Implications of Accrued Earnings and Growth to Future Profitability

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By

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Erlina Dwihastuti

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Abstract

Dwihastuti, Erlina (2006). Implications of Accrued Earnings and Growth to Future Profitability. Yogyakarta. International Program. Faculty of Economics. Islamic University of Indonesia.

Accruals have been one of the major issues in accounting literature. Prior studies done by Sloan (1996) provide evidence that accruals have less persistence than cash flows in predicting future earnings. For Indonesian case, research done by Wijaya (1999) which prove accruals and cash flows components of earnings had equal persistence to determine future earnings. Recent study done by Farfield et. al (2003) proves that accruals and growth in long term net operating assets have equivalent incremental negative association with one year a-head return on assets. The purpose of this study is to provide further evidence for Indonesian case.

Data employed in this research is secondary data. Data used in this research are one year a-head return on assets, accruals, cash flows, current return on assets, growth on net operating assets, and growth in long term net operating assets. The population of this research are all manufacturing firms listed in Jakarta Stock Exchange. Data were taken from Bursa Efek Jakarta (BEJ) during 2001 until 2004. Data period is pooled time series data. Some data are insufficient, incorrect, incomplete data and extreme data. Final Research object is 87 data.

The result of this research shows Cash flows from operation has significant influence to predict one year a-head return on assets but accruals has no significant influence. Based on the research result, accruals and cash flows have equal persistence in predicting future profitability. This research gives evidence that current return on asset can predict one year a-head return on asset. This research result has evidence that accruals and growth in long term net operating assets have equivalent incremental negative association with one year a head return on assets after controlling for current return on assets.

Key Word: ***earnings, accruals, cash flows from operation and growth in net operating assets.***

Abstract

Wihastuti. Erlina (2006). Implications of Accrued Earnings and Growth to Future Profitability. Yogyakarta. International Program. Faculty of Economics. Islamic University of Indonesia.

Accrual telah menjadi masalah pokok dalam akuntansi. Penelitian sebelumnya yang telah dilakukan oleh Sloan (1996) menemukan bukti bahwa accruals mempunyai persistence lebih rendah dari pada arus kas untuk memprediksi earnings di masa datang. Dalam kasus Indonesia, penelitian dilakukan oleh Wijaya (1999) yang menemukan bukti bahwa accruals dan arus kas sebagai komponen earning mempunyai persistence yang sama dalam memprediksi earning di masa datang. Penelitian sebelumnya yang dilakukan oleh Farfield (2003) menemukan bukti bahwa accruals dan growth in net operating assets mempunyai negatif inkremental dengan one year a-head return on assets. Tujuan penelitian ini adalah untuk membuktikan penelitian sebelumnya dalam kasus yang terjadi di Indonesia.

Data yang digunakan dalam penelitian ini adalah sekunder data. Data yang digunakan adalah *one year a-head return on assets, accruals, cash flows, return on assets tahun ini, growth on net operating assets dan growth in long term net operating assets.* Populasi dalam penelitian ini adalah seluruh perusahaan manufaktur yang terdaftar dalam Bursa Efek Jakarta. Data diambil dari Bursa Efek Jakarta (BEJ) selama tahun 2001 sampai 2004. Beberapa data adalah data yang tidak lengkap dan ekstrem. Dat akhir yang digunakan adalah 87 data.

Hasil penelitian ini menunjukan bahwa *cash flows from operation* mempunyai pengaruh yang signifikan terhadap *one year a-head return on assets.* Berdasarkan hasil penelitian, *accruals* dan *cash flows* mempunyai persistence yang sama dalam memprediksi keuntungan di masa datang. Penelitian ini membuktikan bahwa *current return on asset* dapat memprediksi *one year a-head return on asset.* Penelitian ini membuktikan bahwa *accruals* dan *growth on long term net operating assets* mempunyai negatif inkremental yang sama dalam memprediksi *one year a-head return on assets* setelah mengontrol *current return on assets.*

Kata kunci : *earnings, accruals, cash flows from operation and growth in net operating assets.*

STATEMENT OF FREE PLAGIARISM

Herein I declare the originality of this thesis; there is no other work which has ever presented to obtain any university degree, and in my concern there is neither one else's opinion nor published written work, except acknowledge quotation relevant to the topic of this thesis which have been stated or listed on the thesis bibliography.

If in the future this statement is not proven as it supposed to be, I am willing to accept any sanction complying to the determinated regulation for its consequence.

Yogyakarta, ,2006

Erlina Dwihastuti

CHAPTER I

INTRODUCTION

1.1 Background Study

Earning is the most important information in business or the heart of business entity. Many investors use earning to measure current earning and predict future earning. This information about earning and company's performance are needed by investors to take the investment decision.

Earning can be measured by many indicators. Some of indicators which are used in this research are cash flows from operation, current return on assets, accruals, growth on net operating assets and growth on long term net operating assets. Accruals and growth in long term net operating assets are components of profit coming from growth on net operating assets. Recognizing accruals are components of growth on net operating assets, so it is important to interpret prior evidence that accruals are less persistence than. cash flows. This research expects current profitability defined as current return on assets. Variables in this research are based on previous research. Future earning is the dependent variable and 5 indicators are the independent variables in this research.

Previous studies about earnings prediction was done by Finger (1994). The samples of her research were annual data from 1935 until 1987 for 50 firms. Indicators in her research were cash flows from operations and current earnings. Current earnings and cash flows from operation are significant predictor of themselves in future. Her research examines the

value relevance of earnings by testing their ability to predict two future benefits of equity investment: earnings and cash flows from operations. Cash flow from operation is a better short term predictor of cash flow than earnings, but both are approximately equivalent in long term.

Sloan (1996) conducted study about earning prediction and market reaction. This study employed financial statement data for 30 years beginning in 1962 and ending in 1991 (40.679 firms). Variables used in Sloan's research were cash flows from operation and accruals. Both variables used to predict future earnings. He investigated whether stock prices reflect information about future earnings contained in the accrual and cash flow components of current earnings. Sloan's research indicates that accrual component of earnings exhibits lower persistence than cash flow components of earnings to predict future profitability. The lower persistence of accruals arises because accruals are a component of growth in net operating assets.

Wijaya (1999) conducted the reflection of accruals and cash flows components of current earnings in future earnings in Indonesian case. The samples of this observation were the firms which had listed and published their financial statement since December 1993 until December 1996 in Jakarta Stock Exchange (JSX). A study for Indonesian case proves that accruals and cash flows components of earnings had equal persistence to determine future earnings.

Sutopo (2001) developed previous studies done by Sloan. Their research used earnings data from 1991 until 1994 and accruals and cash

flows from operation components of earnings data from 1990 until 1993. Factors that were used in Sutopo's research are cash flows components of earnings and accruals. The result of this research is both variables have significant influence to future earnings. The result examines the lower persistence of earning performance attributable to the accrual component of earnings is valid to different sample. These results provide evidence supporting the hypothesis of the lower persistence of earning performance attributable to the accrual components of earnings.

Farfield et. al (2003) developed previous studies done by Sloan. The sample consisted of firms with required financial statement and returns data for the 30 year period from 1964 to 1993 (32.961 firms). Farfield's research considered other indicators beside accruals and cash flows components of current earnings. The new indicator in their research was growth in operating activities. They separated the growth factor into accruals and long term components of growth, accruals and cash flows components of earnings had equal persistence. They found differential persistence of the cash flows and accruals components of earnings for one year a-head return on assets. They found any evidence after controlling for current return on assets; both components of the growth in net operating assets have equivalent negative associations with one year a-head return on assets. They argued that accruals models should control the growth to avoid incorrect conclusion about earning management.

This study is motivated by previous study conducted by Fairfield et. al (2003). The purpose of this study is to provide further evidence about the role of accrual components of current earnings to predict future earnings for Indonesian case. Based on the background study above, this research takes title **"IMPLICATIONS OF ACCRUED EARNINGS AND GROWTH TO FUTURE PROFITABILITY".**

1.2 Problem Formulation

Sloan (1996) found accrual components have lower persistence than cash flow components. In Indonesian case, studies done by Wijaya (1999), found accrual components have equal persistence to cash flow components. Farfield et al (2003) developed previous studies by considering a new factor. He found equal persistence between accrual components and cash flow components. He argued that accrual model should control growth to avoid incorrect conclusion about earning management.

Based on the above studies, this research will examine the nature of the information contained in the accrual and cash flow components of earning and develops a question

- How accrued earnings and growth affect the future profitability of Indonesian firms?

This study will test the consistency of previous study about the persistence of accruals and cash flows components of current earnings to predict future profitability and test the consistency of the empirical study,

the impact of growth in operating activities to the accruals and cash flows persistence for the Indonesian case.

1.3 Research Objectives

The objectives of this research are

1. To examine the persistence of accruals and cash flows components of current earnings to predict future profitability.
2. To examine the implication of accrued earnings for future profitability.
3. To examine the implication of growth and its accrual component for future profitability.

1.4 Research Benefits

This research gives some benefits like:

1. Describing empirical evidence of the nature of information contained in earnings for the Indonesian firms.
2. The results of this study will provide a fundamental for the further study in the area of earnings management in Indonesia.
3. For investors and creditors, this research's results can be used as additional information of their decision making in their investment and loan in a firm.
4. Researchers can use the result as reference for further study and forecasters in accounting and finance can use the result as consideration in the practice of forecasting earnings.

1.5 Report Organization

Chapter I Introduction

This chapter explains about the study background and idea of this research. This chapter consists of study background, problem formulation, research objectives, research benefits and report organization.

Chapter II Theoretical Framework

This chapter explains about earnings, accruals, cash flows and net operating assets. This chapter consists of literature review and hypothesis.

Chapter III Research Method

This chapter consists of research method and technique of data analysis.

Chapter IV Data Analysis

This chapter reviews the entire data gathering from the research and result of data analysis. This chapter consists of data analysis result.

Chapter V Conclusion, Suggestion and Implication

This chapter consists of conclusion, implication and suggestion based on the data analysis.

CHAPTER II

LITERATURE REVIEW

2.1 Earning Prediction

The expectation of future earnings begins with current earnings. Future profitability prediction is one of current earning's function. Company's performance and information about current earning are important factor to predict future profitability. Many users such as investor need earning information. Many investors use earning to measure current earning and predict future earning. Future profitability can be predicted by many factors, such as accrued earning and growth.

When current earnings are used to forecast future earnings, the next year's earnings are assume as equal to current earnings plus new investments. This new investment may increase the next year's earnings. The Increase in earnings means the increase in shareholder's value. The forecast of future earnings should earn at the required rate of return. The forecast of future earnings should deal only with core income. It is important to know the component of earnings that come from ongoing operations and the proportion of earnings that are less likely to recur in the future. Accrued earning components are accrual and cash flows.

Accounting income is established on the concept of accrual accounting. Accruals are the non cash flow. Accrual accounting consists of revenue accrual and expense accrual. In accrual accounting, revenue is recognized when the sales made rather than when customer pay. In other

word, revenue is recognized when there is a creation of benefit. It might not be in form of cash flow to the firms. So, the accrual volume is one of future profit's predictors.

Cash flow from operation refers to cash generated from a firm's ongoing operating activities. Operating activities comprise of net income, depreciation, changes in current asset and liabilities, short term investment and short term debt. Cash flow from operation is the difference between revenues and cost in cash. It equals to net operating profit after tax. Cash flow operation comes from the firm's normal operation. Cash flow from operation can measure company's performance. The higher ratio of cash flow from operation will show the higher quality of income. Then, cash flow from operation is one of future profit's predictors.

Net operating asset is the difference between operating asset and operating liabilities. As well as the original balance sheet, the difference between net operating asset and net operating liabilities is the owner's equity. The owner's equity represents investment in net operating asset and net financial asset. So, net operating asset is one of future profit's predictors.

Accrued earning and growth are independent variables in this research to predict future profit. It is because accrued earning and growth have future oriented. Future profit is dependent variable. Future profit is taken as independent variable because the goal of every company in their operation is to make a profit. As well as investors, they invest in company to get profit. Based on reasons above, future profit prediction is needed in companies.

2.2 Persistence of Accruals and Cash Flows Components of Earnings.

Financial statements are published by management under the accounting procedures. These financial statements are prepared in accordance with GAAP to give some information which is used to several parties both internal and external. Financial statements are prepared on accruals basis and cash basis. It is believed that accrual accounting is superior to cash accounting, both for measuring performance and financial condition. Statement of Financial Accounting Concept no. 1 states that "information about enterprise earnings beside on accruals accounting generally provides a better indication of enterprise present and continuing ability to generate cash flows than information limited to the financial aspects of cash receipt and payment".

Companies usually use accrual basis to perform their financial statement. There are some differences of accrual and cash flow basis. Accruals aim to inform users about the consequences of business activities for a company's future cash flow as soon as possible with a reasonable level of certainty. But cash flows are easier to understand than accruals. Cash flow from operation refers to cash generated from a firm's ongoing operating activities. Accruals and cash flow differs primary because of timing differences in recognizing cash flow consequences of business activities and events.

Both accruals and cash flows are components of current earnings. Current earning is one of predictors for future earnings. Every predictor has

their own ability to predict future earnings. The problem is the difference ability of both components to predict future earnings. The common theme is that accruals and cash flow component of current earning have different implications for assessment future earnings. While accruals and cash flows components of current earning contribute to current earnings.

Previous researches used accruals and cash flows as components of current earning to predict future earning. Some of researches tested the persistence of cash flows and accruals as components of current earning to predict future earning.

Sloan (1996) investigated the earning components information to predict future earning. Using 40.679 firms for year observation from 1962 to 1991, he found that accrual component of earning was less persistent than cash flow component of earning to predict future earning. It had purpose to distinguish fully different properties of cash flow and accrual as earning components.

Sutopo (2001) examined the extent which the lower persistence of earning performance attributable to accrual component of earning was due to earning management. Using 384 firms as sample for period 1989 until 1996, he proved that earning performance attributable to accrual component of earning was less persistent. He found that earning management has significant effect on the earning performance persistent.

In Indonesia, Wijaya (1999) applied the Sloan's method for Indonesian case. The observation used 42 firms that were listed in Jakarta Stock Exchange during 1993 until 1996. The result was accrual had equal

persistence with cash flow to predict future earning. This result is inconsistent with research done by Sloan (1996). This Indonesian case result is contrast with the evidence studies in US firms. There is any difference result on two researches, so this research forms this hypothesis to test the consistency of the research result in Indonesian case.

Based on the above reasons form the first hypothesis:

H1 : accruals component of current earning is less persistence than the cash flow components of current earnings to predict one year a-head earnings.

2.3 Equivalent Incremental of Accruals and Growth on Long Term Net Operating Assets.

Future profitability depends on current profit. In other words, current profit is indicator of future profitability. But future profitability not only depends on current profitability but also on growth on net operating asset (GrNOA). Future profitability depends on growth on net operating asset as well as current profitability (Ohlson, 1995). Profitability can be divided into accrual and cash flow from operation. Growth on net operating asset can be divided into accrual and growth on long term net operating asset.

Growth in net operating assets expect has equal persistence to predict future earning, Such as accruals and cash flows as current earning component to predict future profit. Some previous researches use accruals and growth on long term on net operating asset as predictor to predict future

earning. Some researches test the equivalent incremental of accruals and growth on long term net operating assets.

Fairfield et. al (2003) developed Sloan's model by adding growth on net operating asset as indicator or independent variable. They found that accrual and growth on long term net operating asset have equal persistence and negative association to future earning. Their argument about negative association between future profitability and growth on net operating asset were diminishing marginal return to increase investment. A conservative bias in accounting procedures results in investments that appear relatively less profitable in early years and more profitable in later years. Based on conservative accounting, it tends to reduce profitability for growing firms.

Following Fairfield et. al (2003), diminishing marginal return is to increase investment tend to reduce growing firm. It arises when firm exploit their most profitable investment opportunities before undertaking less profitable investment. Consequently, firm invests relatively more in net operating asset will experience lower profitability in year a-head. Conservative accounting has some characteristics that decrease book value, such as depreciation and amortization, using LIFO inventory method, overestimating bad debt and write off, using pooling for merger, overestimating benefit liability and deferred revenues. All the characters may reduce earning as well as reducing book value.

The effects of diminishing marginal returns on investment or conservative accounting should differ between current and growth on long term net operating assets, this research expect the test of differ implication

of accruals and growth on long term net operating asset to predict one year a-head return on assets.

Based on above theoretical background, the second hypothesis proposed is:

H2 : accruals and growth in long term net operating assets have equivalent incremental negative association with one year a-head return on assets after controlling for current return on assets.

CHAPTER III

RESEARCH METHOD

3.1 Research Object

The population of this research is all manufacturing firms listed in Jakarta Stock Exchange during 2001 until 2004. This population consists of manufacturing firms. Some data are insufficient, incorrect, incomplete data and extreme data. So this research use 87 data set as shown in table 3.1

Table 3.1 Research Object

	Notes	Number of companies
1.	Total manufacturing company listed during 2001 until 2004	578
2.	Less :	
	- Manufacturing companies that not listed continuously,	378
	- insufficient data and incomplete data	197
	- companies have extreme data	3
3.	Research Object	87

3.2 Data Source

This research use secondary data. Data are taken from Bursa Efek Jakarta (BEJ) during 2001 until 2004. Data period is pooled time series data.

3.3 Research Variables

This research uses 1 dependent variable and 5 independent variables. The variables in this research are one year a-head earnings, current earnings, accruals, cash flows, growth in net operating assets and growth in long term net operating assets. The dependent variable of this research is one year a-head earnings. Independent variables are current earning, accrual, cash flow, growth in net operating asset and growth in long term net operating asset.

1. ROA_t

Return on assets is defined as operating income divided by contemporaneous average total assets. Average total assets are the average of the beginning and end of year book value of total assets.

$$ROA_t = \frac{OPINC_t}{AVG(TA_{t-1} + TA_t)}$$

Where:

$OPINC_t$ = operating income after depreciation and amortization

TA = total assets

2. ACC_t

Using the indirect method, the researcher defines accruals (ACC) as growth (net change) in operating working capital accounts (other than tax liabilities) minus current period depreciation and amortization expense. Then, we define accruals as:

$$ACC_t = GrWC_t - DEPAMORT_t$$

Where:

$$GrWC_t = (\Delta AR_t + \Delta INV_t + \Delta OTHERCA_t - (\Delta AP_t + \Delta OTHERCL_t))$$

And:

ΔAR_t = change in account receivable

ΔINV_t = change in inventories

$\Delta OTHERCA_t$ = change in other current assets

ΔAP_t = change in account payable

$\Delta OTHERCL_t$ = change in other current liabilities

$DEPAMORT_t$ = depreciation and amortization expense

3. CFO_t

The researcher takes cash flow from operation directly from the cash flows statement. Cash flows statements are classified into three parts: cash flows from operation, cash flows from investing and cash flows from financing. The researcher takes the cash flows from operation as the independent variable.

4. $GrNOA_t$

Following Sloan (1996), the researcher deflates ACC and CFO by contemporaneous average total assets. The researcher define growth in net operating assets (GrNOA) as annual change in net operating assets :

$$GrNOA_t = NOA_t - NOA_{t-1}$$

Where net operating assets (NOA) is operating assets (excluding cash) minus operating liabilities :

$$NOA_t = AR_t + INV_t + OTHERCA_t + PPE_t + INTANG_t + OTHERLTA_t - AP_t - OTHERCL_t - OTHERLTL_t$$

Where :

AR = account receivable

INV = inventories

OTHERCA = other current assets

PPE = net property, plant, and equipment

INTANG = intangibles

OTHERLTA = other long term assets

AP = account payable

OTHERCL = other current liabilities

OTHERLTL = other long term liabilities

5. $GrLTNOA_t$

The last variable is growth in long term net operating assets (GrLTNOA) is defined as growth in net operating assets other than accruals.

$$GrLTNOA_t = GrNOA_t - ACC_t$$

GrNOA and GrLTNOA are deflated by contemporaneous average total assets because GrLTNOA equals to GrNOA minus ACC. GrLTNOA reduces to change in operating asset and liability elements excluded from ACC (i. e ΔPPE and ΔINTANG exclusive of depreciation and amortization expense, ΔOTHERLTA and ΔOTHERLTL).

3.4 Normal Data

Descriptive statistic shows the normal data. It shows skewness value and kurtosis value. Skewness value describes the distribution of frequency data. Kurtosis value describes the sharp of distribution data. Data can be categorized as normal data, if data has low skewness value and high kurtosis value.

3. 5 Tests for the Classical Assumptions

Statistical test used in this research are the test of coefficient of multiple linear regression. The tests are the test of equality of two regression coefficients and the test for statistical classical assumptions. The test for the classical assumptions in this research consists of test for autocorrelation and multicolliearity.

1. Autocorrelation Test

Test for autocorrelation has function to detect serial correlation, this study employs Durbin Watson (DW) test :

$$DW = \frac{\sum_{t=2}^{n} \hat{e}_t - \hat{e}_{t-1}}{\sum_{t=1}^{n} \hat{e}_t^2}$$

Which DW $\approx$ 2 (1 – r_1), where r_1 is the log 1 autocorrelation in the residuals (ê) if the residuals are not auto correlated, $r_1 \approx 0$ and DW is expected to be about 2. Residuals are strongly negatively auto correlated when $r_1 \approx -1$ and DW $\approx$ 4.

Table 3.2 The interpretation of DW value

DW	
< 1,08	autocorrelation
1,08 – 1,66	Inconclusive
1,66 – 2,34	No autocorrelation
2,34 – 2,92	Inconclusive
> 2,92	Autocorrelation

Source Algifari (2000 : 89)

2. Multicollinearity Test

One indicator to measure multicollinearity is the examination of variance inflation factor (VIF). The formula is

$$VIJ_j = \frac{1}{(1 - R_j^2)}$$

Where R_j^2 is the coefficient of determination. The closer R_j^2 to 1, the more serious the collinearity problem in j^{th} predictor, or the larger a predictor's value of VIF, the more severe the collinearity problem.

Terry E. Dielman (1991 : 283) explains about ambiguity when interpreting the value of VIF that indicates problem with multicollinearity. There is an argument that when the individual value of VIF_j exceeds 10, the variable is considered as highly collinear. Another argument reveals that multicollinearity happens when the average of some VIF_j are larger than 1. In this study, multicollinearity is defined when VIF_j is larger than 10.

3.6 Research Model

Model used to test the hypothesis in this research is multiple regression analysis. This research use Microsoft EXCEL to process the data. Models that used in this research are

1. $ROA_{t+1} = \gamma_0 + \gamma_1 ACC_t + \gamma_2 CFO_t + \mu_{t+1}$

Where:

ROA_{t+1} = One year a-head return on earning

ACC_t = Current accrual

CFO_t = Current cash flow from operating

2. $ROA_{t+1} = \alpha_0 + \alpha_1 GrNOA_t + \alpha_2 ROA_t + \mu_{t+1}$

Where:

ROA_{t+1} = One year a-head return on earning

$GrNOA_t$ = Growth on net operating asset

ROA_t = Current return on assets

3. $ROA_{t+1} = \beta_0 + \beta_1 GrLTNOA_t + \beta_2 ACC_t + \beta_3 ROA_t + \mu_{t+1}$

Where:

ROA_{t+1} = One year a-head return on earning

$GrLTNOA_t$ = Growth on long term net operating asset

ACC_t = Current accrual

ROA_t = Current return on assets

3.7 Test of Equality of Two Regression Coefficient

In this research, the researcher formulates the linear regression model .test of equality of two regression coefficient used to test whether the two coefficient of independent variables are equal. The following hypothesis is:

$$Ho: \gamma_1 = \gamma_2 or (\gamma_1 - \gamma_2) = 0$$

$$H1: \gamma_1 \neq \gamma_2 or (\gamma_1 - \gamma_2) \neq 0$$

Following Wijaya (1999), the formula to calculate t value for the test of equality of 2 regression coefficients is

$$t = \frac{\gamma_1 - \gamma_2}{\sqrt{\text{var}\,\gamma_1 + \text{var}\,\gamma_2 - 2\,\text{cov}(\gamma_1, \gamma_2)}}$$

Where:

γ_1 = the first coefficient of the regression model

γ_2 = the second coefficient of the regression model

$\text{var}\,\gamma_1$ = variance of the first coefficient

$\text{var}\,\gamma_2$ = variance of the second coefficient

$\text{cov}\,(\gamma_1, \gamma_2)$ = the covariance between the first and the second coefficient of regression model.

3.8 Analysis Procedure

Procedures of analysis in this research are

1. To test H1, one year a-head return on assets is regressed to ACC_t and CFO_t. This is to investigate the persistence of accruals and cash flows component of current earnings to predict future earnings. The coefficient of variables from the regression equation is compared to determine how is the persistence of earning performance in the relation to its components.
2. To test H2, step 1 : one year a-head return on assets is regressed to current GrNOA with current ROA as controlling variable. Based on conservative accounting and diminishing marginal return on increased investment, GrNOA should have negative relation to one year a-head return on assets.
3. To test H2, step 2, current GrNOA is divided into ACC and GrLTNOA. One year a head ROA is regressed to current ACC and GrLTNOA with current ROA as controlling variable. This test

investigates the persistence of each component of GrNOA. As well as step 1, based on conservative ACC and diminishing marginal return on increased investment, ACC and GrLTNOA should have negative similar implication to one year a-head return on assets.

3.9 Hypothesis Test

Hypothesis test used to test the ability of independent variables predict dependent variable. The independent coefficients of each model will be proved as significantly difference from null by applying the t-test. This research uses statistical test: F-test and T-test.

1. F-test

   F-test is used in this research to test whether as whole independent variables (ROA_t, ACC_t, CFO_t, $GrNOA_t$ and $GrLTNOA_t$) have significant role to predict one year a-head return on asset. Ho will be rejected or Ha will be accepted if significant value of F or P value is less than 5%.

2. T-test

   T-test is used in this research to test whether every independent variables (ROA_t, ACC_t, CFO_t, $GrNOA_t$ and $GrLTNOA_t$) have significant role to predict one year a-head return on asset. Ho will be rejected or Ha will be accepted if significant value of T or P value is less than 5%.

CHAPTER IV

ANALYSIS DATA

Table 4.1 below is the result of the collected data. These data consist of one year a-head return on assets (ROA_{t+1}), current return on assets (ROA_t), accruals (ACC_t), cash flows from operation (CFO_t), growth on net operating assets ($GrNOA_t$), and growth on long term net operating assets ($GrLTNOA_t$). Current return on assets, accruals, cash flows from operation, growth on net operating assets and growth on long term net operating assets analyzed to predict future profitability (one year a-head return on assets).

4.1 Descriptive Statistics

Descriptive statistics below show the normal of the data with extreme data. Skewness and kurtosis show the normal data. Skewness value describes the distribution of frequency data. Kurtosis value describes the sharp of the distribution data. Data can be categorized as normal data, if data has low skewness value and high kurtosis value.

Table 4.1

Descriptive Statistics with Extreme Data

	ROA_{t+1}	ACC_t	CFOt	$GrNOA_t$	ROA_t	$GrLTNOA_t$
N	100	100	100	100	100	100
Range	0,655509	14.375150	2.301.495	15.117.260	0,70261	15.122.850
Minimum	-0,50279	-3.165.950	-85.635	-4.936.260	-0,26651	-2.070.550
Maximum	0,15230	11.209.200	2.215.860	10.181.000	0,4361	46.484.104
Mean	-0,0030609	-58.783	163.576.378	33.672.749	0,027047	464.841
Std. deviation	0,08770316	1.485.522,9	426.578.248	1.623.414	0,08313	1.758.106
Skewness	2,167	5,530	3,768	3,153	0,608	5,270
Kurtosis	10,550	38,518	14,120	21,667	6,51298	32,536

Table 4.2

Descriptive Statistics

	ROA_{t+1}	ACC_t	CFOt	$GrNOA_t$	ROA_t	$GrLTNOA_t$
N	87	87	87	87	87	87
Range	0,65509	1.586.736	482.995,456	4.209.460	0,70261	4.305.400
Minimum	-0,50279	-1.141.140	-85.635,46	-2.275.210	-0,26651	-2.070.550
Maximum	0,1523	172.596	397.360	1.934.420	0,4361	2.234.850
Mean	-0,006694598	-198.860,64	52.637,62	-27.109,156	0,026628736	202.594,55
Std. deviation	0,091079223	247.121,68	84.678,90	417.336,003	0.084725099	495.720,3257
Skewness	-2,153	-2,179	1,746	-2,247	0,742	0,178
Kurtosis	10,085	6,474	3,636	22,301	6,983	10,696

Table 4.1 shows any extreme data in variables used in this research. It is shown on variables that have high skewness value until 5,270. Eliminating the extreme data is the way to get the normal data. The number of observation is 100. After elimination of extreme data, the number of observation is 87. The number of eliminated data is 13. Variables which have high skewness value are $ROA_{t+1,}$ ACC, GrNOA, CFO and GrLTNOA with amounted 3,153 until 5,270. It means that variables have positive extreme data. Elimination of extreme data is needed because extreme data has influence on the research result. Elimination data is based on skewness value, less skewness value is better than high skewness value.

Table 4.2 shows that extreme data have been eliminated. It shows the decreasing of skewness value. Skewness value is amounts to -2,247 until 1,746. Negative skewness means skewness data on left side (left skewness). Kurtosis value is amounts to 3,636 until 22,301. It means data is categorized as homogen data and the distribution data is normal. From the result of descriptive statistics above, as whole, data can be used to be normal data in research.

4.2 Persistence of Accruals Components and Cash Flows Components.

4.2.1 Classical Assumption Test

This research uses assumption of classical model. Classical assumption test used in this research are autocorrelation and multicollinearity. Multicollinearity happens when variance inflation factor is more than 10 or tolerance less than 0,1.

Table 4.3

The result of Classical Assumption Test

	Estimated Value	Remarks
DW	1,828	No Auto correlation
VIF		
-ACC	1,368	No multicollinearity
-CFO	1,368	No multicollinearity

The value of variance inflation factor (VIF) for independent variables (ACC and CFO) continue 1,368 and 1,368. Multicollinearity happens when variance inflation factor is more than 10 or tolerance less than 0,1. The VIF value amounts to less than 10. The conclusion of this result is no multicollinearity among independent variables (ACC and CFO) in this research. Based on Durbin-Watson value in the level of significant 5% in this research amounts to 1,828, it means there is no autocorrelation in this data.

4.2.2 Model Test

The first regression uses model from Sloan (1996). The equation is as follows:

$$ROA_{t+1} = \gamma_0 + \gamma_1 ACC_t + \gamma_2 CFO_t + \mu_{t+1}$$

	-0017	+2,71144E-08	+3,07129E-07
T-stat	-1,397	0,596	2, 314
P-value of T	0,166	0,552	0,023
Adjusted R square	0,0429		
F-value	2,9276		
P-value of F	0,0590		

Based on the regression result above, adjusted R square shows that independent variables have ability 4,29% to predict one year a-head return on assets. P-value of F is 0,0590 or 5,9%. The result of the first regression is low significant. P-value amounting to 5% until 10% categorized as low significant. Low significant means this regression result has high probability error. F-value is 2,9276. This value can be defined that dependent variable depend on independent variables as much as 2,9276% and the rest are affected by others factors.

T-stat of intercept in this model is -1,397 and P-value of T is 0,166 or 16,6% (P-value more than 5%). It means intercept has no significant influence on one year a-head return on assets and this equation model as whole depend on independent variables.

This research has no evidence that current accruals (ACC_t) can predict one year a-head return on assets. Based on the result, T-stat value is 0,596 and P-value is 0,552 (P-value more than 5%). T-stat is very low and P-value is more than 5% meaning accrual is not a good predictor for one year a-head return on assets. Accruals have positive correlation but no significant influence on one year a-head return on assets. It means if accruals value increase so one year a-head return on assets will decrease but it is not significant. The conclusion is accruals have no significant influence on one year a-head return on assets. This result is inconsistent with the research done by Sloan (1996).

This research has evidence that cash flow from operation (CFO) can predict one year a-head return on assets. T-stat value is 2,183 with P-value is 0,023 or 2,3 %. P-value amounting to 1% until 4,999% means moderate significant. Cash flows from operation have positive significant influence on one year a-head return on assets. This result is consistent with research done by Sloan (1996).

Based on the result above, accruals have no significant influence on one year a-head return on assets but cash flows from operation have significant influence on one year a-head return on assets.

4.2.3 Test of Equality of Accruals and Cash Flows Coefficient

Based on the above result, Sloan's model can be used to determine the hypothesis. The researcher formulates the linear regression model of the attribution of accruals and cash flows component of current earnings to earning performance in the future.

To test whether the two coefficients of accruals and cash flows are equal, the researcher uses equation:

$$t = \frac{\gamma_1 - \gamma_2}{\sqrt{\text{var}\,\gamma_1 + \text{var}\,\gamma_2 - 2\,\text{cov}(\gamma_1, \gamma_2)}}$$

$$= \frac{0{,}000 - 0{,}000}{\sqrt{61069122738 + 7170515452 - 2(0{,}000)}}$$

$$= 0$$

The critical value of t at 0,95 level of significance for the number of object 87 is 1,6626. Since the t ratio is computed less than critical value, the null hypothesis is accepted. In this research, t ratio amounting to 0, so the null hypothesis is accepted. It means the persistence of accruals and cash flows components of earning are similar.

Based on the result of research done by Sloan, accruals are less persistence than cash flows from operation component of earnings. But in this research is an accrual and cash flow from operation component of current earnings having equal persistence. This result is consistent with research done by Wijaya (1999) which give evidence that accruals and cash flows have equal persistence.

4.3 Accruals and Growth Test.

4.3.1 Classical Assumption Test

Table 4.4

Classical Assumption Model

	Estimated Value	Remarks
Equation 1		
DW	1,747	No Auto correlation
VIF		
-GrNOA	1,000	No multicollinearity
-CFO	1,000	No multicollinearity
Equation 2		
DW	1,810	No Auto correlation
VIF		
-GrLTNOA	1,299	No multicollinearity
-ACC	1,326	No multicollinearity
-ROA	1,038	No multicollinearity

The results of classical assumption test in equation 1 are no autocorrelation and no multicolinearity. The variance inflation factor (VIF) for independent variables (GrNOA and ROA) continue 1,000 and 1,000. Multicollinearity happens when VIF is more than 10 or tolerance less than 0,1. VIF is less than 10. It means there is no multicoliearity in this data.

Based on Durbin-Watson value the level of significant 5% in this research amounts to 1,747, it means no autocorrelation in this data.

The results of classical assumption test in equation 2 are no autocorrelation and no multicolinearity. The variance inflation factor (VIF) for independent variables (GrLTNOA, ACC and ROA) continue 1,299; 1,326 and 1,038. Multicollinearity happens when VIF is more than 10 or tolerance less than 0,1. VIF is less than 10. It means there is no multicoliearity in this data. Based on Durbin-Watson value the level of significant 5% in this research amounting to 1,810, it means there is no autocorrelation in this data.

4.3.2 Model Test

In second regression, we use model from Farfield (2003). In second hypothesis, there are 2 equations, as follows:

$$1.\ ROA_{t+1} = \alpha_0 + \alpha_1 GrNOA_t + \alpha_2 ROA_t + \mu_{t+1}$$

	-0,025	-7,42198E-09	+0,682362378
T-stat	-3,121	-0,4030	7,522327
P-value of T	0,002	0,6879	5,43E-11
Adjusted R square	0,388		
F-value	28,303		
P-value of F	4,01375E-10		

$$2.\ ROA_{t+1} = \beta_0 + \beta_1 GrLTNOA_t + \beta_2 ACC_t + \beta_3 ROA_t + \mu_{t+1}$$

	-0,0297	-1,02667E-08	-3,51414E-08	0,682062203
T-stat	-2,923	-0,624	-1,066	7,525
P-value of T	0,004	0,533	0,289	5,68E-11
Adjusted R square	0,388			
F-value	19,2335			
P-value of F	1,4671E-09			

Equation 1 has high F-value 28,303 and t-stat for intercept is -3,121. P-value for intercept is 0,002 or 2% (less than 5 %). P-value of F 4,01375E-10 or 0% (less than 1%). As a whole, this equation is good equation. The result shows that the regression is strong significant (less than 1%). But in detail, intercept has significant influence to one year a-head return on assets.

Equation 2 has high F-value 19,2335 and t-stat for intercept is -2,923. P-value for intercept is 0,004 or 4% (less than 5 %). P-value of F 1,4671E-09 or 0% (less than 1%). As a whole, this equation is good equation. The result shows that the regression is strong significant (less than 1%). But in detail, intercept has significant influence to one year a-head return on assets.

Based on the result of two equations above, intercepts have significant influence to dependent variables. This equations crosses the

point (0,0) for intercept, so intercept has no influence to this equation. And the results are

$$1.\ ROA_{t+1} = \alpha_0 + \alpha_1 GrNOA_t + \alpha_2 ROA_t + \mu_{t+1}$$

	#NA	-3,25274E-09	+0,596584173
T-stat	*#NA*	-0,168	6,571296
P-value of t	*#NA*	0,866	3,81E-09
Adjusted R square	0,33329105		
F-value	21,24596		
P-value of F	3,41267E-08		

$$2.\ ROA_{t+1} = \beta_0 + \beta_1 GrLTNOA_t + \beta_2 ACC_t + \beta_3 ROA_t + \mu_{t+1}$$

	#NA	-1,55349E-08	1,65552E-08	0,61902051
T-stat	*#NA*	-0,911	0,570	6,735
P-value of T	*#NA*	0,364	0,570	1,91E-09
Adjusted R square	0,349			
F-value	15,03286			
P-value of F	6,7058E-08			

The result in equation 1, adjusted R square shows that independent variables have ability 33,32 % to predict one year a-head return on assets. F-value is 21,24596 and P-value of F is 0,000 (less than 5%). It means dependent variable is affected by independent variables as much as 21,24% and the rest are affected by others factor. The regression result is strong

significant because P-value of F less than 1%. It means low probability error (less than 1%).

This research has no evidence that growth on net operating assets can predict one year a-head return on assets. T-stat value is -0,168 and P-value of T is 0,866. Growth on net operating assets has negative correlation on one year a-head return on assets but it is not significant. This result is inconsistent with research done by Farfield (2003).

This research has evidence that current return on assets can predict one year a-head return on assets. T-stat value is 6,571296 and P-value of T is 3,81E-09 or 0% (less than 5%). Current return on assets has positive significant influence on one year a-head return on assets. This result is consistent with research done by Farfield (2003).

In equation 2, after controlling current return on assets, adjusted R square shows that independent variables have ability 34,9% to predict one year a-head return on assets. F-value is 15,03286 and P-value of F is 6,7058E-08 or 0% (less than 5%). It means dependent variable is affected by independent variables as much as 15,032% and the rest affected by others factor. The regression result is strong significant because P-value of F less than 1%. It means low probability error (less than 1%).

This research has no evidence that growth on long term net operating assets can predict one year a-head return on assets. T-stat value is -0,911 and P-value of T 0,364. It can be defined that growth on long term net operating assets has negative correlation but it is not significant influence on

one year a-head return on assets. This result is inconsistent with the research done by Farfield (2003).

This research has no evidence that accruals can predict one year a-head return on assets. T-stat value is 0,570 and P-value of T is 0,570. It means accruals have positive correlation but it is not significant influence on one year a-head return on assets. This result is inconsistent with previous research done by Farfield (2003).

This research has evidence that current return on assets can predict one year a-head return on assets. T-stat value is 6,735 and P-value of T is 1,91E-09 or 0% (less than 5%). It means current return on assets has positive significant influence on one year a-head return assets. This result is consistent with previous research done by Farfield (2003).

4.3.3 Test of Equality of Accruals and Growth on Long Term Net Operating Assets Coefficient

Based on above result, model can be used to determine the hypothesis. In this research, we are going to formulate the linear regression model of the attribution of accruals and growth on long term net operating asset component of growth to earning performance in the future.

To test whether the two coefficients of accruals and growth on long term net operating assets are equal, the following equation is:

$$t = \frac{\gamma_1 - \gamma_2}{\sqrt{\text{var}\,\gamma_1 + \text{var}\,\gamma_2 - 2\,\text{cov}(\gamma_1, \gamma_2)}}$$

$$= \frac{0{,}000 - 0{,}000}{\sqrt{61069122738 + 2{,}45739E + 11 - 2(0{,}000)}}$$

$$= 0$$

The critical value of t at 0,95 level of significance for the number of object 87 is 1,6626. Since the t ratio is computed less than critical value, the null hypothesis is accepted. This research has t ratio amounting to 0, so the null hypothesis is accepted. It means the persistence of accruals and growths on long term net operating assets components of growth are similar.

Based on the result of research done by Farfield, accruals and growth on long term net operating assets component of growth are equal persistence. But based on the result of this research, accruals and growth on long term net operating asset component of current growth have equal persistence. This result is consistent with the research done by Farfield (2003) which give evidence that accruals and growth on long term net operating assets as component of growth have equal persistence.

CHAPTER V

CONCLUSIONS, LIMITATIONS AND SUGGESTIONS

5.1 Conclusion

This research examines the implication of accrued earning and growth on future profitability. The research object is 87 manufacturing companies listed in Jakarta Stock Exchange (JSX) during 2001 until 2004. The research result concludes that

1. Cash flows from operation has significant influence on predict one year a-head return on assets but accruals has no significant influence. And based on the research result, accruals and cash flows have equal persistence to predict future profitability. This research result is consistent with previous research done in Indonesia by Wijaya (1999). But this result is inconsistent with previous research done in U.S by Sloan (1996). The differences between Indonesian case and U.S case might come from the different adoption of Generally Accepted Accounting Principles and the behavior of firm's management.
2. This research gives evidence that current return on asset can predict one year a-head return on asset. This research result has evidence that accruals and growth in long term net operating assets have equivalent incremental negative association with one year a head return on assets after controlling for current return on assets. This research result is consistent with previous research done by Farfield (2003).

5.2 Limitation

This research finds some limitations. The limitations in this research are

1. Data in this research contain of extreme data, so data used in this research decrease.
2. The duration of observation is very short only 4 years. Financial statements used in this research are financial statement during 2001 until 2004.
3. Limitation data, such as depreciation and amortization and intangible asset data can be obtained only directly from financial statement of the firm. Financial statements which are provided by Jakarta Stock Exchange (JSX) are incomplete.

5.3 Suggestion

This research result raises additional issues for future research. Additional issues and recommendation is used to improve further studies. The recommendations are

1. Further study should involve longer period of observation. So the research object in further research will increase.
2. The future study should separate the firms into more specific characteristic by using the sub sector data. Prior research shows that the relative importance of accruals and cash flows depend on some specific characteristics, such as industry membership, operating cycle and the point of company's life cycle.

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APPENDICES

Table of Companies

NO	COMPANIES
1	PT. Ades Waters Indonesia Tbk
2	PT.Argha Karya Prima Industri Tbk
3	PT. Alakasa Industrindo Tbk
4	PT. Asahimas Flat Glass Tbk
5	PT. APAC Citra Centerex Tbk
6	PT. Aqua Golden Mississippi Tbk
7	PT. Argo Pantes Tbk
8	PT. Sepatu Bata Tbk
9	PT. BAT Indonesia Tbk
10	PT. Primarindo Asia Infrastruktur Tbk
11	PT. Branta Mulia Tbk
12	PT. Berlina Tbk
13	PT. Barito Pacific Timber Tbk
14	PT. Daya Sakti Unggul corporation
15	PT. Darya Varia Laboratoria Tbk
16	PT. Eterindo Wahanatama Tbk
17	PT. Cahaya Kalbar Tbk
18	PT. Gudang Garam Tbk
19	PT. Goodyear Indonesia Tbk
20	PT. Hanjaya Mandala Sampoerna Tbk
21	PT. Kageo Igar Jaya Tbk
22	PT. Intikeramik Alamasari Industry Tbk
23	PT. Jembo Cable company Tbk
24	PT. Jakarta Kyoei Steel Works Tbk
25	PT. Karwell Indonesia Tbk
26	PT. Kabelindo Murni Tbk
27	PT. Kedawung Setia Industrial Tbk
28	PT. Kedaung Indah Can Tbk
29	PT. Komatsu Tbk
30	PT. Multi Bintang Indonesia Tbk
31	PT. Mulia Industrindo Tbk
32	PT. Mayora Indah Tbk
33	PT. Hanson International Tbk
34	PT. Nipress

35 PT. Panasia Filament Inti Tbk
36 PT. Pan Brothers Tbk
37 PT. Pelangi Indah Canindo Tbk
38 PT. SUCACO Tbk
39 PT. Sari Husada Tbk
40 PT. Sierad Produce Tbk
41 PT. Semen Cibinong Tbk
42 PT. Semen Gresik Tbk
43 PT. Sarasa Nugraha Tbk
44 PT. Siantar Top Tbk
45 PT. Suba Indah Tbk
46 PT. Surya Dumai Industri Tbk
47 PT. Surabaya Agung Industri Pulp & Kertas Tbk
48 PT. Trias Sentosa Tbk
49 PT. Ultra Jaya Milk Industry & Trading Tbk
50 PT. Voksel Electric Tbk

Table of Data

N0.	ROAt+1	ACCt	CFOt	GrNOAt	ROAt	GrLTNOAt
1.	-0.50279	-20740.3	9531	-91572	-0.03831	136605
2.	-0.26651	-27065.3	-85635.5	2323.489	-0.20583	73416.18
3.	-0.25354	-71092.7	-21088.9	-8572.01	-0.26651	87181.35
4.	-0.14254	-449081	397360	-199169	-0.13443	246890
5.	-0.11499	-47158.9	12847.72	343277	-0.06136	465371
6.	-0.10527	-106014	37915.12	1934250	-0.0094	2125350
7.	-0.08854	-411318	115246	-456513	-0.01451	534806
8.	-0.08446	-268556	5745.962	30032.64	-0.01812	153108
9.	-0.08432	-1414140	220658	156800	-0.01988	2234850
10.	-0.07415	-264411	-1172.6	-61801.6	-0.01418	279355
11.	-0.06892	-125312	-8725.23	1243.905	-0.06457	70647.08
12.	-0.06683	-116322	-42592	-22125.1	0.17524	96724
13.	-0.06457	-97381.6	473.1891	-42342.4	-0.03315	82969.31
14.	-0.06136	-26689.4	-18967.4	-623.596	-0.04913	46535.32
15.	-0.06114	-23620.5	60830.02	-20904.1	0.00513	55364.5
16.	-0.05737	-77455.6	-13010.2	-8068.91	-0.03439	104387
17.	-0.05508	-41620.3	-5301.9	-24050.1	-0.02781	114120
18.	-0.05496	-509140	70554.53	-62559.8	-0.02978	24547.42
19.	-0.04761	-141692	-1041.5	-11014.4	-0.04378	116259
20.	-0.04639	-176578	-17991.3	-159978	-0.03602	381754
21.	-0.04378	-130798	22702.74	-37606.5	-0.00127	104085
22.	-0.03918	-112456	-6452.77	-39597.9	-0.05737	126478
23.	-0.03831	-31.162	31120.57	-185620	0.02636	-164880
24.	-0.03602	-264095	42595.17	45895.04	0.01954	222473
25.	-0.03515	102410	311050	-70706	0.01133	-179486
26.	-0.03481	-186264	-8347.58	71754.4	0.02155	83889.17
27.	-0.03318	-173836	23939.92	93310.51	0.0427	210750
28.	-0.03306	-87107.2	18860.87	-255508	-0.05496	-288560
29.	-0.03274	-36719	-13020	8077.275	-0.01162	40696
30.	-0.02831	-206055	-3797.01	-531.018	0.00126	-82954.4
31.	-0.02781	-64886	-25825.3	-10902.8	-0.0027	30717.53
32.	-0.02651	172596	16843.17	-42218.9	0.00965	260062
33.	-0.02491	-249902	21199.83	5440.348	-0.02782	235059

34.	-0.01812	-134624	-1863.98	-130813	0.02275	137743
35.	-0.01725	-118849	174832	118.1	-0.06683	125083
36.	-0.01553	-147939	22866.15	6312.524	-0.01354	207457
37.	-0.01482	-116736	6239.993	-73625.1	-0.03318	318999
38.	-0.01451	3054	-38890.6	-458918	0.12231	-47600
39.	-0.01418	-236789	9819.918	209969	0.05184	474380
40.	-0.01384	-399022	-9517.64	48748.08	0.05533	4155.765
41.	-0.01354	-103585	-461.51	6315.624	0.01408	154255
42.	-0.0103	-16364.3	21092.89	-1154.7	0.01447	43451.15
43.	-0.0094	-628580	14217.75	-2176560	0.04144	-2070550
44.	-0.00644	-229618	57862.7	-62057.7	-0.02491	391966
45.	-0.00469	-35700.3	562.032	119621	0.01859	43287.1
46.	0.00037	1803.909	4035.042	-24771.6	0.00491	346942
47.	0.00126	-123856	-9877.76	-95662	0.03041	110393
48.	0.00183	-32618.7	-14519	-28949.3	-0.03274	-36642
49.	0.00243	44592.31	22155.34	-134684	-0.01384	-143782
50.	0.00358	-821327	116579	12163.81	0.02561	957587
51.	0.00491	-42737.4	31660.61	153203	0.01193	151399
52.	0.00965	-140795	14864.77	249239	-0.01173	76642.87
53.	0.01104	-264067	135976	216372	0.04142	669698
54.	0.01117	-801041	162952	-2275210	-0.03346	-1423750
55.	0.01447	-51250.7	26644.02	43768.64	0.0564	60132.91
56.	0.01859	-2995.08	6477.455	-35968	0.4361	-264.707
57.	0.02155	-66048.6	-52055.5	-4991.27	0.08533	181273
58.	0.02561	-708743	180931	-80432.2	0.08902	740894
59.	0.02666	-619191	129511	101607	0.03035	865089
60.	0.03035	-704288	177067	8333.174	0.04933	627524
61.	0.0329	-79379.4	39422.07	82012.79	0.10394	87250.87
62.	0.03312	32541.64	-5869.98	-6717.56	0.07572	45045.24
63.	0.03327	-221915	39588.84	11984.57	0.03211	269518
64.	0.04142	-348347	215991	304347	0.08152	586415
65.	0.0419	-13948.7	-27191.4	-57522.9	0.04708	154552
66.	0.04419	-138588	37753.52	111121	0.0441	137569
67.	0.04588	-5238.08	47466.87	58710.58	0.0329	-34139.5
68.	0.04693	-257533	41337.77	27605.88	0.03327	273869
69.	0.04708	-51111	22016.19	109691	0.04936	123640
70.	0.04731	-311262	116022	-140383	0.06336	335956
71	0.049	-476339	128374	191052	0.04731	501700

72.	0.04966	-51762.8	16611.4	25414.61	0.03312	35189.27
73.	0.07605	-79161.4	44586.87	-45349.6	0.07776	54322.44
74.	0.07851	-735161	199969	221357	0.09398	870592
75.	0.0872	-99672.1	43620.54	74983.39	0.07605	102231
76.	0.08733	-347429	67096.16	-103368	0.09154	102639
77.	0.09393	-127442	67927.02	85587.88	0.10623	140680
78.	0.09714	-649235	168816	-96418.2	0.07851	1280970
79.	0.10209	-26447.7	77527	84599.47	0.04419	324302
80.	0.10623	-62981.2	61498.76	-21072.3	0.14138	106369
81.	0.10711	-70656	50589.7	29044.02	0.12281	64965.65
82.	0.11175	-206007	58270.3	221885	0.08733	241818
83.	0.12281	-55693.2	51260.11	-646.252	0.16575	70009.04
84.	0.12374	-262411	109629	42579	0.13762	263508
85.	0.12536	-198470	316636	79677	0.1523	152606
86.	0.13762	-189669	103565	-68964.6	0.12427	193446
87.	0.1523	-117711	151294	-52100	0.14594	146370

ROAt+1		*ROAt*	
Mean	-0.006694598	Mean	0.026628736
Standard Error	0.009764718	Standard Error	0.009083484
Median	-0.00644	Median	0.02275
Standard Deviation	0.091079223	Standard Deviation	0.084725099
Sample Variance	0.008295425	Sample Variance	0.007178342
Kurtosis	10.08496008	Kurtosis	6.982832844
Skewness	-2.153038103	Skewness	0.741587331
Range	0.65509	Range	0.70261
Minimum	-0.50279	Minimum	-0.26651
Maximum	0.1523	Maximum	0.4361
Sum	-0.58243	Sum	2.3167
Count	87	Count	87

ACCt		*CFOt*	
Mean	-198860.6416	Mean	52637.62208
Standard Error	26494.22464	Standard Error	9078.530599
Median	-118849	Median	22866.149
Standard Deviation	247121.676	Standard Deviation	84678.89614
Sample Variance	61069122738	Sample Variance	7170515452
Kurtosis	6.473875168	Kurtosis	3.636320581
Skewness	-2.178639039	Skewness	1.745872903
Range	1586736	Range	482995.456
Minimum	-1414140	Minimum	-85635.45604
Maximum	172596	Maximum	397360
Sum	-17300875.82	Sum	4579473.121
Count	87	Count	87

GrNOAt		*GrLTNOAt*	
Mean	-27109.15615	Mean	202594.5455
Standard Error	44743.11601	Standard Error	53146.7975
Median	-646.2518	Median	126478
Standard Deviation	417336.003	Standard Deviation	495720.3257
Sample Variance	1.74169E+11	Sample Variance	2.45739E+11
Kurtosis	22.30124718	Kurtosis	10.69554694
Skewness	-2.247096034	Skewness	0.177995216
Range	4209460	Range	4305400
Minimum	-2275210	Minimum	-2070550
Maximum	1934250	Maximum	2234850
Sum	-2358496.585	Sum	17625725.46
Count	87	Count	87

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.255271771
R Square	0.065163677
Adjusted R Square	0.042905669
Standard Error	0.089103896
Observations	87

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.046488194	0.023244	2.927651	0.059005745
Residual	84	0.666918352	0.00794		
Total	86	0.713406546			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.017469165	0.012502551	-1.397248	0.166019	-0.042331865	0.007393535	-0.04233187	0.007393535
ACCt	2.71144E-08	4.54715E-08	0.596295	0.552581	-6.33106E-08	1.17539E-07	-6.3311E-08	1.17539E-07
CFOt	3.07129E-07	1.32701E-07	2.314444	0.023085	4.32385E-08	5.7102E-07	4.32385E-08	5.7102E-07

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.63449708
R Square	0.402586544
Adjusted R Square	0.388362414
Standard Error	0.071230567
Observations	87

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.287207876	0.143604	28.30307	4.01375E-10
Residual	84	0.42619867	0.005074		
Total	86	0.713406546			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.025066249	0.008030354	-3.121437	0.002468	-0.041035493	-0.009097005	-0.041035493	-0.009097005
GrNOAt	-7.42198E-09	1.84157E-08	-0.403024	0.687955	-4.40437E-08	2.91997E-08	-4.40437E-08	2.91997E-08
ROAt	0.682362378	0.090711609	7.522327	5.43E-11	0.50197235	0.862752407	0.50197235	0.862752407

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.640386189
R Square	0.410094471
Adjusted R Square	0.388772584
Standard Error	0.071206679
Observations	87

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.29256408	0.097521	19.2335	1.4671E-09
Residual	83	0.420842466	0.00507		
Total	86	0.713406546			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.029765314	0.010180134	-2.923863	0.004455	-0.050013197	-0.009517431	-0.050013197	-0.009517431
GrLTNOAt	-1.02667E-08	1.64289E-08	-0.624921	0.533737	-4.29431E-08	2.24096E-08	-4.29431E-08	2.24096E-08
ACCt	-3.51414E-08	3.29545E-08	-1.066362	0.289352	-1.00687E-07	3.04038E-08	-1.00687E-07	3.04038E-08
ROAt	0.682062203	0.090634249	7.525436	5.68E-11	0.501794278	0.862330129	0.501794278	0.862330129

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.577313649
R Square	0.33329105
Adjusted R Square	0.313682709
Standard Error	0.074804414
Observations	87

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.237772016	0.118886	21.24596	3.41267E-08
Residual	85	0.475634529	0.005596		
Total	87	0.713406546			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
GrNOAt	-3.25274E-09	1.92888E-08	-0.168634	0.866485	-4.1604E-08	3.5099E-08	-4.1604E-08	3.5099E-08
ROAt	0.596584173	0.09078638	6.571296	3.81E-09	0.416076419	0.77709193	0.41607642	0.77709193

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.591045173
R Square	0.349334396
Adjusted R Square	0.321937596
Standard Error	0.074337479
Observations	87

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	0.249217445	0.083072482	15.03286	6.7058E-08
Residual	84	0.464189101	0.005526061		
Total	87	0.713406546			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
GrLTNOAt	-1.55349E-08	1.70477E-08	-0.911260459	0.364766	-4.9436E-08	1.8366E-08	-4.9436E-08	1.8366E-08
ACCt	1.65552E-08	2.90325E-08	0.570231147	0.570043	-4.1179E-08	7.429E-08	-4.1179E-08	7.429E-08
ROAt	0.61902051	0.091902886	6.735593811	1.91E-09	0.4362615	0.80177952	0.4362615	0.80177952

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-.017	.013		-1.397	.166	-.042	.007		
	ACCT	2.711E-08	.000	.074	.596	.553	.000	.000	.731	1.368
	CFOT	3.071E-07	.000	.286	2.314	.023	.000	.000	.731	1.368

a Dependent Variable: ROAt+1

Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	ACCT	CFOT
1	1	2.225	1.000	.08	.07	.08
	2	.474	2.167	.73	.01	.44
	3	.301	2.717	.19	.92	.49

a Dependent Variable: ROAt+1

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.255(a)	.065	.043	.08910390	.065	2.928	2	84	.059	1.828

a Predictors: (Constant), CFOT, ACCT
b Dependent Variable: ROAt+1

Coefficients(a,b)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	GrNOAt	.000	.000	-.015	-.169	.866	.000	.000	1.000	1.000
	ROAt	.597	.091	.580	6.571	.000	.416	.777	1.000	1.000

a Dependent Variable: ROAt+1
b Linear Regression through the Origin

Collinearity Diagnostics(a,b)

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				GrNOAt	ROAt
1	1	1.013	1.000	.49	.49
	2	.987	1.013	.51	.51

a Dependent Variable: ROAt+1
b Linear Regression through the Origin

Model Summary(c,d)

Model	R	R Square(a)	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.580(b)	.337	.321	.07480441	.337	21.594	2	85	.000	.629

a For regression through the origin (the no-intercept model), R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. This CANNOT be compared to R Square for models which include an intercept.
b Predictors: ROAt, GrNOAt
c Dependent Variable: ROAt+1
d Linear Regression through the Origin

Coefficients(a,b)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	GrLTNOAt	.000	.000	-.091	-.911	.365	.000	.000	.770	1.299
	ACCt	.000	.000	.058	.570	.570	.000	.000	.754	1.326
	ROAt	.619	.092	.602	6.736	.000	.436	.802	.964	1.038

a Dependent Variable: ROAt+1
b Linear Regression through the Origin

Collinearity Diagnostics(a,b)

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				GrLTNOAt	ACCt	ROAt
1	1	1.564	1.000	.21	.22	.08
	2	.919	1.305	.09	.03	.90
	3	.517	1.740	.70	.76	.02

a Dependent Variable: ROAt+1
b Linear Regression through the Origin

Model Summary(c,d)

Model	R	R Square(a)	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.594(b)	.353	.330	.07433748	.353	15.268	3	84	.000	.713

a For regression through the origin (the no-intercept model), R Square measures the proportion of the variability in the dependent variable about the origin explained by regression. This CANNOT be compared to R Square for models which include an intercept.
b Predictors: ROAt, GrLTNOAt, ACCt
c Dependent Variable: ROAt+1
d Linear Regression through the Origin