The effect of corporate social responsibility disclosure on the value relevance of cash-based and accrual-based accounting numbers

Empirical study on Indonesian Manufacturing Companies Listed in the IDX in 2007-2009 periods

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Abstract— **Integrated reporting is combined reporting which consist of financial and non financial information. In this study, non financial information refers to the disclosure of corporate social responsibility (CSR). This study investigates the value relevance of cash-based compared to accrual-based accounting numbers, and insert the disclosure of social responsibility. We use the unexpected earnings to represent the accrual-based. Meanwhile, the cash-based is represented by unexpected cash from operating activities. We also use CSR index as moderating variable to strengthen the value relevance of accounting numbers. The samples used in this research are Indonesia manufaturing companies listed in IDX from 2007-2009. The expected result is companies will have higher value relevance of accounting numbers when the index of CSR is higher. Furthermore, this study is also conducted to provide evidence that the value relevance of cash-based and accrual based accounting numbers will be different when we insert the CSR index. We use Adjusted R^2 to measure value relevance of accounting numbers.**

Keywords—Value relevance, CSR index, cash-based, accrual-based,

I. INTRODUCTION

Value relevance could be explained as predicted association between accounting information and equity value. Some researches have been done regarding the value relevance of the accounting numbers. Hayn (1995), Amir and Lev (1996), Elliott and Hanna (1996), Basu, (1997) conducted researches to validate the value relevance of financial report while Collins *et al*., (1997); Graham *et al*., (1998), Francis and Schipper, (1999) and Lev and Zarowin (1999) focused on the evolution of value relevance. The result becomes a continuing debate regarding the trend of value relevance over the observed years

Financial reporting is now in an era of convergence. Traditionally, company anual report primarily consists of financial information, i.e. balance sheet, the profit and loss account and the accompanying directors' report which outline the company's performance. In the past decades, there was a shift in how companies report and the impact they have on their stakeholders. By the end of the last century, big companies around the worldstarted to explain their impact on the environment and wider society in CSR (Corporate Social Responsibility) reports. Over the last decade CSR reporting has grown significantly, from 35 percent in 1999 to 80 percent of the companies listed in the Global Fortune 250

in 2008. Over the last years, a selected number of companies have started to integrate CSR reporting into the annual report. As of today, only 3 percent of the companies worldwide are reporting on an integrated basis, eventhough there was an increasing figure of this report.

Recent studies show that disclosure of social responsibility would increase firm value. This could be positive signal for investors to make any economic decisions. We propose that company with high level of CSR disclosure index would strengthen the value relevance of accounting numbers, wether the accounting numbers are accrual-based or cash-based.

II. PROBLEMS

This study addresses some questions whether:

1. Accrual-Based Accounting Numbers hve value relevance
2. Cash-based Accounting Numbers have value relevance
3. Higher CSR disclosure index would result higher value relevance.

III. THE RESEARCH OBJECTIVES

The objectives of this research are:

1. To provide evidence that accrual-based accounting has value relevance
2. To provide evidence that cash-based accounting has value relevance
3. To provide evidence that higher CSR disclosure index would result to higher value relevance.

III. LITERATURE REVIEW

Some researches related to CSR has been growing rapidly. Research conducted over the years on CSR. O'Dwyer (2002) , Adams and McNicholas., (2007) conducted study of what motivates managers to make particular social reports. Another research is done by Belkaoui, (1976), whio tested of how particular stakeholders react to social and environmental disclosures.

Belkaoui (1999) explores the relationship between CSR and Corporate Financial Performance (CFP). It is also done by other researcher such as Richardson et al., (1999) and Mahoney and Roberts (2007).

Researches on those particular topics also used event study methodology. The results of these studies are controversial, and sometimes researchers present a critical analysis of the use of this methodology to investigate CSR and (McWilliams and Siegel, 2000).

However, the purpose of this research is to investigate whether whether stock prices are influenced by the publication of a social report, and we consider value relevance to be the most suitable method of analysis for this purpose.

Value relevance is defined as the ability of financial statement information to capture and summaries firm value (Beaver, 1968). Some researches aimed to investigate an empirical association between the stock market values and accounting information. The models which capture this association are divided into two categories, i.e., price model and return model. Ohlson (1995) developed those models from the linear information model which has been used by various researchers over the years.

The concept of relevant value (an accounting value is also defined as value-relevant if it has a predicted association with equity market values) is not new in the literature (Miller and Modigliani,1966), use of the term "value-relevance" is relatively recent (Amir et al., 1993).

Collins et al., (1997) and (Barth et al., 1998) applied the value relevance to individual accounting variables while and Amir and Lev,(1996) and Xu et al., (2002) applied to non-financial variables.

Collins *et al.* (1997) investigated the change of value elevance of earnings and book value equity by using price model during 1953-1993 periods. They found that the value relevance of earnings and book

value equity increased slightly during the observaton periods

Ha1 : Accrual-based and cash-based accounting numbers have value relevance

Some interesting applications of value relevance to non-financial variables are proposed by Sinkin et al. (2008). They examine the relationship between adoption of eco-efficient business strategies and firm value using the Ohlson model, modified to include an indicator variable for eco-efficiency. They found that the adoption of eco-efficient business strategies is positively related to firm value. The results of their analysis of 431 firms indicate that eco-efficient firms have consistently higher market values than non-eco-efficient firms.

Hassel et al. (2005) also propose applying value relevance to environmental performance. They use an accounting based valuation model developed by Ohlson in which the market value of equity is a function of book value, accounting earnings and environmental performance. Their results indicate a significant negative relationship between the market value of listed Swedish companies and their environmental performance.

Those briefly analysed studies provide some important points to consider in our research. Analysis of earlier studies did not explore the effect of CSR index on the value relevance difference between accrual-based accounting number (unexpected earnings) and cash-based accounting number (uexpected cash flow from operation). In fact, to the best of our knowledge, no studies have investigated the effect of CSR disclosure index on the value relevance of those two kind accounting numbers

Ha2 : Companies with higher CSR disclosure index would have higher value relevance of accounting numbers.

IV. RESEARCH METHOD

This study uses secondary data. Samples are generated by purposive sampling method.

This method requires some criterias which consist of :

1. Public manufacturing companies listed in the IDX during 2007-2009 periods.
2. The data of earnings announcement dates and other related data are available for four years time series.
3. The publication dates are no later than 90 days after the year end. Late publication is considered to be bias for research investigation.

Tabel 4.1.
List of Sample

Sample criterias	2007	2008	2009	Total
Manufacturing companies	151	149	146	446
Earnings announcement date are not available	(2)	(12)	(25)	(39)
Earnings announcement date are late	(55)	(88)	(106)	(249)
Data are not available	(34)	(25)	(5)	(64)
Total	60	24	10	**94**

This study uses unexpected earnings as proxy of accrual-based accounting, derived from earnings in the current period substracted by earnings in prior year and divided by earnings in the prior year. Meanwhile, we use unexpected cash flow from operation (CFO) proxy of cash-based accounting, derived from CFO in the current period substracted by earnings in prior year and divided by CFO in the prior year. CSR disclosure would be measured by CSR index, by using 78 items of disclosure list (Hakston and Milne,1996).

The research uses modified Ohlson model (1995) and formulated as follows :

$$CAR_{it} = \alpha_0 + \alpha_1 UE_{it} + \in_{it}$$

$$CAR_{it} = \alpha_0 + \alpha_1 UCFO_{it} + \in_{it}$$

Those models are then categorized into high CSR index and low CSR index to differensiate the effect of CSR on the value relevance of accrual-based and cash based accounting numbers.

V. DISCUSSION

The Hypothesis 1 Testing

This hypothesis 1 is aimed to test the value relevance of accrual-based accounting. Unexpected earnings is deployed as proxy of accrual-based accounting numbers.

Table. 5.1
Descriptive Statistic UE-CAR

	N	Min	Max	Mean	Std. Dev
UE	27	-88.03	7.55	-3.0311	17.12073
CAR	27	-.03	.08	.0009	.02384
Valid N (listwise)	27				

The table shows that mean for UE is -3.0311, which means curent year earnings are lower compared to prior year earnings.Mean value of CAR is 0.0009, which means that the stock price for today is higher compared to previous day.

For hypothesis testing, the table below shows that the value of R^2 is 0,398, more than 0, shows that accrual-based accounting numbers have value relevance. This research align with study conducted by Francis and Schipper (1999) Graham *et al*. (1998) and Collins *et al*. (1997) who found that earnings have value relevance.

Table 5.2
Hypothesis testing UE-CAR

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.649a	.422	.398	.01849	1.702

a. Predictors: (Constant), UE

b. Dependent Variable: CAR

Further test is conducted to test the value relevance of cash-based accounting. Unexpected CFO is deployed as proxy of cash-based accounting numbers.

Table 5.2
Descriptive Statistic UCFO-CAR

	N	Min	Max	Mean	Std. Deviation
UCFO	30	-2.76	116.90	4.0514	21.34616
CAR	30	-.16	.04	-.0030	.03655
Valid N (listwise)	30				

The table shows that mean for UCFO is 4.0514, which means curent year earnings are higher compared to prior year earnings.Mean value of CAR is -0.0030, which means that the stock price for today is lower compared to previous day

Table 5.3
Hypothesis Testing UCFO-CAR

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.827a	.684	.673	.02091	1.926

a. Predictors: (Constant), CCFO

b. Dependent Variable: CAR

The value of R^2 is 0.673, more than 0, shows that cash-based accounting numbers have value relevance

This result align with study conducted by Cheng et. Al (1996) who found that cash flow from operation has value relevance, even higher compared to value relevance of earnings. This could be understood as cash flow from operation activities, as proxy of cash-based accounting provide information of cash position that is generated from major operation of companies. Earnings, as proxy of accrual-based accounting, would not show the real cash position of the company.

The Hypothesis 3 Testing

This hypothesis test whether the CSR index influence value relevance.

Tabel 5.4.
Hypothesis 3 Testing UE-CAR CSR low

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1 (Cnstnt)	.000	.017		.012	.991
UE_CSR High	.023	.009	.467	2.585	.016

R	R Square	Adj R Sq	Std. Error of the Est	Durbin-Watson	F	Sig.
.467ᵃ	.218	.185	.0863119	1.945	6.680	.016

a. Dependent Variable: CAR_CSRhigh

Table 5.5
Hypothesis 3 Testing UE-CAR CSR

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	.006	.009		.699	.488
UE_CSR low	.015	.006	.374	2.648	.011

R	R Square	Adj R Sq	Std. Error of the Est	Durbin-Watson	F	Sig.
.374	.140	.120	.0593423	2.043	7.010	.011

a. Dependent Variable: CAR_CSRlow

high

The tables show that higher CSR index would result higher value relevance of accrual-based accounting numbers. It could be seen in the value of adjusted R^2 for high CSR index (0.185) is higher compared to adjusted R^2 for low CSR index (0.12). This means that there is association between CSR information and equity value, i.e. cummulative abnormal return. This finding provide evidence that CSR information strengthen the association between company performance and equity value. This finding is also supported by positive association between unexpected earnings and CAR (0.23) which is significant in the α of 5% (0.16). This result support studies conducted by Sinkin *et.al.* (2008) aho found that the adoption of eco-efficient business strategies is positively related to firm value.

To support this finding, this research also test the effect of CSR index towards value relevance of cash-based accounting number.

Tabel 5.5
Hypothesis 3 Testing UCFO-CAR CSRhigh

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Cnstnt)	.005	.021		.254	.801
UCFO_CSRhigh	-.001	.008	-.038	-.191	.850

R	R Square	Adj R Sq	Std. Error of the Est	Durbin-Watson	F	Sig.
.038	.001	-.038	.0958790	2.161	.036	.850

a. Dependent Variable: CAR_CSRhigh

Table 5.6
Hypothesis 3 Testing UCFO-CAR CSRlow

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Cnstnt)	.002	.006		.378	.708
UCFO_CSRlow	.003	.003	.189	1.172	.249

R	R Square	Adj R Sq	Std. Error of the Est	Durbin-Watson	F	Sig.
.189ᵃ	.036	.010	.0384118	1.564	1.374	.249ᵃ

a. Dependent Variable: CAR_CSRlow

Surprisingly, for cash-based accounting numbers, higher CSR have no value

relevance. It can be seen on the table 5.5 which shows the negative value of adjusted R2 (-0.038). By contrast, in the event of low CSR, cash-based accounting numbers have value relevance, eventhough the value of adjusted R is relatively low (0.010). This result does not support the hypothesis that higher CSR index would strenghten the value relevance of accounting numbers, i.e. cash-based accounting numbers.

There are some reasons to support those findings. Firstly, investors ni Indonesia still rely on earnings to support their decision making compared to other acoounting numbers such as book value of equity and cash flow, included information of cash flow from operation. This could not be argued, as earnings contain potential revenues and expenses, eventhough cash realization would not happen in the curent period. Secondly, investors in Indonesia believe that CSR disclosure could strengthen the value relevance of earnings compared to the value relevance of cashflow from operation. Information of potential revenues combined with CSR disclosure are believed as a set of important information which provide two important informatin : pontential revenues and social responsibility activities. This could be understood since cashflo from operating activities only capture cash inflow and cash outflow from company's major activities.

VI. CONCLUSIONS

This study could provide evidence that accounting numbers have value relevance. Both of accrual-based and cash-based acounting numbers have value relevance, where accrual-based accounting numbers show lower value relevance.

This research could also provide evidence that CSR disclosure index could strengthen the value relevance of accrual-based accounting. By contrast, this study fails to provide evidence that CSR disclosure index would strengthen the value relevance of cash-based accounting numbers. For the

future studies, we suggests to insert earnings attributes such as persistence or conservatism, to provide additional evidences related to value relevance of earnings, or to explain why accrual-based could have higher value relevance when we insert CSR disclosure index.

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