Predictive Ability of Earnings Components

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Abstract

Several studies focus on comparison of predictive ability between aggregate earnings and cash flow. The result of these studies is varied. Dechow et al. (1994, 1998); Landsman and Maydew (2002) conclude that aggregate earnings are more predictive than cash flow. But several studies show that cash flow are more predictive than aggregate earnings. Finger (1994), Burgstahler et al. (1998), DeFond and Hung (2001) find that cash flow has more predictive ability than aggregate earnings. It is clear that there is inconsistency in results. However, Barth et al. (2001) find that accruals cannot predict the future cash flow because many researches use aggregate earnings as accrual proxy in predicting future cash flows. Aggregate earnings only give historical information, without giving more attention to the future information, whereas accrual information also gives expected future information.

Depending on this argumentation, the purpose of this study is to provide empirical evidence on predictive ability of earnings components (Barth's Model) and cash flow from operation. We obtained a sample of 30 BEI (Indonesian Capital Market) listed companies and 210 observations, year-end firms from 2002 to 2009. We find that both cash flow and aggregate earnings numbers have substantially predictive ability for future cash flow. Furthermore, this study documents that earnings components increase predictive ability for future cash flows than cash flows itself. This result is consistent with Dechow et al. (1998) and Barth et al. (2001).

Key words: *Earnings, Cash Flow, Earnings Components, Predictive Ability.*

INTRODUCTION

IASB asserts that economic decision that are taken by users of financial statements require an evaluation of the ability of an entity to generate cash and cash equivalents (IFRS 2001, p.15). This means that financial statements should be able to predict future cash flows. Several prior studies test the ability of aggregate earnings and cash flow to predict future operation cash flows. Greenberg *et al.* (1986), Bowen *et al*. (1986), and Kim and Kross (2002) conclude that aggregate earnings and cash flow have predictive ability toward future operating cash flow.

Several studies focus on comparison of predictive ability between aggregate earnings and cash flow. The result of these studies is varied. Dechow *et al.* (1994, 1998); Landsman and Maydew (2002) conclude that aggregate earnings are more predictive

than cash flow. But several studies show that cash flow are more predictive than aggregate earnings. Finger (1994) find that cash flow is marginally superior to aggregate earnings for short prediction horizons, but earnings and cash flow perform equally well for longer horizons. Burgstahler *et al.* (1998); DeFond and Hung (2001) also find that cash flow has more predictive ability than aggregate earnings.

It is clear that there is inconsistency in results. Several evidences show that aggregate earnings have more predictive ability than cash flow and others show that cash flow is more superior. This empirical result is also not consistent with the theory. FASB (Financial Accounting Standards Board) states that information about earnings and its components is generally more predictive of future cash flows than current cash flows (FASB 1978, 44). Barth *et al.* (2001) find that accruals cannot predict the future cash flow because many researchers use aggregate earnings as accrual proxy in predicting future cash flows. Aggregate earnings only give historical information, without giving more attention to the future information, whereas accrual information also gives expected future information.

Depending on this argumentation, Barth *et al.* (2001) propose accrual components as accrual proxy in predicting future cash flows. Barth *et al.* (2001) build on the model of Dechow *et al.* (1998) to develop predictions about the role of accruals in predicting future cash flows. As predicted, Barth *et al.* (2001) disaggregate earnings into cash flow and the major components. The results show that it can enhances earning's predictive ability.

This study contributes in investigating whether accrual components are more superior in predicting future operating cash flows than operating cash flows.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The Comparison of Accruals and Cash Flows Prediction

Accruals and cash flows can be a good predictor for future cash flows. Several prior studies test the ability of aggregate earnings and cash flow to predict future operating cash flows. Greenberg et al. (1986), Bowen et al. (1986), Finger (1994), Lorek and Willinger (1996), Cheng et al. (1996), Burgstahler et al. (1998), Supriyadi (1999), DeFond and Hung (2001), Kim and Kross (2002), Bandi and Rahmawati (2005), Joni (2011) conclude that aggregate earnings and cash flow have predictive ability toward future operating cash flow.

Several studies focus on comparison of predictive ability between aggregate earnings and cash flow. The result of these studies is varied. Greenberg et al., Rayburn, Wilson (1986); Dechow et al. (1994, 1998); Landsman and Maydew (2002) conclude that

aggregate earnings are more predictive than cash flow. And then, Lorek and Willinger, Sloan (1996) focusing on quarterly rather than annual amounts, find that accruals have predictive ability incremental to cash flow. But several studies show that cash flow is more predictive than aggregate earnings. Bowen et al. (1986) do not find that aggregate earnings provide better predictions of future cash flows than past cash flow.

Finger (1994) finds that cash flow is marginally superior to agrregate earnings for short prediction horizons, but earnings and cash flow perform equally well for longer horizons. Burgstahler et al. (1998); DeFond and Hung (2001) also find that cash flow has more predictive ability than aggregate earnings.

Moreover, empirical evidences in Indonesia also find that cash flow is more superior than accruals. Supriyadi (1999) finds that cash flow information has more predictive ability than aggregate earnings. Aggregate earnings give less contribution to predict future cash flow. Cahyadi (2006); Dahler and Febrianto (2006); and Joni (2011) also find the same evidences. However, Kusuma (2003) does not find that accruals has predictive ability toward future operating cash flows.

The review of empirical evidences show that there is inconsistency in result. Several evidences show that aggregate earnings have more predictive ability than cash flow and others show that cash flow is more superior. This result also is not consistent with the theory and concept. FASB (Financial Accounting Standards Board) states that information about earnings and its components is generally more predictive of future cash flows than current cash flows (FASB 1978, 44).

The Accrual Components Prediction

Barth *et al.* (2001) find that accruals cannot predict the future cash flow because many researches use aggregate earnings as accrual proxy in predicting future cash flows. Aggregate earnings only gives historical information, without give more attention to the future information, whereas accrual information also give expected future information.

Based on this argumentation, Barth *et al.* (2001) propose accrual components as accrual proxy in predicting future cash flows. Barth *et al.* (2001) build on the model of Dechow *et al.* (1998) to develop predictions about the role of accruals in predicting future cash flows. As predicted, Barth *et al.* (2001) disaggregate earnings into cash flow and the major components (change in account receivable, change in inventory, change in accounts payable, depreciation, amortization, and other accruals). The results show that it can enhance earning's predictive ability.

Following the literature reviews and prior researches above, we express a formal alternative hypothesis as follow:

H_1 : Accrual components are more superior in predicting future operating cash flows than operating cash flows.

RESEARCH METHOD

Sample Selection and Data Collection

The data is collected from JSX (Jakarta Stock Exchange) files from 2002 to 2009. The sampel excludes financial services companies because the model is not developed to reflect their activities. It also excludes hotel, travel, transportation and real estate sectors. This sector reports their financial statement which is different from companies in manufacturing and trading sector.

Definition and Variables Measurement

This research use multiple regression to analyze the data.

(1) $CF_{i,t+1} = \beta_0 + \beta_1 EARN_{i,t} + e_i$

(2) $CF_{i,t+1} = \beta_0 + \beta_1 CF_{i,t} + e_i$

(3) $CF_{i,t+1} = \beta_0 + \beta_1 EARN_{i,t} + \beta_2 CF_{i,t} + e_i$

(4) $CF_{i,t+1} = \beta_0 + \beta_1 CF_{i,t} + \beta_2 \Delta AR_{i,t} + \beta_3 \Delta INV_{i,t} + \beta_4 \Delta AP_{i,t} + \beta_4 DEP_{i,t} + \beta_5 AMR_{i,t} + \beta_6 O_{i,t} + e_i$

The variables are defined as follows:

OCF:	operating cash flow
EARN:	net income
INST:	institusional ownership
ΔAR:	change in account receivable
ΔINV:	change in inventory
ΔAP:	change in account payable
DEPR:	depreciation expense
AMORT:	amortization expense
OTHER:	net of all other accruals, calculated as EARN – (CF + ΔAR + ΔINV – ΔAP – DEPR – AMORT)

EMPIRICAL TESTS AND RESULTS

Descriptive Statistics

Descriptive statistics for the variables for the regression are reported in Table 1. The sampel of this research is 30 BEI (Indonesian Capital Market) listed companies and 210 observations, year-end firms from 2002 to 2009.

TABLE 1
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LABA_T	210	-154346000000.00	157163000000.00	16424239383.6000	42347119405.60346
CF_T	210	-70005643267.00	178543000000.00	28846394992.5143	42592686771.82221
AR_T	210	-59134002000.00	141393000000.00	8049642224.2667	25605340177.11369
INV_T	210	-75895569937.00	162478000000.00	5069742469.8333	23461740812.64894
AP_T	210	-765964000000.00	261728000000.00	821200819.5619	77563687505.52320
DEP_T	210	47074059.00	75659147570.00	14215784723.9905	16940094101.63956
AMOR_T	210	.00	3184619000.00	177910518.1571	532195700.99412
OTHER_T	210	-726710000000.00	297405000000.00	-10326633769.7476	76122176458.09910
CF_T1	210	-70005643267.00	389392000000.00	35490455180.2619	58558577294.30610
Valid N (listwise)	210				

Tabel 1 shows mean of earnings is Rp16.424.239.83,6 and Rp28.846.394.992,5143 of cash flows period t, and Rp35.490.455.180,2619 of cash flows period t+1. In addition, the table also shows mean of Δ AR, Δ INV, Δ AP, Δ DEPR, Δ AMOR, and Δ OTHER. These are Rp8.049.642.224.2667, Rp5.069.742.469.8333, Rp821.200.819.5619, Rp14.215.784.723.9905, Rp177.910.518.1571, Rp(10.326.633.769.7476) respectively. Finally, the minimum value of amortization is 0 which indicated companies have no amortization value.

The Comparison of Accruals and Cash Flows Prediction

Table 2 shows that earnings have a good predictive ability. The result gives confirmation that earnings can predict future cash flow with high adjusted R^2 (30.4%) and statistically significance (0.00).

TABLE 2

Accruals Prediction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.554(a)	.307	.304	48865233412.76370

a Predictors: (Constant), LABA_T
b Dependent Variable: CF_T1

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	22906475467.186	3617890996.604		6.331	.000
	LABA_T	.766	.080	.554	9.599	.000

a Dependent Variable: CF_T1

Then, table 3 and table 4 show that cash flow from operation activities also has a good predictive ability. The result gives confirmation that cash flow from operation activities can predict future cash flow with high adjusted R2 (30.4%) and statistically significance (0.00). Thus, both aggregate earnings and cash flow from operation activities have good predictive ability R2 (37.4%) and statistically significance (0.00).

TABLE 3

Cash Flow Prediction

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	**.555(a)**	**.308**	**.304**	**48837007835.24190**

a Predictors: (Constant), CF_T

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	**(Constant)**	**13487627088.296**	**4073299862.451**		**3.311**	**.001**
	CF_T	**.763**	**.079**	**.555**	**9.617**	**.000**

a Dependent Variable: CF_T1

TABLE 4
Combination Prediction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.616(a)	.380	.374	46349036957.48290

a Predictors: (Constant), CF_T, LABA_T

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	141269513	386799671		3.652	.000
		17.430	2.689			
	LABA_T	.472	.096	.341	4.892	.000
	CF_T	.472	.096	.343	4.919	.000

a Dependent Variable: CF_T1

The Accrual Components Prediction

Table 5 depicts the predictive ability of accrual components. The result shows that accrual components have better predictive ability than aggregate earnings and cash flows. It is confirmed by statistic data, adjusted R2 for accrual components higher than aggregate earnings and cash flow from operation activities (44.5% > 30.4%).

According to the statistic results. It is clear that accrual components could predict future cash flow better than aggregate earnings and cash flow from operation activities. This result supported the hypotheses that has been developed.

TABLE 5

Accrual Components Prediction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.681(a)	.464	.445	43613107828.74986

a Predictors: (Constant), OTHER_T, INV_T, AMOR_T, DEP_T, AR_T, CF_T, AP_T

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4562078170.016	4245881532.908		1.074	.284
	CF_T	.800	.085	.582	9.368	.000
	AR_T	.546	.146	.239	3.755	.000
	INV_T	.461	.148	.185	3.111	.002
	AP_T	-.505	.103	-.669	-4.911	.000
	DEP_T	.530	.209	.153	2.536	.012
	AMOR_T	.628	5.795	.006	.108	.914
	OTHER_T	.592	.100	.770	5.902	.000

a Dependent Variable: CF_T1

Hypotheses Analysis

Previous studies found that aggregate earnings have high predictive ability toward future operating cash flow. The result of this research confirmed that aggregate earnings have strong predictive ability and consistent with previous research from Greenberg *et al.* (1986), Finger (1994), Lorek and Willinger (1996), Cheng *et al*. (1996), Burgstahler *et al.* (1998), Supriyadi (1999), DeFond and Hung (2001), Kim and Kross (2002).

Then, cash flow from operation activities also can be used as one of predictive tools. Several studies showed that cash flow from operation activities has good predictive ability. The result of this research also consistent with research from Bowen *et al*. (1986), Finger (1994), Cheng *et al*. (1996), Burgstahler *et al.* (1998), Supriyadi (1999), DeFond and Hung (2001), Kusuma (2003), Riyanto (2004), Bandi and Rahmawati (2005).

Moreover, previous studies also found the inconsistent results. Some studies showed that earnings have better predictive ability than cash flow. On the contrary, others found that cash flows have higher predictive ability than aggregate earnings. This research shows that earnings and cash flow have high predictive ability and consistent with previous research, such as Greenberg *et al.* (1986), Finger (1994), Bowen *et al*. (1986), Finger (1994), Cheng *et al*. (1996), etc.

The most important evidence is accrual components predictions. This research shows that accrual components enhance the predictive ability of earnings. Result of the research consistent with Dechow *et al.* (1998) and Barth *et al.* (2001).

CONCLUDING REMARKS

The purpose of this research is to find empirical evidence about predictive ability of accrual components toward future cash flow from operating activities. This study has collected a sample of 30 BEI (Indonesian Capital Market) listed companies and 210 observations, year-end firms from 2002 to 2009.

There are two main findings in this study. Firstly, both aggregate earnings and cash flow from operating activities could predict future cash flow. This information was used by related parties to make their investment decision. This result is consistent with the theoretical framework. Secondly, accrual components enhance the predictive ability of earnings. By using accrual components as proxy of earnings, it can solve the inconsistency in accounting research. Previously, many researchers confused whether earnings have better predictive ability or not than operating cash flow. This finding shows the evidence that earnings have better predictive ability than operating cash flow. This finding is consistent with Dechow *et al.* (1998) and Barth *et al.* (2001).

Finally, this study also remains some limitations. One of them is the term of prediction that I used in this research which is one lag. I hope, future studies can be expanded in other several term of prediction, at least two lag. Moreover, this research will be better if it discloses about IFRS phenomenon in some emerging market, such as Indonesia, Malaysia, and so on because by having a good standards, it will increase the relevance of accounting information. Future studies can confirm this phenomenon by using the model developed by Dechow *et al.* (1998) and Barth *et al.* (2001).

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