Source: The Central Intelligence Agency Web site. https://www.cia.gov/library/publications/the-world-factbook/geos/id.html

[6]　Available online: http://www.idx.co.id/Home/Publication/FactBook/tabid/146/language/en-US/Default.aspx

Table 2   Classification of Indonesian Stocks in 2010

Sector	Classification	#	%
Primary	1. Agriculture	16	4%
	2. Mining	29	7%
Secondary	3. Basic Industry and Chemical	57	14%
	4. Miscellaneous Industries	41	10%
	5. Consumer Goods	33	8%
Tertiary	6.Property, Real Estate, and Building Construction	46	11%
	7.Infrastructure, Utilities, and Transportation	34	8%
	8.Finance	70	17%
	9.Trade, Services, and Investment	94	22%
Total		420	100%

composite index in 2010, the IDX's total market capitalization surged by an incredible 60.80% and the average daily transaction value increased by 18.52%. In 2010, 23 new companies listed their shares through the Initial Public Offering (IPO) process in the IDX, representing an increase of 77% from 2009, although this figure was slightly below the goal of 25.

The sector classification system used to categorize companies listed on the IDX is the Jakarta Stock Industrial Classification (JASICA). This classification system is useful for capital market participants as a tool for making investment decisions. The IDX calculates sector indices as performance indicators for individual industrial groups. The JASICA business segmentation is typically based on the Indonesia Business Classification, which is published by the Center of Statistical Bureau (BPS) and follows the International Standard Industrial Classification (ISIC). Based on the chief economic activities of each listed company, the sectors within the JASICA are classified as primary, secondary, or tertiary sectors, which are described in Table 2. As of 2010, the IDX had 420 listed companies divided into nine sectors. The three largest sectors were trade, service, and investment; finance; and basic industry and chemical, representing 22%, 17%, and 14% of the listed companies in the IDX, respectively.

III. S&P Transparency and Disclosure Score

Various factors mitigate the problem of agency in CG, including the extent to which board members own the company, the timely and adequate disclosure of financial information, and the roles and rights of shareholders. The timely and adequate disclosure of financial information results in increased transparency and disclosure, subsequently reducing the asymmetry of information between a firm's stakeholders and management. In addition, corporate transparency affects a firm's attractiveness to investors.

Although the definition of transparency is the availability of firm-specific information for publicly traded firms, there are several methods to evaluate the level of transparency. Many extant accounting studies have used the annual Association for Investment Management and Research (AIMR) corporate disclosure ranking system to measure the transparency of accounting information. The AIMR rankings capture leading analysts' assessments of the informativeness of various aspects of firms' disclosure practices, including adequacy, timeliness, and the clarity of information disclosure (Bushee and Noe, 2000; Yu, 2005). To conceptualize and measure information systems that contribute to corporate transparency, Bushman, Piotroski, and Smith (BPS, 2004) developed a framework with 10 measures that are grouped into three categories to represent the degree of

transparency and disclosure.[7] Using factor analysis, Bushman et al. (2004) constructed two additional factors to measure information environments: financial transparency and governance transparency. Bushman et al. demonstrated that governance transparency is chiefly related to the legal regime, whereas financial transparency is primarily related to the political regime.

In 2003, Taiwan established the Information Transparency and Disclosure Ranking System (ITDRS) pertaining to listed companies in Taiwan. In 2011, the ITDRS used 114 disclosure items, grouped into five categories, as evaluation criteria.[8] Following the establishment of Taiwanese transparency measures, Chi (2009) and Lu and Chen (2009) were able to use the statistical results of the ITDRS to explore transparency-related issues. An additional accessible database is the Transparency and Disclosure Scores (TDS) developed by the S&P. The TDS system analyzes available information on ownership structure, financial transparency, and board and management structures and processes by searching annual reports for approximately 100 potential information attributes (Patel et al., 2002). The S&P applied the TDS system to major companies in various countries to analyze corporate transparency. Some previous studies have used the T&D rankings to investigate issues related to CG. For example, Chen et al. (2007) examined whether firms with greater T&D rankings have low information asymmetry components and low stock spreads. This study uses the TDS framework to measure transparency practices in the Indonesia Stock Exchange.

The S&P proposed the TDS in 2002 to assess the degree of transparency and disclosure of firms in emerging markets (i.e., Asia, Latin America, Central and Eastern Europe, and Africa) and developed markets (i.e., Europe, developed Asia, and the United States) (Patel et al., 2002). The S&P analyzes the level of transparency by examining three sources of information: annual reports, Web-based disclosures, and public regulatory reporting in both English and local languages for the inclusion of various information items (attributes). The number of attributes is adjusted according to the country, region, and period being examined.

In the 2010 S&P report on Russia, 110 items were used to assess the transparency level, which was divided into three categories.[9] The first is ownership structure and shareholder rights (*OwnStr*, 35 items). Ownership structure includes the disclosure of share type, percentage of ownership, and the identities of the shareholders. Shareholder rights describes the disclosure of good CG practices, business conduct and ethics, general meeting procedures and publications, and the minutes of the annual general meeting. The second category is financial and operational information (*FinInfo*, 49 items). Financial information includes the disclosure of a company's accounting policies, auditing standards and results, publications, and opinions. Operational information includes the disclosure of the type of business the company engages in, performance indicators, and current and future corporate strategies. The third category is the board and management structure and process (*BrdMgmt*, 26 items). Board and management information chiefly specifies the disclosure of the identities of board members and senior managers and their positions, backgrounds, and attendance records for board meetings. Board and management remuneration constitutes the disclosure of directors and managers' salaries.

To calculate the final TDS, the S&P uses a weighting system. Public disclosure, regardless of the source through which it is provided, constitutes 80% of the maximum score for each attribute of the survey. The remaining 20% of points are awarded if the information is available from the two other sources (10% each).

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[7] The three categories include corporate reporting (6 measures), private information acquisition (3 measures), and information dissemination (1 measure).

[8] The five assessment categories include (1) compliance with the mandatory disclosures (12 attributes), (2) timeliness of reporting (26 attributes), (3) disclosure of financial forecasts (5 attributes), (4) disclosure of annual reports (50 attributes), and (5) corporate Web site disclosure (21 attributes). Source: *2011 Information Transparency and Disclosure Ranking Results in Taiwan*, Securities and Futures Institute, Taiwan. Available online: http://webline.sfi.org.tw/download/resh_ftp/EDIS/9th_Result.pdf

[9] For the 110 items, please see the 2010 S&P T&D report, as described in Note 5.

IV. Data and Methodology

1. Sample Selection

In 2010, 420 stocks were listed in the IDX. After using the selection criteria of IPO date and missing data to screen the sample firms, this study used the 100 largest companies in the IDX based on statistics from 2010 to investigate transparency and disclosure practices in the Indonesian stock market. The market capitalization of the selected sample firms was shown to constitute 74.3% of that of the IDX.

To explore the possible differences in the transparency practices of various sectors, this study divided the sample firms into three groups based on their industry classification. The first group contained 30 firms in the manufacturing sector, which is classified as primary and secondary sectors by the IDX. The second group contained 28 firms in the property, real estate, building construction and infrastructure, utilities, and transportation industries. These firms are classified as construction and utilities sectors by the IDX. The third group contained 42 financial, trade, services, and investment companies, which are the tertiary sector in the IDX. The market capitalization percentages of the three groups were 63.9%, 77.4%, and 88.1%, respectively.

The study period was from 2007 to 2010. To compare the transparency practices before and after the 2008 financial crisis, the study period was divided into a pre-crisis period (2007-2008) and a post-crisis period (2009-2010).

To investigate the relationship between transparency and financial variables, this study used the financial variables of debt ratio, market capitalization, net profit margin, dividend payout ratio, price-to-book value, return on equity, and share percentage, all obtained from 2010. All of the financial ratios and statistics for the sample firms were obtained from the Performance Summary of Listed Companies, which was downloaded from the Web site of the IDX.

2. TDS calculation

This study used T&D scores to represent market participants' assessments of the completeness, clarity, and transparency of a firm's disclosure policies. T&D score questions can be answered by obtaining an adequate understanding of a company's characteristics through its Web site, annual reports, audited financial statements, and other related sources.

This study used the 110 attributes developed by the S&P to assess the level of transparency and disclosure of 100 sample firms. Our analysis was based on information included in the two major sources of public information: annual reports and Web site disclosures. The TDS were evaluated by searching for information attributes in the 2007-2010 annual reports and Web sites of the sample firms. The primary data sources were annual reports prepared in English and Bahasa Indonesian. If the required information was unavailable in

Table 3   Sample Firms Based on Industry Classification

Group	# of Sample	# of Total Firm	% of Firm	Group mkt. cap.	% of total mkt. cap.
1	30	176	17%	1,027	63.9%
2	28	80	35%	449	77.4%
3	42	164	26%	935	88.1%
Total	100	420	23.8%	2,410	74.3%

Note: The sample firms in the different groups are as follows. Group 1: the firms in the IDX primary and secondary sectors. Group 2: the firms in the subsectors of "property, real estate, and building construction" and "infrastructure, utilities, and transportation" industries of the IDX tertiary sector. Group 3: the firms in the subsectors of "finance" and "trade, services, and investment" in the IDX tertiary sector.

primary sources, then we sequentially searched for the information on companies' Web sites or the official IDX Web site because all listed companies are required to annually submit their data to the IDX database. A total of 44,000 information attributes were searched to obtain the necessary TDS data for the following analyses.

Following a review of the relevant data sources, the TDS questions were answered using a binary basis of *yes* (included) or *no* (not included). Dissimilar to the S&P weighting system, which gives differing weights to various information sources, this study allocated one point to questions with an answer of *yes*, providing the information was available. The number of *yes* answers for the 110 questions was divided by 110, providing a TDS percentage to represent a firm's degree of transparency and disclosure. For example, if a firm had 70 *yes* answers, the TDS of the firm was 63.6% (= 70/110). To analyze the transparency structure, the TDS percentages for the three attributes groups (*OwnStr*, *FinInfo*, and *BrdMgmt*) were calculated by dividing by the number of attributes, which were 35, 49, and 26, respectively.

3. Regression Model

To investigate what types of Indonesian corporations disclose the most information, this study used the following regression model to analyze the relationship between TDS and financial variables, including debt management, market valuation, profitability, dividend policy, and shareholder structure. This study used debt ratio (*DR*), the natural log of market capitalization (*MktCap*), net profit margin (*NPM*), dividend payout ratio (*Payout*), price-to-book value (*PB*), return on equity (*ROE*), and total shares (%) held by investors who own more than 5% of the shares outstanding (*ShrHold*) as the proxies of debt management, company size, market evaluation, dividend policy, profitability, and shareholder power. Two sector dummy variables (*Dummy₁* and *Dummy₂*) were included in the regression model to examine possible differences among the three sector groups.

$$TDS = \alpha + \beta_1 Dummy_1 + \beta_2 Dummy_2 + \lambda_1 DR + \lambda_2 MktCap + \lambda_3 NPM$$
$$+ \lambda_4 Payout + \lambda_5 PB + \lambda_6 ROE + \lambda_7 ShrHold + \varepsilon \tag{1}$$

where *TDS* equals the percentage transparency and disclosure score; *Dummy₁* equals 1 for the firms in Group 2; and *Dummy₂* equals 1 for the firms in Group 3.

V. Empirical Results

1. Preliminary Statistics

The preliminary statistics for the financial variables and transparency and disclosure scores are shown in Table 4. The high debt ratio of 93.9% was expected because the sample included many banks. The average of the net profit margin (*NPM*) was 17.19%, and only five firms experienced negative net profit margins. Because a firm had substantial investment profits, the maximum *NPM* was 229.46. Although the highest dividend payout ratio was 203.73%, 40 of the 100 sample firms did not pay dividends to investors. Despite the *DR*, *Payout*, and *PB* averages being similar to those of other markets, the *ROE* average of 20.83% shows that Indonesian stocks provide good profitability to investors. The maximum *ROE* was 112.2%, as shown in Table 4. This *ROE* was obtained from PT Unilever Indonesia Tbk (UNVR), and the *ROE*s of UNVR during 2007-2010 were over 100%. The last financial variable shown in Table 4 is *ShrHold*, which was calculated by summing the shares (%) held by investors who own more than 5% of the shares outstanding. The *ShrHold* results show that the majority of the shares outstanding of many corporations are held by a few institutional investors, indicating that the shareholder structure in Indonesia is relatively concentrated.

Table 4　Preliminary Statistics

Panel A	Financial Variable						
	DR (%)	MktCap	NPM (%)	Payout (%)	PB (X)	ROE (%)	ShrHold (%)
Average	52.60	29.66	17.19	22.35	2.82	20.83	63.65
Max	93.91	33.03	229.46	203.73	31.12	112.19	99.99
Min	6.64	27.16	-58.29	0.00	0.39	-79.56	16.85
Median	50.01	29.51	12.50	9.96	2.15	18.97	60.00
StdDev	23.35	1.54	27.09	31.58	3.49	22.30	21.13
Panel B	Transparency and Disclosure (%)						
	TDS (110)	OwnStr (35)	FinInfo (49)	BrdMgmt (26)			
Average	76.9	87.0	83.0	60.2	H_0: OwnStr=FinInfo=BrdMgmt		
Max	89.1	100.0	93.9	73.1	$F(2,98)=247.03^{**}$		
Min	65.5	62.9	71.4	30.8			
Median	77.3	80.0	83.7	61.5			
StdDev	5.0	8.2	4.0	9.5			

Notations: DR is debt ratio; MktCap is natural log of market capitalization; NPM is net profit margin; Payout is dividend payout ratio; PB is price-to-book value; ROE is return on equity; ShrHold is shares (%) held by investors who own over 5% of the shares outstanding; TDS is the transparency and disclosure score; OwnStr, FinInfo, and BrdMgmt represent the three subgroups of the T&D items. The figures in parentheses are the numbers of attributes. TDS, OwnStr, FinInfo, and BrdMgmt were calculated as the absolute transparency and disclosure scores divided by the respective numbers of attributes.

** indicates significance at the 1% level.

Panel B in Table 4 shows the statistics of the transparency and disclosure scores. The TDS average of 76.9 means that annual reports and other publicly available resources disclose 76.9% of the 110 information attributes. Aksu and Kosedag (2006) reported a result of 41% for the Istanbul Stock Exchange in 2005, and stated that the S&P reported figures ranged from 31 (Latin America) to 70 (the United Kingdom and the United States) in 2002. In the S&P 2010 survey of Russia, the TDS average of the selected firms was 57.5%. The S&P survey results are typically lower because firms receive 80% of the score if they use only one source to reveal information, whereas this study gives 100% of the score, regardless of the number of information sources. However, although we divided 57.8% by 0.8, the maximum adjusted TDS was 71.9%. Although these figures are not 100% analogous because of differing study periods and weighting methodologies, the results show that, on average, Indonesian firms disclose more information than other markets that have been reported on in previous studies.

According to the definition provided by the S&P, TDS have three parts: ownership structure and shareholder rights (OwnStr), financial and operational information (FinInfo), and board and management structure and process (BrdMgmt). Panel B in Table 4 shows that the results for OwnStr, FinInfo, and BrdMgmt were 0.870, 0.830, and 0.602, respectively. The statistically significant F value ($F = 247.03$, $p < .01$) shown in Table 4 rejects the null hypothesis, indicating that the average scores were not equal. A Scheffe test showed that BrdMgmt was significantly lower than OwnStr and FinInfo. Indonesian firms disclose less information on the identities of board members and senior managers and their positions, backgrounds, and attendance records for board meetings, as well as the salaries of directors and managers, including procedures and amounts.

Table 5   Correlation Matrix

	DR	MktCap	NPM	Payout	PB	ROE	ShrHold
DR	1.000						
MktCap	0.119	1.000					
NPM	-0.256	0.063	1.000				
Payout	-0.104	0.362	0.006	1.000			
PB	-0.003	0.523	0.023	0.442	1.000		
ROE	-0.040	0.510	0.200	0.399	0.684	1.000	
ShrHold	0.111	0.088	0.091	0.197	0.235	0.332	1.000

Table 5 shows the correlation matrix of the independent variables for future use in regression analysis. Most coefficients of the correlations in Table 5 were small. The use of all seven variables in the regression model did not result in multicollinearity, enabling us to investigate what types of corporations tend to disclose more information.

2. TDS During 2007-2010

Figure 1 shows the TDS averages and the scores of the subcategories of *OwnStr*, *FinInfo* and *BrdMgmt* from 2007 to 2010. Similar to the results shown in Table 4, the average TDS levels were greater than 70% during the study period (dark black bar). The results for 2007-2010 are represented by the short dot bar and show that Indonesian firms disclose less information regarding board and management structures and processes (*BrdMgmt*) than other types of information (*OwnStr* and *FinInfo*). The statistics in Table 4 indicate that the shareholder structure of Indonesian firms is concentrated, possibly explaining why Indonesian firms disseminate less information on board issues.

Compared to the performances over the years, the average levels of transparency and disclosure have steadily improved. For example, the TDS grew from 73.8% in 2007 to 75.3% in 2008 and from 76.3% in 2009 to 76.9% in 2010. The three additional subcategories show similar growth patterns.

The study period was from 2007 to 2010 and included the 2008 financial crisis. To determine whether the growth in the practices of transparency and disclosure from 2007 to 2010 was significant, the study period was divided into two subsamples: a pre-crisis period and a post-crisis period, using the 2008 financial crisis as the reference point. Table 6 shows the transparency and disclosure statistics from the two sub-periods and the hypothesis test.
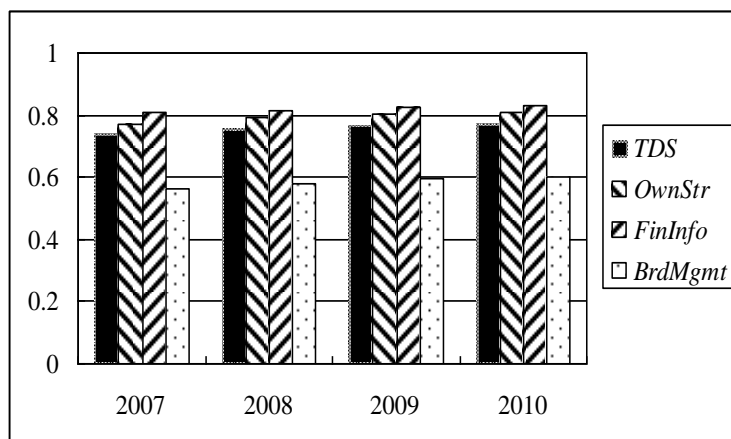

Figure 1 Transparency and Disclosure scores from 2007 to 2010

Table 6   Level of Transparency and Disclosure in the Sub-periods

	TDS		*OwnStr*		*FinInfo*		*BrdMgmt*	
	pre	post	pre	post	pre	post	pre	post
Average	0.746	0.766	0.782	0.804	0.812	0.829	0.571	0.598
Max	0.877	0.891	1.000	1.000	0.929	0.939	0.731	0.731
Min	0.618	0.645	0.600	0.629	0.714	0.714	0.308	0.308
Median	0.743	0.764	0.771	0.800	0.816	0.827	0.587	0.615
StdDev	0.052	0.050	0.090	0.082	0.040	0.039	0.100	0.094
H_0: pre=post *t* vaule	2.88^{**}		1.78^{*}		2.99^{**}		1.97^{*}	

The pre-crisis period was from 2007 to 2008 and the post-crisis period was from 2009 and 2010.

** and * indicate significance at the 1% and 5% levels, respectively.

The maximum, minimum, and median in the post-period were greater than or equal to those in the pre-crisis period, whereas the standard deviation results shrank in the post-crisis period. These results indicate that not only do better-informed firms disclose more information, but less-informed companies are attempting to catch up. In addition, the information disclosure gap among corporations is diminishing.

The *TDS*, *OwnStr*, *FinInfo*, and *BrdMgmt* averages in the post-crisis period were all significantly higher than those in the pre-crisis period, indicating that the practices of transparency and disclosure in the Indonesia market improved in the post-crisis period (*TDS*: $t = 2.88$, $p < .01$; *OwnStr*: $t = 1.78$, $p < .05$; *FinInfo*: $t = 2.99$, $p < .01$; *BrdMgmt*: $t = 1.97$, $p < .05$). Because the 2008 financial crisis occurred in the middle of the study period, we used the end of 2008 as the cutoff point for the sub-periods. Therefore, this study shows that Indonesian firms disclosed more information in the post-crisis period. Two explanations are possible for the increased transparency. The first is the 2008 financial crisis, although the extent to which the crisis contributed to this trend is not elucidated in this study. Major financial scandals or crises result in additional regulations or closer supervision. These mandatory policies require corporations to disclose more information. The second explanation is that, as the emerging Indonesian stock market has become more mature and internationalized, financial authorities and investors' demands for CG, investor protection, information disclosure, and related protections have increased. To meet the requirements set by the government and to satisfy the needs of investors, further increases in information dissemination are expected.

3. Regression Analysis

To understand what types of Indonesian firms disclose more information, this study used regression analysis to analyze the relationship between the level of information disclosure and financial performances Table 7 shows the effects of financial ratios on the practices of transparency and disclosure. Models (1) to (4) use *TDS*, *OwnStr*, *FinInfo*, and *BrdMgmt* as dependent variables, respectively. The independent financial ratios were obtained from the end of 2010. Two sector dummies, $Dummy_1$ and $Dummy_2$, were included to determine any effects caused by differences among the industries.

Model (1) examined the effects of the explanatory variables on the practices of information disclosure. In Model (1), 6 of the 10 coefficients were significant at either the 1% or 5% level. Because firms in the IDX tertiary sector were placed in Groups 2 and 3 in this study, the significantly negative results of $Dummy_1$ and $Dummy_2$ ($Dummy_1$: $\beta = -0.0306$, $p < .05$; $Dummy_2$: $\beta = -0.0299$, $p < .05$) indicated that firms in the IDX tertiary sectors disclose less information than do those in the primary and secondary sectors (Group 1). The coefficient

of the *DR* was significant ($\beta = 0.0725$, $p < .01$), proving that firms with a higher debt ratio disseminate more accounting information. When debt ratio increases, creditors and bondholders bear more risk. To satisfy their requirements or to ensure their confidence, increased transparency through the disclosure of accounting information is a useful method. The coefficient of *MktCap* was significantly positive ($\beta = 0.0119$, $p < .01$), indicating that bigger firms are more transparent. This result is the same as that obtained by Aksu and Kosedag (2006). Large companies typically have a diversified investor structure and must attract additional capital to support growth. Therefore, large firms have an incentive to be transparent. Finally, this study found that firms with a high dividend payout ratio disclose more information, which was supported by a significant coefficient of 0.0337 ($p < .05$). In summary, investors who consider transparency and disclosure a crucial factor in investment decisions should focus on firms in the IDX's primary and secondary sectors that have high debt ratios, market capitalization, and payout ratios.

Table 7　　Effects of Financial Performance on Transparency and Disclosure

Model	*TDS* (1)	*OwnStr* (2)	*FinInfo* (3)	*BrdMgmt* (4)
Constant	0.3832 **	0.0071	0.7720 **	0.1568
	(3.82)	(0.05)	(8.45)	(0.71)
$Dummy_1$	-0.0306 *	-0.0271	-0.0311 **	-0.0345
	(-2.62)	(-1.49)	(-2.92)	(-1.34)
$Dummy_2$	-0.0299 *	-0.0177	-0.0428 **	-0.0223
	(-2.54)	(-0.96)	(-3.98)	(-0.86)
DR	0.0725 **	0.0697 *	0.0531 **	0.1127 *
	(3.33)	(2.06)	(2.68)	(2.35)
MktCap	0.0119 **	0.0251 **	0.0014	0.0137 †
	(3.46)	(4.72)	(0.46)	(1.82)
NPM	0. 0113	0.0037	0.0063	0.0410
	(0.67)	(-0.14)	(0.40)	(1.09)
Payout	0.0337 *	0.0848 **	0.0171	0.0037
	(2.21)	(3.58)	(1.23)	(-0.11)
PB	-0.0014	-0.0019	-0.0031 †	0.0025
	(-0.77)	(-0.70)	(-1.90)	(0.65)
ROE	-0.0153	-0.0477	0.0160	-0.0308
	(-0.54)	(-1.09)	(0.62)	(-0.50)
ShrHold	0.0225	0.0491	0.0231	-0.0142
	(1.04)	(1.46)	(1.17)	(-0.30)
R^2	0.375	0.446	0.211	0.164

The regression model is as follows:

$$Y = \alpha + \beta_1 Dummy_1 + \beta_2 Dummy_2 + \lambda_1 DR + \lambda_2 MktCap + \lambda_3 NPM$$
$$+ \lambda_4 Payout + \lambda_5 PB + \lambda_6 ROE + \lambda_7 ShrHold + \varepsilon$$

where *Y* is *TDS, OwnStr, FinInfo,* and *BrdMgmt* for (1), (2), (3), and (4), respectively; $Dummy_1$ and $Dummy_2$ are sector dummies; *DR* is debt ratio; *MktCap* is the natural log of market capitalization; *NPM* is net profit margin; *Payout* is dividend payout ratio; *PB* is price-to-book value; *ROE* is return on equity; *ShrHold* is shares (%) held by investors who own over 5% of the shares outstanding. All variables were obtained from the end of 2010.
**, *, and † indicate significance at 1%, 5%, and 10% levels, respectively.

Following the definition of TDS provided by the S&P, Models (2), (3), and (4) tested the effects of financial ratios on the three different aspects of information disclosure: ownership structure and shareholder rights (*OwnStr*), financial and operational information (*FinInfo*), and board and management structure and process (*BrdMgmt*), respectively. The majority of the results were similar to Model (1), but the significance levels of the variables were different. The variables of *DR* ($\beta = 0.0697$, $p < .05$), *MktCap* ($\beta = 0.0251$, $p < .01$) and *Payout* ($\beta = 0.0848$, $p < .01$) were significant in (2), whereas the significant variables in (3) were $Dummy_1$ ($\beta = -0.0311$, $p < .01$), $Dummy_2$ ($\beta = -0.0428$, $p < .01$), and *DR* ($\beta = 0.0521$, $p < .01$). Therefore, debt management, market capitalization, and dividend policy affect the disclosure of information on ownership structure and shareholder rights, whereas sector and debt management affect the release of information on finances and operations. However, *DR* was the only significant variable in (4) ($\beta = 0.1127$, $p < .05$; *MktCap* was marginally significant), indicating that differences in information disclosure on board and management structure and process can be explained by debt ratio.

VI. Conclusion

In recent years, financial scandals such as those of WorldCom and Enron have reduced investor confidence in financial statements, making the practice of CG an important issue to academics and finance practitioners. The OECD has proposed six principles to create CG standards and guidelines, including the item of disclosure and transparency. Previous studies have proposed various approaches to assess transparency and disclosure, including the AIMR corporate disclosure ranking, the methodology by Bushman et al. (2004), the Taiwanese ITDRS, and the S&P's TDS.

With a population of nearly 250 million, Indonesian economic development and the growth of the Indonesian stock market should continue. As the market matures and internationalizes, CG will be a critical issue for financial authorities and investors, and the high levels of information disclosure will attract more investors. Therefore, this study investigated the practices of transparency and disclosure in the Indonesian stock market to elucidate the determinants of information disclosure.

The study used the 100 largest companies in the IDX as the sample firms following a consideration of the listed times and the availability of annual reports. The sample corporations represented 74.3% of the IDX's market capitalization. The study period was from 2007 to 2010, and two sub-periods (2007-2008 and 2009-2010) were used to examine the differences in the transparency and disclosure levels before and after the 2008 financial crisis. The assessment of information disclosure was based on annual reports and the Web sites of the IDX and the sample firms.

Using the 110 information attributes provided by the S&P, this study surveyed the annual reports and Web sites of the 100 sample firms to calculate the TDS from 2007 to 2010. The TDS average in 2010 was 76.9%. Aksu and Kosedag (2006) reported a result of 41 for the Istanbul Stock Exchange in 2005 and stated that the S&P reports for other nations ranged from 31 (Latin America) to 70 (the United Kingdom and the United States). The 2010 S&P survey of Russian corporations had a result of 57.5. Although these figures are not 100% analogous because of differing study periods and weighting methodologies, the results show that the disclosure practices of Indonesian firms are comparable to those of other nations.

Compared to the TDS performances from 2007 to 2010, this study found that the average TDS steadily increased during the study period. This study further examined whether the TDS levels before and after the 2008 financial crisis differed. The results of a pairwise *t* test showed that, regardless of the type of information disclosure examined, the transparency and disclosure levels in the post-crisis period were higher than in the pre-crisis period. Because major financial scandals and crises result in additional regulations or closer

supervision, corporations have to disclose more information. This study concludes that the 2008 financial crisis could have been an external factor contributing to increased transparency and disclosure. As the emerging Indonesian stock market matures and internationalizes, the demand for CG, investor protection, information disclosure, and other types of protection and oversight by financial authorities and investors could be an internal factor. Increased information dissemination will probably occur to meet the requirements of the government and to satisfy investors' needs.

Finally, this study analyzed the effects of financial variables on transparency and disclosure. Investors who consider transparency and disclosure to be crucial factors in investment decisions should focus on firms in the IDX's primary and secondary sectors that have high debt ratios, market capitalization, and payout ratios.

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