THE EFFECTS OF THE ASIAN FINANCIAL CRISIS ON ACCOUNTING CONSERVATISM IN INDONESIA

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ABSTRACT

This study examines the extent of conservatism in publicly listed Indonesian companies prior to and following the Asian financial crisis. This study finds that prior to the crisis, share returns did not lead earnings, and accounting practices in Indonesia failed to utilise accruals for reducing cash flow noise as well as to demonstrate conservatism in financial reporting preparation. In the post-crisis period, although there is evidence that stock returns led earnings and that accruals were utilised properly in noise reductions, accounting practices in Indonesia still did not exhibit the accepted level of conservatism.

Keywords: accounting conservatism, asymmetric recognition, Indonesia, Asian financial crisis

INTRODUCTION

It was more than a decade ago when a massive regional financial panic occurred throughout Asia. In the middle of 1997, the exchange rate of the Indonesian Rupiah (IDR) depreciated rapidly under severe attacks following the contagion effect. Throughout the crisis period, 32 companies were delisted from the Indonesia Stock Exchange (IDX). These 32 companies represented 12.6% of the total 253 companies that were previously listed in the IDX in 1996.

Basu (1997) defined conservatism as an accountants' tendency to recognise bad news earlier than good news on financial statements. Conservatism

gives rise to systematic differences in the timeliness and persistence of earnings. Browning and Weil (2002) argued that a stock market can collapse because of investors' anxieties about accounting problems. Economic crises and global accounting scandals provide more grounds for users of financial statements and other related entities to demand more conservative accounting practices.

This study examines the extent of conservatism prior to and following the Asian financial crisis in Indonesian public companies. The study finds that prior to the financial crisis, accounting earnings did not exhibit conservatism, share returns did not lead earnings, and there was no alignment in the timing of revenue and expense recognition under the matching rule. During the post-crisis period, however, there is evidence that share returns led earnings, and accounting processes were able to capture the economic reality faced by the sample firms. Yet, accounting earnings still did not exhibit conservatism as expected. The impact of the Asian financial crisis on the Indonesian economy was larger and it lasted longer than in other affected Asian countries. The crisis triggered a total economic, social, and political crisis in Indonesia. A prolonged chaotic situation in the nation might result in the difficulty of law and regulation implementations. In addition, there was still lack of incentive for managers and auditors in preparing quality financial statements following the crisis.

Considering the scarcity of documented evidence regarding earnings conservatism in the East Asian countries, this research contributes to the development of literature and studies on accounting conservatism in the region. Furthermore, this research also provides evidence from a developing nation regarding the extent of earnings conservatism in different economic settings, contrasting the pre- and post-crisis periods.

The rest of the paper is organised as follows. Section 2 provides an overview of Indonesia and the Asian financial crisis. Section 3 gives a brief review of previous works and hypothesis development. Section 4 discusses the data and methodologies used in this study. Section 5 presents the empirical findings, and the last section concludes the paper.

INDONESIA AND THE ASIAN FINANCIAL CRISIS

Indonesia during the Asian Financial Crisis

The Asian financial crisis started with devaluation of the Thai baht on 2 July 1997, causing Indonesia to experience more than a −13% contraction in its economy, the worst among all crisis-affected East Asian economies. Furthermore, Indonesia also experienced severe exchange rate depreciation from

IDR2,000 per USD in 1996 to IDR17,000 per USD in 1998, which was, again, by far the largest depreciation among the crisis economies (Ito, 2007).

As presented in Figure 1, the Indonesia Stock Exchange (IDX) records indicate that from 1997 to 2000, 32 companies were delisted from the IDX. These 32 companies represented 12.6% of the total 253 companies previously listed in the IDX in 1996. In addition, in the year 1999 only, when the crisis reached its peak, 20 companies were delisted, representing almost 8% of the total population in 1996.
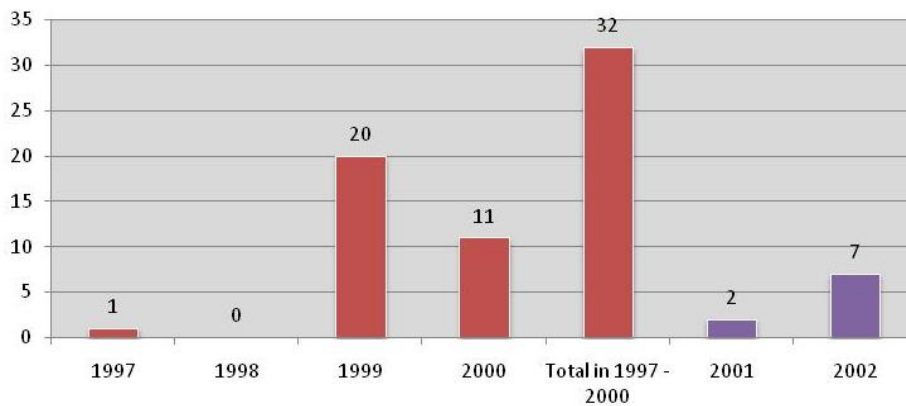

Figure 1. The Number of Delisted Companies on the Indonesia Stock Exchange

Source: Indonesia Stock Exchange

Hill and Shiraishi (2007) stated that the Asian financial crisis affected Indonesia deeper and longer than its East Asian neighbours because the crisis triggered a total economic, social, and political crisis in Indonesia, which was followed by a change in the government. Indonesia faced the danger of falling apart because of the crisis. Waves of riots and conflicts raved the country. Mobs attacked and looted Chinese, public, and private properties. Some conflicts involved ethnic, religious, or separatist violence.

Indonesian Accounting and Corporate Governance Around the Asian Financial Crisis

Kusuma (2005) noted Indonesia owes much of its progress in accounting practices and standard developments to the Indonesian Accountant Association (IAI). The current Indonesian Financial Accounting Standards (PSAK) consists mostly of adaptations of the International Accounting Standards (IAS). Some of the standards, however, are still adapted from the US Generally Accepted Accounting Principles (GAAP), and some are even locally specific standards.

Kusuma (2005) raised some doubts on how this amalgamated structure that differs from the two international benchmarks can win investor confidence. Ball, Robin and Wu (2003), on the other hand, argued that financial reporting quality does not only depend on accounting standards, but also on incentives of managers and auditors in preparing financial statements.

A significant number of Indonesian corporations collapsed during the Asian financial crisis. Some of these companies were banks, which had received unqualified audit opinions by ten audit firms a year earlier. A leading newspaper in Indonesia stated that these ten public accountants were given only very lenient punishments (*The Jakarta Post*). Three of them were acquitted of all charges, while the rest walked away with orders to undergo retraining, strong warnings, or temporary prohibitions to audit banks. The article also stated that as of July 2002, stakeholders in Indonesia had never filed a class action lawsuit against any audit firm.

In 1999, Pricewaterhouse Coopers, in cooperation with The Singapore Stock Exchange, found that Indonesia had the weakest standard of disclosure and transparency in the region. Claessens, Djankov and Lang (2000) found that more than two-thirds of the publicly listed companies in Indonesia in 1996 were controlled by a few families, in which a concentrated control structure of the whole corporate sector in the economy led to expropriation of minority interests. Johnson, Boone, Breach and Friedman (2000) argued that countries with weaker corporate governance generally experience a larger fall in asset prices during economic downturns due to more expropriation of cash and tangible assets by managers.

The crisis exposed structural weaknesses in the Indonesian economy due to poor governance. A lack of transparency and weak supervision and regulation resulted in a deeper and more prolonged contraction in the Indonesian economy than in other affected Asian countries. Before the crisis, Indonesian companies were only required by law to keep adequate financial records, and the law did not require financial statements to be independently audited. In 1998, however, the Indonesian government required all limited firms with assets of IDR 50 billion or more to prepare financial statements based on the accounting standards adopted by IAI and to have the statements audited by external auditors. Moreover, in 2000, the IDX issued corporate governance regulations for publicly listed companies.

ACCOUNTING CONSERVATISM IN TIMELY LOSS RECOGNITION

In his celebrated study, Basu (1997) contended that conservatism means that accountants exhibit a higher degree of verification when dealing with good news than with bad news in financial statements. These differential verifications lead to systematic differences in the timeliness and persistence of earnings between bad and good news periods. Ball and Shivakumar (2005, 2006) argued that financial statements are more useful to users if accounting processes take measures to delay recognition of economic gains and to prompt recognition of economic losses.

Herrmann, Pornupatham, and Vichitsarawong (2008) noted that prior to the crisis, Asian countries had poor corporate governance. Ball et al. (2003) found that inner circle networks, political influence, and tax considerations reduced the quality of financial statements in East Asian countries prior to the crisis. Johnson et al. (2000) and Rajan and Zingales (1998) argued that weak corporate governance that led to the expropriation of minority shareholders' rights was the source of the severity of the Asian financial crisis. Fischer (1998) noted that weak corporate governance prior to the crisis caused international agencies to demand the crisis-affected countries strengthen their corporate governance and comply with internationally accepted practices before any assistance could be provided.

In addition to the crisis, there had also been fraud and accounting scandals in some notable global companies. The cases of Waste Management and Enron have driven Arthur Andersen, formerly one of the Big five auditors, out of business. Krishnan (2005) found that the Houston office of Arthur Andersen tolerated their clients' aggressive accounting practices. Krishnan (2007) also observed that former Andersen clients demonstrated an increase in earnings conservatism following the collapse of Enron.

These global scandals have indisputably sounded an alarm. These business failures have given the public more reason to demand more thoughtful accounting practices. Given the situation, it is arguable that the change in market demands and improvements in corporate governance have created a higher extent of conservatism in Indonesia. Therefore, financial quality improvements can be expected after the financial crisis. Thus, the hypothesis in this study is formally established as follows:

H_1: Companies reported more conservatively in the post-Asian financial crisis period than in the pre-Asian financial crisis period.

DATA AND METHODOLOGY

The 125 samples used for the tests consist of firm-year observations in 1996 (pre-crisis) and 2001 (post-crisis) from IDX. These 125 samples are the only firms that had existed for at least two years before 1996 and still existed in 2001, excluding firms in the financial services industry. The minimum data required for each firm-year observation are current year's earnings and outstanding shares, the previous fiscal year-end stock price, and stock returns data. The data are taken from the IDX database as well as financial statements, resulting in a final sample of 250 observations.

The firm-year observations' annual earnings are regressed on its current annual returns, as per Basu's (1997) reverse regression model. All accounting variables, measured per share, are deflated by the opening stock price to control for heteroskedasticity (Christie, 1990). A further control on heteroskedasticity is also established by using White (1980) *t*-statistics. The first regression model shall indicate that timeliness is asymmetrically greater for bad news in both periods. The model is shown below:

$$NI_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*R_{it} + \beta_3*R_{it}*NEG_{it} + \varepsilon_{it} \tag{1}$$

Where:

NI = net income per share for firm i in fiscal year *t*, deflated by P_{it-1}; which is the stock price at the beginning of the fiscal year;
R = returns from nine months before fiscal year-end to three months after fiscal year-end; and
NEG = dummy variable equal to 1 if $R_{it} < 0$, and 0 if otherwise.

The dummy interaction (*R*NEG*) reflects the difference in sensitivity of earnings to bad and good news. The measure of sensitivity of earnings to good news is reflected by the coefficient β_2, while the measure of sensitivity of earnings to bad news is represented by the sum of coefficients β_2 and β_3. As in Basu (1997) on conservative accounting, the coefficient β_3 (*R*NEG*) is expected to be positive.

Following Krishnan (2005, 2007) and Herrmann et al. (2008), we extended the Basu (1997) model. Model 2 is used to measure bad and good news sensitivity of earnings conditional on the periods surrounding the Asian financial crisis by incorporating a time indicator variable (*POST*). This variable is then interacted with returns (*R*) and the differential effect of negative returns (*R *NEG*). Model 3 is an extension of Model 2 (Herrmann et al., 2008) by adding three control variables: Firm Size, Leverage and Growth. Models 2 and 3 are presented below:

$$NI_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*R_{it} + \beta_3*R_{it}*NEG_{it} + POST * (\beta_0 + \beta_1*NEG_{it} + \beta_2*R_{it} + \beta_3*R_{it}*NEG_{it}) + \varepsilon_{it} \tag{2}$$

$$NI_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*R_{it} + \beta_3*R_{it}*NEG_{it} + POST * (\beta_0 + \beta_1*NEG_{it} + \beta_2*R_{it} + \beta_3*R_{it}*NEG_{it}) + \alpha_1*LEV_{it} + \alpha_2*SIZE_{it} + \alpha_3*GROWTH_{it} + \alpha_4*R_{it}*LEV_{it} + \alpha_5*R_{it}*SIZE_{it} + \alpha_6*R_{it}*GROWTH_{it} + \alpha_7*R_{it}*NEG_{it}*LEV_{it} + \alpha_8*R_{it}*NEG_{it}*SIZE_{it} + \alpha_9*R_{it}*NEG_{it}*GROWTH_{it} + \varepsilon_{it} \tag{3}$$

Where:

NI	=	net income per share for firm i in fiscal year *t*, deflated by P_{it-1}, which is the stock price at the beginning of the fiscal year;
R	=	returns from nine months before fiscal year-end to three months after fiscal year-end;
NEG	=	dummy variable equal to 1 if $R_{it} < 0$, and 0 if otherwise;
POST	=	dummy variable equal to 1 if an observation falls in the post-crisis period, and 0 if otherwise;
LEV	=	total liabilities divided by total assets at the beginning of the period;
SIZE	=	the log of the market value of equity at the beginning of the period; and
GROWTH	=	the price-to-book ratio at the beginning of the period.

Models 1, 2, and 3 above incorporate earnings and stock returns in the same regression models. Earnings are the outcome of a firm-level accounting process, while stock returns are the outcome of a market-level price discovery process. Dechow (1994) and Ball and Shivakumar (2005, 2006) noted that this type of model assumes that stock markets have semi-strong efficiency, such that stock prices reflect all publicly available information concerning firms' performance in an unbiased way. Because it is doubtful that the stock market in Indonesia was efficient during the Asian financial crisis periods (Rajan and Zingales, 1998; Johnson et al., 2000; Claessens et al., 2000; Ball et al., 2003), and it is beyond the scope of this study to determine the efficiency of IDX, we employ another model to investigate accounting conservatism in this study. We regress the firm-year observations' accruals on its cash flows from operating activities. This second model is proposed by Ball and Shivakumar (2005, 2006). The original version and its extensions are presented below:

$$ACC_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*CFO_{it} + \beta_3*CFO_{it}*NEG_{it} + \varepsilon_{it} \tag{4}$$

$$ACC_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*CFO_{it} + \beta_3*CFO_{it}*NEG_{it} + POST * (\beta_4 + \beta_5*NEG_{it} + \beta_6*CFO_{it} + \beta_7*CFO_{it}*NEG_{it}) + \varepsilon_{it} \tag{5}$$

$$ACC_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*CFO_{it} + \beta_3*CFO_{it}*NEG_{it} + POST * (\beta_4 + \beta_5*NEG_{it}$$
$$+ \beta_6*CFO_{it} + \beta_7*CFO_{it}*NEG_{it}) + \alpha_1*LEV_{it} + \alpha_2*SIZE_{it} + \alpha_3*GROWTH_{it}$$
$$+ \alpha_4*CFO_{it}*LEV_{it} + \alpha_5*CFO_{it}*SIZE_{it} + \alpha_6*CFO_{it}*GROWTH_{it} +$$
$$\alpha_7*CFO_{it}*NEG_{it}*LEV_{it} + \alpha_8*CFO_{it}*NEG_{it}*SIZE_{it} + \alpha_9$$
$$*CFO_{it}*NEG_{it}*GROWTH_{it} + \varepsilon_{it} \qquad (6)$$

Where:

ACC	=	net income deducted by cash flows from operating activities, standardised by beginning of period total assets;
CFO	=	cash flows from Operating activities, standardised by beginning of period total assets;
NEG	=	dummy variable equal to 1 if $R_{it} < 0$, and 0 if otherwise;
POST	=	dummy variable equal to 1 if an observation falls in the post-crisis period, and 0 if otherwise;
LEV	=	total liabilities divided by total assets at the beginning of the period;
SIZE	=	the log of the market value of equity at the beginning of the period; and
GROWTH	=	the price-to-book ratio at the beginning of the period.

Ball and Shivakumar (2005, 2006) noted that accrual accounting performs two roles in relation to cash flows from operating activities. The first role is to align the timing of revenue and expense recognition under the matching rule (Dechow et al., 1994). The accounting process adds accruals to operating cash flow to reduce the noise due to volatility in working capital and investment outlays. The second role is to exhibit asymmetric timeliness in recognition of gains and losses. Ball and Shivakumar (2005, 2006) argued that accounting conservatism leads to an asymmetric relationship between accruals and cash flows, such that economic losses are recognised on a timely basis, and economic gains are delayed in their recognition until they are realised as cash. These two roles of accruals imply that there are negative and positive relationships between cash flows and accruals, and that the positive relationship is greater in periods with economic losses than in periods with economic gains.

Table 1
Descriptive Statistics

	PRE-CRISIS 1996	POST-CRISIS 2001
Number of observations	125	125
% of loss observations	6.40%	36.80%
% of observations with negative returns	56.80%	50.40%

	Mean			Median		
	PRE-CRISIS 1996	POST-CRISIS 2001	p-value	PRE-CRISIS 1996	POST-CRISIS 2001	p-value
Earnings	202.55	198.38	0.970	108.51	20.41	0.000
Share returns	8.59%	9.80%	0.883	−7.55%	−1.67%	0.155
Firm size (in '000)	$1,239,422,817	$1,009,226,916	0.616	$209,063,840	$182,000,000	0.998

Notes: The sample consists of 250 firm-year observations from 125 companies that were consistently listed on IDX from 1996 through 2001. Earnings are net income per share. Share returns are buy-and-hold returns calculated over a 12-month period ending three months after the fiscal year-end. Firm size is the market value of outstanding shares at the beginning of the fiscal year (in thousands). Tests are 2-*tailed*; p-values for the means are from *t*-statistics on the differences in the means, and p-values for the medians are from *z*-statistics of the Wilcoxon two-sample tests. White (1980) heteroskedasticity-consistent *t*-statistics are provided in parentheses.

EMPIRICAL RESULTS

Descriptive Statistics

Descriptive statistics for 250 firm-year observations and results of univariate analysis based on t-tests and Wilcoxon two-sample tests are presented in Table 1. Contrasting pre- and post-crisis periods, there is a higher percentage of loss observations after the crisis (6.40% versus 36.80%). On the other hand, the percentages of observations with negative returns are slightly lower following the crisis than before the crisis (56.80% versus 50.40%).

The mean and median of earnings are higher in the pre-crisis period; the mean difference is not significant at the 5% level, whereas the median difference is significant at the 5% level. Differences in mean and median of share returns and firm size, defined as the market value of equity, are not significant at the 5% level.

During both periods, earnings are positively skewed—the mean is higher than the median. The differences between mean and median for pre- and post-crisis periods are –94.04 and –177.97, respectively. There are a number of studies that have used earnings skewness to examine conservatism (Krishnan, 2005). Past research revealed that conservative accounting leads to negatively skewed earnings, which is in contrast with positive skews of stock returns (Basu, 1995; Ball, Kothari, and Robin, 2000; Givoly and Hayn, 2000; Lang, Raedy, and Yetman, 2003). With earnings being positively skewed, there is an early indication that good news is recognised quicker than bad news. The findings of univariate analysis thus provide a preliminary result that is inconsistent with conservative accounting practices for pre- and post-crisis periods.

Contemporaneous Association between Earnings and Returns

Table 2 provides empirical results of contemporaneous association between earnings and returns. Panel A presents the results of pooled regressions for both periods using Model 1. The coefficient of R is expected to be positive and significant. Sensitivity of earnings to bad news is measured by the sum of the coefficients of R and $R * NEG$. The existence of conservative accounting practices requires that earnings and returns still move in the same direction, but the sensitivity of earnings to bad news is higher than it is to good news. This evidence can only be demonstrated if the coefficient of $R * NEG$ is positive and significant (Basu, 1997).

The pooled regression, described in Panel A of Table 2, indicates that the coefficient of R is positive and significant at the 10% level, indicating that

earnings are positively sensitive to good news. The coefficient of *R * NEG,* however, is negative and insignificant. There is no evidence that accounting practices in Indonesia are conservative across periods; earnings are as sensitive to good news as to bad news.

Table 2
Contemporaneous Association between Earnings and Returns
Panel A: Pooled Regression Coefficients
Model 1: $NI_{it} = \beta_0 + \beta_1 * NEG_{it} + \beta_2 * R_{it} + \beta_3 * R_{it} * NEG_{it} + \varepsilon_{it}$

Variables	Coefficient	*t*-statistic	Adjusted R^2
Intercept	–0.174	–0.8267	2.94%
NEG	–0.140	–0.4179	
R	0.826	1.7261*	
*R * NEG*	–0.695	–0.7627	

Panel B: Differences in Regression Coefficients between Pre- and Post-Crisis Periods
Model 2: $NI_{it} = \beta_0 + \beta_1 * NEG_{it} + \beta_2 * R_{it} + \beta_3 * R_{it} * NEG_{it} + POST * (\beta_0 + \beta_1 * NEG_{it} + \beta_2 * R_{it} + \beta_3 * R_{it} * NEG_{it}) + \varepsilon_{it}$

Variables	Coefficient	*t*-statistic	Adjusted R^2
Intercept	0.123	3.0288***	9.51%
NEG	–0.055	–1.3229	
R	–0.068	–0.7083	
*R * NEG*	0.122	1.2555	
*POST * Intercept*	–0.982	–1.7152*	
*POST * NEG*	0.474	0.6326	
*POST * R*	2.777	1.7183*	
*POST * R * NEG*	–1.549	–0.6307	

(*continued*)

Table 2 (*continued*)

Contemporaneous Association between Earnings and Returns
Panel C: Regression Coefficients including Control Variables
Model 3: $NI_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*R_{it} + \beta_3*R_{it}*NEG_{it} + POST * (\beta_0 + \beta_1*NEG_{it} + \beta_2*R_{it} + \beta_3*R_{it}*NEG_{it}) + \alpha_1*LEV_{it} + \alpha_2*SIZE_{it} + \alpha_3*GROWTH_{it} + \alpha_4*R_{it}*LEV_{it} + \alpha_5*R_{it}*SIZE_{it} + \alpha_6*R_{it}*GROWTH_{it} + \alpha_7*R_{it}*NEG_{it}*LEV_{it} + \alpha_8*R_{it}*NEG_{it}*SIZE_{it} + \alpha_9*R_{it}*NEG_{it}*GROWTH_{it} + \varepsilon_{it}$

Variables	Coefficient	*t*-statistic	Adjusted R^2
Intercept	2.434	0.7732	32.02%
NEG	–0.030	–0.1245	
R	–9.781	–1.5228	
*R * NEG*	20.937	1.4269	
*POST * Intercept*	–0.466	–1.2176	
*POST * NEG*	0.960	1.3743	
*POST * R*	1.590	1.7281*	
*POST * R * NEG*	0.205	0.1128	
Control Variables			
LEV	–2.503	–2.6367***	
SIZE	–0.099	–0.3749	
GROWTH	0.001	0.9497	
*R * LEV*	7.451	2.3343**	
*R * SIZE*	0.531	1.0876	
*R * GROWTH*	–0.012	–0.9974	
*R * NEG * LEV*	–10.083	–2.0349**	
*R * NEG * SIZE*	–1.377	–1.1567	
*R * NEG * GROWTH*	0.016	0.9909	

Notes:
Variable definitions:
NI = net income per share for firm i in fiscal year *t*, deflated by P_{it-1}, which is the stock price at the beginning of the fiscal year;
R = returns from nine months before fiscal year-end t to three months after fiscal year-end *t*;
NEG = dummy variable equal to 1 if $R_{it} < 0$, and 0 if otherwise;
POST = dummy variable equal to 1 if observation falls in the post-crisis period, and 0 if otherwise;
LEV = total liabilities divided by total assets at the beginning of the period;
SIZE = the log of the market value of equity at the beginning of the period; and
GROWTH = the price-to-book ratio at the beginning of the period.

White (1980) heteroskedasticity-consistent *t*-statistics are provided in parentheses
Statistical significance (2-*tailed*):
  ***   Significant at the 1% level
  **   Significant at the 5% level
  *   Significant at the 10% level

We extended the test, as proposed in Herrmann et al. (2008), Model 2, by adding another dummy variable, *POST*, to examine the level of conservatism in different time periods. Similar to Model 1, the additional sensitivity of earnings to good news after the crisis is measured by *POST * R*, and the additional sensitivity of earnings to bad news after the crisis is measured by the sum of *POST * R* and *POST * R * NEG*. The coefficient of *R* reflects the sensitivity of earnings to good news, and *R * NEG* measures the additional sensitivity of earnings to bad news, both in the pre-crisis period.

Panel B of Table 2 presents the regression result from Model 2. Prior to the crisis, neither the coefficient of *R* nor *R * NEG* is statistically significant. Therefore, there is no correlation in the movements of these two variables in the economy prior to the crisis. There is no evidence that prior to the Asian financial crisis, stock returns led earnings.

Panel B of Table 2 also indicates that after the crisis, the coefficient of *POST *R* is positive and significant at the 10% level; evidence of stock returns led earnings under good-news circumstances. In contrast, the coefficient of *POST *R * NEG* is not statistically significant. In the post-crisis period, there is evidence that stock returns led earnings, but there were symmetric treatments in accounting practices regarding good and bad news, such that earnings incorporated good news as quickly as bad news. In other words, there is a correlation in the movements of these two variables in the economy right after the crisis, but accounting practices still did not exhibit conservatism as expected.

Panel C of Table 2 presents the findings for Model 3, where the dummy variable of *POST* and three control variables are included; leverage, size, and growth. Model 3 provides consistent findings with the ones without controls. Following the crisis, the coefficient of *POST * R* is positive and significant at the 10% level, where the coefficient of *POST * R * NEG* is negative and statistically insignificant. This confirms the previous finding that there is a positive correlation in the movements of stock returns and earnings in the economy right after the crisis. Accounting practices in the post-crisis period, however, still did not exhibit conservatism as expected.

Of three control variables in Model 3, only *LEV* is significantly related to earnings. The negative coefficient for leverage reveals that higher-leveraged firms exhibit lower earnings. The coefficient of *R * LEV* is 7.451 and significant at the 5% level, whereas the coefficient of *R * NEG * LEV* is −10.083 and also significant at the 5% level. These findings suggest that earnings are more sensitive to share returns for good news than to bad news in both periods, an indication that highly leveraged firms are less conservative in their accounting practices.

Contemporaneous Association between Earnings and Cash Flow

The second type of test in this study, presented in Table 3, involves the accrual-based test, as proposed by Ball and Shivakumar (2005, 2006). As noted earlier, the model exhibits the roles of accruals both in noise reduction and in gain and loss recognition. Panel A of Table 3 presents the pooled regression results of 250 firm-year observations derived from Model 4. It is predicted that the coefficient of *CFO* is negative, such that there should be a negative correlation between cash flows and accruals, as described by Dechow et al. (1994). Furthermore, the coefficient of *CFO * NEG* is expected to be positive under asymmetric loss recognition, as predicted by Ball and Shivakumar (2005, 2006).

Overall, Model 4 provides consistent findings with Model 1, wherein general accounting practices in Indonesia are not conservative across periods. Both coefficients of *CFO* and *CFO * NEG* are significant at the 1% level, yet the relationships with accruals are in contrast with previous predictions. The coefficients of *CFO* = 0.448 indicate that, on average, 45% of cash flows lead to more accruals when cash flows are positive. The coefficient of *CFO * NEG* = –2.077 implies that when cash flow is negative, 163% of cash flow (163% = –1.629 = 0.448–2.077) on average is offset by accruals. Hence, a positive relationship between accruals and cash flow is actually more pronounced when cash flow is negative. Asymmetrically, more unrealised gains are recognised earlier via accruals than unrealised losses.

Moving on to Model 5, for which the time dummy of *POST* is included, the model presents similar results as Panel A. In the pre-crisis period, the coefficient of *CFO* is positive and significant, whereas the coefficient of *CFO * NEG* is negative and also significant. These findings provide evidence that suboptimal quality of accounting practices occurred during the pre-crisis period.
These accounting practices resulted in more volatile earnings than cash flows, and exhibited aggressiveness in financial statement preparation.

Nonetheless, in the post-crisis period, there appears to be an expected negative relationship between positive cash flows and accruals. The negative coefficient of *POST * CFO*, statistically significant at the 1% level, indicates that accruals acted as a noise reduction for cash flow. On average, 93% of positive cash flow is offset by accruals. The evidence on the asymmetric role of accruals in gains and losses, however, is not as strong as expected. The negative coefficient of *POST * CFO * NEG* is not significant at conventional levels. Nonetheless, this weak evidence provides a hint that accounting practices in Indonesia are moving toward conservative accounting, somewhat an improvement from the pre-crisis period.

Similar to Model 3, Model 6 also incorporates the same control variables (Leverage, Size, and Growth) to capture other factors that might influence earnings in the two periods. Both coefficients of *CFO* and *CFO * NEG* have expected signs but are not statistically significant at conventional levels. The results also imply that accounting practices in Indonesia during the pre-crisis period failed to utilise accruals to reduce cash flow noise as well as to demonstrate conservatism in preparing financial reports.

For the post-crisis period, *POST * CFO* is negative and statistically significant at the 1% level, indicating that approximately 75% of cash flow is offset by accruals if the cash flow is positive. *POST * CFO * NEG*, on the other hand, is positive, as expected, but not statistically significant. There is no strong evidence that the cash flow is offset by accruals if it is negative. Thus, right after the crisis, accounting practices in Indonesia utilised accruals in noise reductions but still did not exhibit the accepted level of conservatism.

Only two control variables, leverage and growth, are statistically significant. The negative relationship between leverage and accruals (*LEV* = −0.105) indicates that firms with higher leverage have less accruals. Yet, the coefficient for growth (*GROWTH* = 0.000) is very small, indicating that growth has little influence on accrual variations.

Based on the results from Models 1, 2, and 3, stock prices did not lead earnings prior to the crisis. Assuming that the Indonesian stock market had semi-strong efficiency before the crisis, the accounting process failed to either represent the economic reality faced by firms or to exhibit conservatism. Similarly, results from Models 4, 5, and 6 imply that, in the pre-crisis period, there is no evidence that accounting professionals demonstrated efforts to align the timing of revenue and expense recognition and to exhibit conservatism in recognizing gains and losses. By law, in the pre-crisis period Indonesian companies were not required to comply with any accounting standards; they were only required to keep adequate financial records. Financial statements were also not required to be independently audited. Coupled with poor corporate governance and lack of disciplinary activities, therefore, there were no incentives for preparers to produced quality financial statements (Ball et al., 2003; Herrmann et al., 2008).

During the post-crisis period, the results of Models 1, 2, and 3 demonstrate that there is a positive relationship between stock returns and earnings. The accounting process was able to capture the economic reality faced by the firms. However, after the crisis, there is still no strong evidence that the demand to have better financial statement quality and improvement in corporate governance resulted in conservative accounting practices. Earnings were as

sensitive to good news as to bad news after the crisis. Results from Models 4, 5, and 6 also imply that, in the post-crisis period, although the basic accounting rule of matching revenues and expenses was employed, there was only the slightest indication of conservative accounting.

Table 3
Contemporaneous Association between Accruals and Cash Flow
Panel A: Pooled Regression Coefficients
Model 4: $ACC_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*CFO_{it} + \beta_3*CFO_{it}*NEG_{it} + \varepsilon_{it}$

Variables	Coefficient	*t*-statistic	Adjusted R^2
Intercept	−0.091	−5.8149***	87.63%
NEG	0.042	1.4980	
CFO	0.448	47.7120***	
*CFO * NEG*	−2.077	−10.8611***	

Panel B: Differences in Regression Coefficients between Pre- and Post-Crisis Periods
Model 5: $ACC_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*CFO_{it} + \beta_3*CFO_{it}*NEG_{it} + POST * (\beta_1 + \beta_2*NEG_{it} + \beta_3*CFO_{it} + \beta_4*CFO_{it}*NEG_{it}) + \varepsilon_{it}$

Variables	Coefficient	*t*-statistic	Adjusted R^2
Intercept	−0.087	−7.1496***	89.87%
NEG	0.071	3.0516***	
CFO	0.453	191.2885***	
*CFO * NEG*	−1.876	−7.3582***	
*POST * Intercept*	0.086	2.4941**	
*POST * NEG*	−0.148	−2.5988***	
*POST * CFO*	−0.929	−3.2932***	
*POST * CFO * NEG*	0.654	1.4323	

Contemporaneous Association between Accruals and Cash Flow
Panel C: Regression Coefficients including Control Variables
Model 6: $ACC_{it} = \beta_0 + \beta_1*NEG_{it} + \beta_2*CFO_{it} + \beta_3*CFO_{it}*NEG_{it} + POST * (\beta_4 + \beta_5*NEG_{it} + \beta_6*CFO_{it} + \beta_7*CFO_{it}*NEG_{it}) + \alpha_1*LEV_{it} + \alpha_2*SIZE_{it} + \alpha_3*GROWTH_{it} + \alpha_4*CFO_{it}*LEV_{it} + \alpha_5*CFO_{it}*SIZE_{it} + \alpha_6*CFO_{it}*GROWTH_{it} + \alpha_7*CFO_{it}*NEG_{it}*LEV_{it} + \alpha_8*CFO_{it}*NEG_{it}*SIZE_{it} + \alpha_9*CFO_{it}*NEG_{it}*GROWTH_{it} + \varepsilon_{it}$

Variables	Coefficient	*t*-statistic	Adjusted R^2
Intercept	−0.118	−0.5290	90.49%
NEG	0.072	2.8399***	
CFO	−0.686	−0.3319	
*CFO * NEG*	4.330	0.8294	

Table 3 (*continued*)

Variables	Coefficient	*t*-statistic	Adjusted R^2
*POST * Intercept*	0.080	1.9388*	
*POST * NEG*	−0.141	−2.3106**	
*POST * CFO*	−0.753	−2.5888***	
*POST * CFO * NEG*	0.144	0.1673	
Control Variables			
LEV	−0.105	−2.2572**	
SIZE	0.009	0.4849	
GROWTH	0.000	1.9948**	
*CFO * LEV*	1.267	1.2821	
*CFO * SIZE*	0.041	0.2439	
*CFO * GROWTH*	−0.009	−1.4203	
*CFO * NEG * LEV*	−2.806	−1.318	
*CFO * NEG * SIZE*	−0.430	−1.0407	
*CFO * NEG * GROWTH*	0.017	1.0101	

Notes:
Variable definitions:
- *ACC* = net income deducted by cash flows from Operating activities, standardised by beginning of period total assets;
- *CFO* = cash flows from operating activities, standardised by beginning of period total assets;
- *NEG* = dummy variable equal to 1 if $R_{it} < 0$, and 0 if otherwise;
- *POST* = dummy variable equal to 1 if observation falls in the post-crisis period, and 0 if otherwise;
- *LEV* = total liabilities divided by total assets at the beginning of the period;
- *SIZE* = the log of the market value of equity at the beginning of the period; and
- *GROWTH* = the price-to-book ratio at the beginning of the period.

White (1980) heteroskedasticity-consistent *t*-statistics are provided in parentheses
Statistical significance (2-*tailed*):
- *** Significant at the 1% level
- ** Significant at the 5% level
- * Significant at the 10% level

The Asian financial crisis triggered a total economic, social, and political crisis in Indonesia. Although the Indonesian government had already required firms to prepare financial statements, based on the Indonesian GAAP, and to have the statements audited by external auditors as well issuance of IDX's corporate governance regulations, a prolonged chaotic situation in the nation made implementations of the law and regulations difficult. In addition, there was still a lack of incentive for managers and auditors in preparing quality financial statements. Stakeholders in Indonesia have never filed a class action lawsuit or conducted any enforcement activity against any firm or auditors for wrongdoing or negligence, even after the crisis.

CONCLUSION

Assessing earnings quality in the Indonesian capital market, the authors discover that the level of earnings conservatism was not improved after the Asian financial crisis. Following the crisis, the asymmetric recognition of bad news in earnings was not more prominent, and the positive relationship between cash flows and accruals was not greater in periods with economic losses. Even though it was not more conservative, there was an improvement in accounting practices in Indonesia. Unlike in the pre-crisis period, the accounting process after the crisis was able to capture the economic reality faced by firms, and there was also evidence of alignment in the timing of revenue and expense recognition.

The Asian financial crisis has exposed structural weaknesses in the Indonesian economy, and stakeholders have put their efforts into reforming accounting practices and corporate governance. Yet, a prolonged economic, social, and political crisis in Indonesia following the crisis might have made implementation of the law and regulation difficult. In addition, there was still a lack of incentive for managers and auditors in preparing quality financial statements.

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