Predictive Ability of Earnings Components toward Future Return

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Abstract

Many Studies convince that aggregate earnings and cash flows could be good predictor toward future return. Moreover, Ball and Brown (1968) find that aggregate earnings have stronger association with future return than cash flows. On the other hand, Rayburn (1986) shows that aggregate earnings and cash flows have similar predictive ability toward stock return.

Based on the inconsistency results, the purpose of this study is to provide empirical evidence on predictive ability of earnings components and cash flow from operation toward future return. We obtained a sample of 40 JSE listed companies and 280 observation, year-end firms from 2002 to 2009. We find that both cash flow and aggregate earnings numbers didn't have substantially predictive ability for future return. Furthermore, this study documents that earnings components increase predictive ability for future return than cash flows. These results are consistent with Dechow et al. (1998) and Barth et al. (2001).

Keywords: *aggregate earnings, operating cash flow, earnings components, predictive ability, future return.*

INTRODUCTION

Aggregate earnings have a good predictive ability toward future operating cash flow. 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), Joni (2011) confirmed that accruals are able to predict future operating cash flow. In addition, operating cash flow also can be a good predictor for future operating cash flow. 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), Joni (2011) revealed that cash flow have a good predictive ability toward future operating cash flow. These results show that both earnings and cash flow can be a good predictor for future operating cash flow.

On the other hand, some studies found that aggregate earnings have lost its relevance. Bowen *et al.* (1986) did not find that earnings have more predictive ability than operating cash flow. 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.

Moreover, the empirical studies in Indonesia provided similar evidences. Supriyadi (1999) shows that cash flow data provide better information to predict operating cash flow compared to earnings. Then, this study emphasize that earnings have a small impact to the future operating cash flow's prediction. Kusuma (2003) find that earnings do not have value added in the information content. In contrast with operating cash flow that has information content and value added. Cahyadi (2006); Dahler and Febriato (2006); and Joni (2011) conclude that operating cash flow has more predictive value toward future operating cash flow than earnings.

The result of these studies is varied due to aggregate earnings as proxy. 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. Therefore, 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 operating 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.

It is certainly true that earning components have a superior predictive ability toward operating cash flow. Therefore, other studies also show that earnings have superior predictive ability toward return. Ball and Brown (1968); Beaver and Dukes (1972) in Dechow (1994) find that aggregate earnings are able to predict future return better than cash flow's prediction. It means that market shows positive response to this information. However, several studies find that earnings and cash flow can be a good predictor toward future return (Rayburn 1986; Wilson 1986; and Cheng *et al*. 1996). Furthermore, many researchers also conclude that earnings components are superior to predict future return (Lipe 1986; Barth *et al*. 1992; Barth *et al*. 1999, 2000 in Dechow, 1994).

Based on previous explanation, this study contributes in investigating whether accrual components enhance predictive ability toward return.

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.

The Prediction of Earnings Component toward Future Return

Some studies show that earnings have superior predictive ability toward return. Ball and Brown (1968); Beaver and Dukes (1972) in Dechow (1994) find that aggregate earnings are able to predict future return better than cash flow's prediction. It means that market shows positive response to this information. However, several studies find that earnings and cash flow can be a good predictor toward future return (Rayburn 1986; Wilson 1986 ; and Cheng *et al*. 1996). Furthermore, many researchers also conclude that earnings components are superior to predict future return (Lipe 1986; Barth et al. 1992; Barth et al. 1999, 2000 dalam Dechow (1994).

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

H_1 : **Earnings components (six components) enhance predictive ability of earnings toward future return.**

RESEARCH METHOD

Sample Selection and Data Collection

The data is collected from ISX (Indonesia Stock Exchange) files from 2002 to 2009. The sample 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) $R_{i,t+1} = \beta_0 + \beta_1 EARN_{i,t} + e_i$

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

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

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

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 of the variables are reported in Table 1, they are earnings, cash flow, earning components, and return. The sample of this research is 40 listed companies and 280 observations, year-end firms from 2002 to 2009.

TABLE 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Earnings_t	280	-251076000000.00	263827000000.00	10060291089.6357	51450620693.51468
Cf_t	280	-132642000000.00	415213000000.00	23093222322.8107	56388759067.61196
ar_t	280	-132979000000.00	121306000000.00	6463394395.6393	27633311478.37314
Inv_t	280	-145677000000.00	243378000000.00	8235495611.5357	34901181794.73664
Ap_t	280	-765964000000.00	314281000000.00	1048728267.3000	103989758541.72725
Depr_t	280	2685690.00	199909000000.00	14106379144.8179	19090627203.21695
Amor_t	280	.00	6503528854.00	228692951.2007	772465479.11582
Other_t	280	-726710000000.00	297405000000.00	-12352920408.9214	98307476896.90721
Return_t+1	280	-.272730	.500000	.00658232	.060559414
Valid N (listwise)	280				

Tabel 1 shows mean of earnings is Rp10.060.291.089,6357 and Rp23.093.222.322,8107 of cash flows period t. In addition, the table also shows mean of Δ AR, Δ INV, Δ AP, Δ DEPR, Δ AMOR, and Δ OTHER. These are Rp6.463.394.395,6393, Rp8.235.495.611,5357, Rp1.048.728.267,3000,

Rp14.106.379.144.8179, Rp228.692.951.2007, Rp(12.352.920.408.9214) respectively. Finally, the minimum value of amortization is 0 which indicated companies have no amortization value.

Accrual and Cash Flow Prediction

Table 2 shows that earnings do not have a good predictive ability. The result gives confirmation that earnings can not predict future cash flow with low R^2 (0.000) and statistically not significance (0.837).

TABLE 2

Accruals Prediction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.012[a]	.000	-.003	.060663609

a. Predictors: (Constant), earnings

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.000	1	.000	.042	.837[b]
	Residual	1.023	278	.004		
	Total	1.023	279			

a. Dependent Variable: return

b. Predictors: (Constant), earnings

Then, table 3 shows that cash flow from operation activities also has a bad predictive ability. The result gives confirmation that cash flow from operation activities can not predict future cash flow with low R^2 (0.001%) and statistically not significance (0.553). Thus, both aggregate earnings and cash flow from operation activities have bad predictive ability.

TABLE 3 Cash Flow Prediction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.036[a]	.001	-.002	.060629785

a. Predictors: (Constant), cf

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	.001	1	.001	.353	.553[b]
1	Residual	1.022	278	.004		
	Total	1.023	279			

a. Dependent Variable: return

b. Predictors: (Constant), cf

In addition, table 4 shows that accrual and cash flow from operation activities also has a bad predictive ability simultaneously. The result gives confirmation that they can not predict future return with low R^2 (0.003) and statistically not significance (0.704).

TABLE 4

Combination Prediction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.050[a]	.003	-.005	.060700712

a. Predictors: (Constant), cf, earnings

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	.003	2	.001	.351	.704[b]
1	Residual	1.021	277	.004		
	Total	1.023	279			

a. Dependent Variable: return

b. Predictors: (Constant), cf, earnings

The Accrual Components Prediction

Table 5 illustrates 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, R^2 for accrual components is higher than aggregate earnings and cash flow from operation activities (0.087% > 0.003%) and statistically significance (0.001).

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	.294[a]	.087	.063	.058996525

a. Predictors: (Constant), other, amor, inv, depr, ar, cf, ap

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	.088	7	.013	3.605	.001[b]
1	Residual	.926	266	.003		
	Total	1.014	273			

a. Dependent Variable: return

b. Predictors: (Constant), other, amor, inv, depr, ar, cf, ap

Hypotheses Analysis

First of all, previous studies found that aggregate earnings have high predictive ability toward future return. The result of this research does not confirm that aggregate earnings have strong predictive ability and does not consistent with previous research from Rayburn 1986; Wilson 1986; and Cheng *et al*. 1996. 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. On the other hand, the result of this research does not consistent with research from Rayburn 1986; Wilson 1986; and Cheng *et al*. 1996. It is clear that from these findings, both aggregate earning and cash flow from operation can not predict future return.

Next, some studies showed that aggregate earnings and operating cash flow have a good predictive ability toward future return simultaneously. On the

contrary, This research finding shows that earnings and cash flow do not have a good predictive ability and this finding does not consistent with previous research. Finally, the most important evidence is accrual components prediction. 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 return. This study has collected a sample of 40 ISX (Indonesian Stock Exchange) listed companies and 280 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 not predict future return. This information was not used by related parties to make their investment decision. This result is not consistent with the previous research. 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. Hopefully, future studies can be expanded in several terms 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 Bangkok. By having a good standard, it will increase the relevance of accounting information, therefore IFRS should provide more relevance standard, but it is not proven yet. 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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