

**THE IMPACT OF EARNING MANAGEMENT AND BUSINESS GROWTH  
TO FUTURE PROFITABILITY**

**A THESIS**

**Presented as Partial Fulfillment of the Requirements  
to Obtain the Bachelor Degree in Accounting Department**



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YOGYAKARTA  
2006**

## 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 acknowledged quotation relevant to the topic of this thesis which have been stated or listed on the thesis bibliography.

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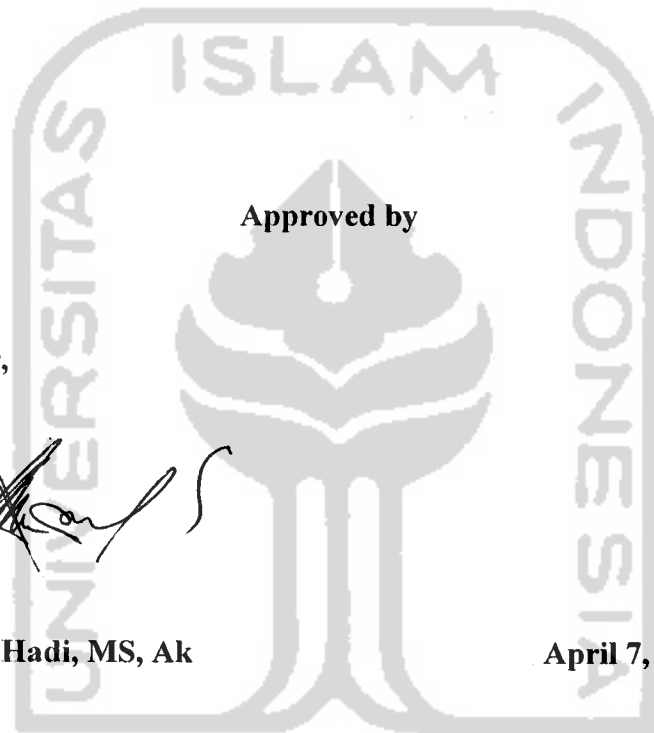


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**A BACHELOR DEGREE THESIS**

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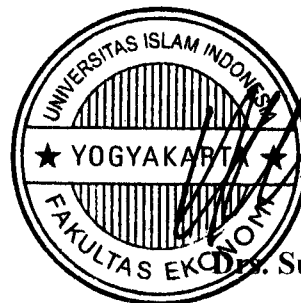
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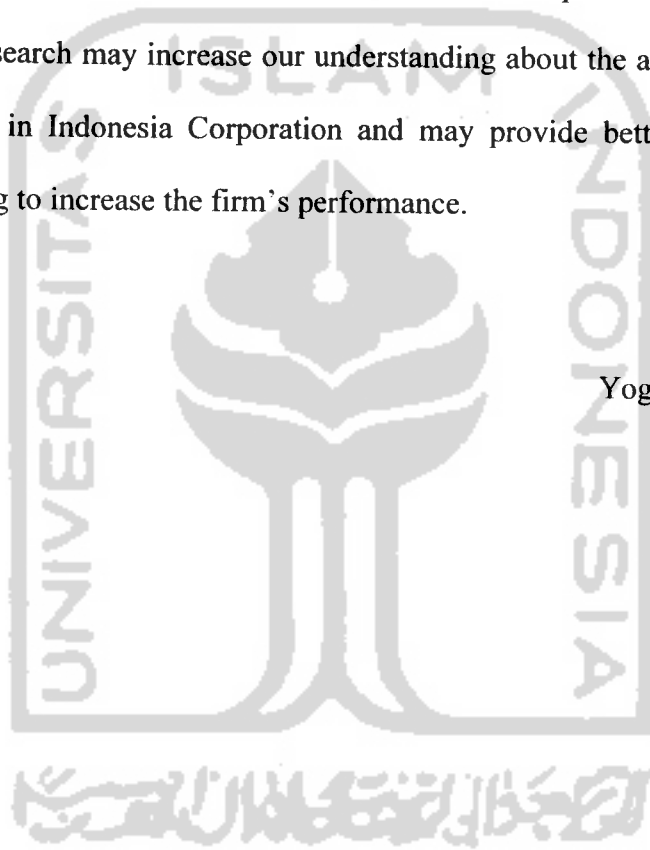
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Hope this research may increase our understanding about the applicability of earning management in Indonesia Corporation and may provide better solution to predict future earning to increase the firm's performance.

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The Writer



## ABSTRACT

Earnings are the summary measure of firm performance under the accrual basis of accounting. Earnings are important since they are used as a summary measure of firm performance by a wide range of users. Accrual and cash flow have been the major issues in accounting literature to measure firm performance. Prior studies examine about the ability of accrual and cash flow to predict future earnings. Sloan (1996), Collins and Hribar (2000), Xie (2001), and Sutopo (2001) find that accrual has less persistence to predict future earnings. On the other hand, prior study conducted by Wijaya (1999) finds that accrual and cash flow component of current earnings have equal persistence to predict future earnings. Sutopo (2001) that examines the effect of earning management on the lower persistence of the earning performance shows that the less ability of accrual to predict future earnings due to earning management. Recent study proves that after controlling for growth in net operating assets, accrual and cash flow components of current earnings have equal persistence to predict future earnings, because accrual is a component of growth in net operating assets and the less persistence of accrual is the manifestation of conservative accounting and diminishing marginal return on investment (Fairfield, et.al., 2003).

The purpose of this study is to provide further evidence about the impact of accrual and cash flow components of earnings, growth, and also current profitability to predict future profitability for the Indonesian case. The data employed in this study is secondary data from manufacturing firms financial statement listed in Jakarta Stock Exchange during January 1, 2001 until December 31, 2004. The dependent variable of this study is one-year-ahead return on assets and the independent variables are accrual, cash flow, current return on assets, growth in net operating assets and growth in working capital.

The findings of this study support the empirical discussion that accrual has less ability to predict future earnings than cash flow. Growth in net operating assets as a controlling variable also cannot explain the less ability of accruals to predict future earnings. Consistent with the previous research done by Sutopo (2001) that proves the less ability of accrual is because accrual relates to earning management. This study also shows that growth in working capital do not have significant impact with future earnings. It means that there is no influence on growth in working capital toward future earnings.

Keywords: Earnings, accrual, cash flow from operations, growth in net operating assets and growth in working capital.

## INTISARI

Laba adalah tolak ukur kinerja perusahaan berdasarkan akrual akuntansi. Laba menjadi penting sejak digunakan untuk mengukur kinerja perusahaan oleh para pengguna informasi. Akrual dan arus kas telah menjadi isu yang utama di dalam literatur akuntansi untuk mengukur kinerja perusahaan. Studi sebelumnya telah menguji tentang kemampuan akrual dan arus kas untuk memprediksi laba yang akan datang. Sloan (1996), Collins dan Hribar (2000), Xie (2001), Sutopo (2001) menemukan bahwa akrual mempunyai nilai persistensi yang lebih rendah untuk memprediksi laba yang akan datang. Studi sebelumnya yang dilakukan oleh Wijaya (1999) menemukan bahwa akrual dan komponen arus kas mempunyai persistensi yang sama dengan arus kas untuk memprediksi laba yang akan datang. Sutopo (2001) yang menguji tentang efek manajemen laba pada persistensi yang rendah menunjukkan kurangnya kemampuan akrual dalam memprediksi laba yang akan datang oleh karena adanya manajemen laba. Studi terbaru membuktikan bahwa setelah mengendalikan pertumbuhan di dalam aktiva operasi bersih, akrual dan komponen arus kas mempunyai persistensi yang sama untuk memprediksi laba yang akan datang. Hal ini disebabkan akrual termasuk komponen pertumbuhan di dalam aktiva operasi bersih, dan persistensi yang rendah yang disebabkan oleh akrual adalah karena manifestasi dari *conservative accounting* dan *diminishing marginal return on investment* (Fairfield, et.al., 2003).

Tujuan studi ini adalah untuk menyediakan bukti lebih lanjut tentang dampak akrual dan komponen arus kas, pertumbuhan dan juga profitabilitas laba sekarang untuk meramalkan profitabilitas di masa yang akan datang untuk kasus di Indonesia. Data yang digunakan dalam studi ini adalah data sekunder dari perusahaan manufaktur yang terdapat di Bursa Efek Jakarta selama 1 Januari 2001 sampai 31 Desember 2004. Variabel terikat untuk studi ini adalah *One-Year-Ahead Return on Asset* sedangkan variabel bebasnya adalah akrual, arus kas, *current return on assets*, pertumbuhan di dalam aktiva operasi bersih, and pertumbuhan modal kerja.

Hasil dari studi ini mendukung diskusi empiris bahwa akrual mempunyai lebih sedikit kemampuan untuk memprediksi laba yang akan datang dibanding arus kas. Pertumbuhan di dalam aktiva operasi bersih sebagai variabel pengendali juga tidak bisa menjelaskan tentang rendah kemampuan akrual dalam memprediksi laba yang akan datang. Konsisten dengan riset sebelumnya yang dilakukan oleh Sutopo (2001) membuktikan semakin sedikit kemampuan akrual adalah karena akrual berhubungan dengan manajemen laba. Studi ini juga menunjukkan pertumbuhan modal kerja tidak mempunyai dampak yang signifikan dengan laba yang akan datang. Hal ini berarti tidak adanya pengaruh pertumbuhan modal kerja terhadap laba yang akan datang.

Kata kunci: Pendapatan/Laba, akrual, arus kas dari operasi, pertumbuhan dalam aktiva operasi bersih dan pertumbuhan modal kerja.



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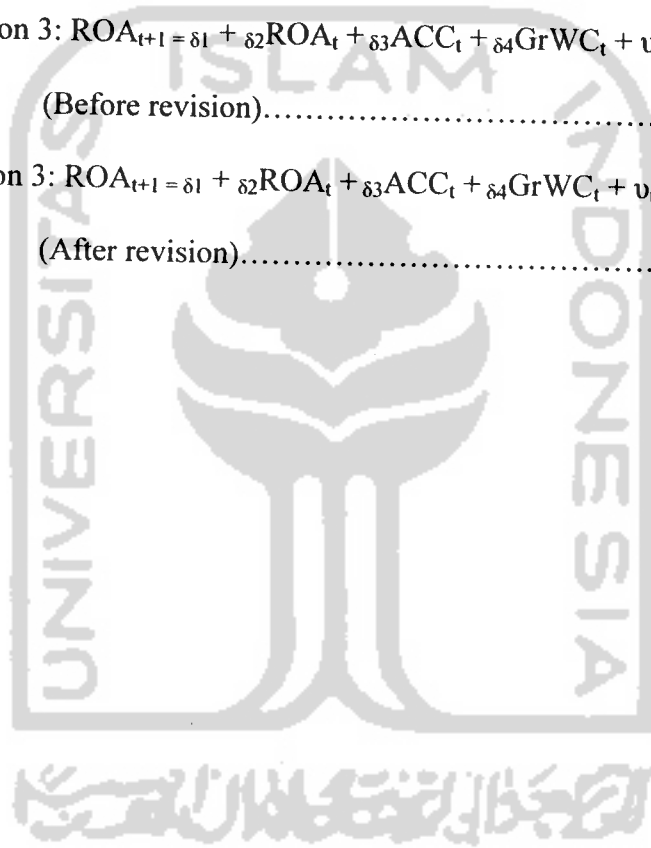
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# CHAPTER I

## INTRODUCTION

### 1.1 Study Background

Earnings are the heart of business entity. They determine the going concern of an entity. Stockholders demand management to produce earnings to increase their wealth. Investors focus on earnings to determine whether they should allocate funds in an instrument or not. Employees have interest to know the result of their operations and the going concern of their firms. Lenders need to make sure that their fund is safe. Overall, the stakeholders have interest on a firm's reported earnings.

Nevertheless, earnings are elusive numbers. The management has freedom to choose various generally acceptable accounting principles and methods to determine earnings. The choice of different accounting principles and methods comes from the pressure faced by the management. The pressure can take a form of reporting well or growing earnings. These achievements affect the management's compensation. Elton, et.al. (2003) describes how under the valid generally accepted accounting principles, a firm may report several different versions of earnings, depending on the choice of the accounting principles and methods.

One of accounting principles under the management's discretion is the concept of accrual system of accounting. Revenues are recognized when the sale is made rather than when customer pays. The expenses are reported as when the firm

uses goods and services provided by third parties although the firm has not paid the third party. Consequently, accrual revenues and expenses may differ from cash revenues and expenses.

Accrual is related to earning management. Schipper (1998) defines earning management as purposeful intervention in the external financial reporting purpose, with the intent of obtaining some private gain done by management ( as opposed, say, merely facilitating the neutral operation of the process). Earning management study that has relation with the accounting choice and the initial public offerings, state that presumed goal of this manipulation is to induce outside investors to pay a higher price for the firm's common share that is justified by its true profitability. The use of accrual introduces a new set of problems that management typically has some discretion over the recognition of accrual. This discretion can be used by management to signal their private information to manipulate accrual. There are several studies on earning management, such as Healy (1985), DeAngelo (1986), Jones (1991), Aharony, et.al. (1993), Dechow, et.al., (1995), and Han and Wang (1998).

Accrual has been one of the major issues in accounting literature. Some studies include relative information containing accrual compared with cash flow (Rayburn (1986), Wilson (1987), Bernard an Stober (1989), Gantowati (1998)), earning management ((Healy (1985), Dechow, et.al. (1995), Rees, et.al. (1996), Sutopo (2001), Chan, et.al. (2001)), and discretionary versus non discretionary accruals (Guay, et.al.,1996). For the Indonesian case, the accruals compared with

cash flow (Gantjowati,1998) and the reflection of accruals and cash flow components of current earnings in future earnings (Wijaya,1999).

One among the most popular studies of accrual is about how the market is mispricing toward the ability of accrual to predict future earning. Various studies on market mispricing prove that accrual might lead to earning management since investors overvalue the persistence of accrual component of earnings (Sloan (1995), Xie (1999), Sutopo (2001)). However, recent study shows that the lower ability of accruals compared to cash flow component of current earnings might not be the indication of earning management. The lower persistence of accrual is more likely to results from conservative bias in accounting and or the lower rate of economic profits that results from diminishing marginal returns to new investment opportunities (Fairfield, et.al., 2003).

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 the Indonesian case. Another purpose is to test the consistency of the previous study conducted by Wijaya (1999), found that accrual and cash flow components of current earnings have equal ability to predict future earnings for the Indonesian case. Prior research reveals that the accrual component of profitability has less ability to predict future earning than cash flow component, and it make investors fail to fully appreciate their differing implications for future profitability (Sloan, 1996). Just we can disaggregate profitability into accrual and cash flow from operations, we can



disaggregate growth in net operating assets into accrual and their components. For this research, we want to know the ability of growth in working capital as a component of growth in net operating assets with future earning. Because according to Ohlson (1995) future profitability also depends on growth in net operating assets. Then the title of this research is **“The Impact of Earning Management and Business Growth to Future Profitability”**.

## 1.2 Problem Formulation

Many studies show evidence that investors naively fixate on the bottom line of financial statement (Sloan (1996), Collins&Hribar (2000), Xie (2001)). Meanwhile, management discretion may affect the bottom line. The part of the bottom line that might be affected by management discretion is the accrual component of earnings. This phenomenon is indicated by the lower persistence of accrual component of current earnings to predict future profitability compared with the cash flow component. A study of Indonesian case proves that accrual and cash flow component of earnings has equal persistence to determine future earnings Wijaya (1999).

Fairfield, et.al. (2003) have developed studies of accruals and cash flow persistence by considering other factor than accruals and cash flow components of current earnings. The new factor is growth in operating activities. They find that after controlling for growth, accrual and cash flow components of earnings have

equal ability to predict future earning. They argue that accruals models should control for growth to avoid incorrect conclusion about earning management.

This study develops a question of how component of earnings and growth affect the future profitability of Indonesian firms. A part of this study will test the consistency of previous study about the ability of accrual and cash flow components of current earnings to predict future profitability for Indonesian case. The other part will test the consistency of the new empirical findings, the impact of growth in operating activities to the accruals and cash flow persistence for the Indonesian case.

### **1.3 Research Objectives**

The objectives of this study are:

1. To examine the implication of accrual and cash flow for future profitability.
2. To examine the implication of growth and its accrual components for future profitability.
3. To examine the implication of accruals, current profitability, and growth for future profitability.

### **1.4 Expected Benefits**

Firstly, this study describes empirical evidence of the nature of information contained in earnings of the Indonesian firms. The result of this study will provide fundamental information for further study in the area of earning management.

Secondly, other researchers can use the results as a reference for further study and forecasters in accounting and finance can use the results as a consideration in the practice of forecasting earnings.

### **1.5 Research Limitation**

This research is conducted within several units:

1. This research only examines manufacturing firms listed in Jakarta stock exchange. The choice of only manufacturing firms as the research population is intended to avoid excessive industry effects that may distort the analysis.
2. This research only focuses on the Indonesian condition during the year 2001-2004.
3. The variables utilized in this research are one-year-ahead return on assets, accrual, cash flow, growth in net operating assets, growth in working capital and current return on assets. Although there are many variables that can affect the future earning, they are not employed in this research due to the limit of time and lack of data.

### **1.6 Writing Scheme**

The systematic of the report can be seen as follow:

**CHAPTER I** : *Introduction*

This antecedent contains the problem background, problem formulation, expected benefit of the research, objective of research, research limitations, and writing scheme.

**CHAPTER II : *Literature Review and Theoretical Background***

This second chapter includes the basic theory of financial statement concept, operating cash flow, accountancy accrual, analyze the former research, and hypothesis formulation.

**CHAPTER III: *Analysis Method***

The third chapter discusses the research method covering population research, variable research; analyze the data, and also hypothesis examination.

**CHAPTER IV : *Data Analysis***

This fourth chapter contains the analysis of research's result explaining about hypothesis examination.

**CHAPTER V : *Conclusion, Limitations, and Recommendation***

The last chapter contains conclusions as the conclusion hit result of research. limitations of research, and recommendation for developing future research.

## **CHAPTER II**

### **LITERATURE REVIEW AND THEORETICAL BACKGROUND**

#### **2.1 Theoretical Background**

##### **2.1.1 Estimating Future Earnings from Current Earnings**

Financial analysis is built based on the expected future earnings. The expectation of future earnings begins with current earnings. The information in current earnings can be used for estimating future earnings. Theoretically, income has dual role; as a measurement of the future earnings power (Wild, et.al., 2001).

When current earnings are used to forecast future earnings, the next year's earnings are assumed equal to current earnings plus new investment that may increase the next year's earning. Increase in earning means increase in shareholders value. Thus, the additional investment should earn at the required rate of return. The forecast of return earnings should deal only with core income. It is important to know the components of earnings that come from ongoing operations and the proportion of earning that are less likely to recur in the future. The problem arising from earnings that are less likely to recur in the future is how to decompose the earnings into its accrual and cash flow component.

Many studies show contrast results about the ability of current earnings to predict future earnings. Freeman, et.al. (1982), Ou and Penman (1989), and Finger (1994) prove that current earnings are relevant to predict future earnings. Ball & Watts (1972) provide the evidence in anomalies of earnings. Some who believe that

future earnings are independent from current earnings argue that earnings are subject to uncertainty that is beyond management's control. In addition, earnings calculation requires estimation that may cause problems and contain subjectivity.

## **2.2 The Concept of Accrual**

Accounting income is established on the concept of accrual accounting. Accruals are the flows of non-cash value. The aim of accrual accounting is 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 (Wild, et.al., 2001). Accrual accounting is established on the assumptions of going concern of the entity.

Accrual accounting consists of revenues accruals and expense accruals. Accrual accounting is the matter of revenue recognition and expense matching. In accrual accounting, revenues are recognized when the sales is made rather than when customers pays. In other words, revenues are recognized when there is a creation of benefit that might not be in form of cash flow to the firm. On the other hand, cash flow to the firm that does not involve any additional values is subtracted, Wild, et.al., (2001) explains clearly that revenues are realized when cash is acquired for products or services delivered. Revenues are realizable when an assets acquired for products or services delivered (often receivables) is convertible to cash or cash equivalent. The expenses are reported when the firm uses goods and services provided by third parties although it has not been paid until a certain period.

From the perspective of timing difference between income and cash flow, accruals are classified into short-term and long-term accrual include working capital items such as receivables, inventories, payables and so on. Long-term accruals are long-term timing difference between income and cash flow. Long-term accruals come from the process of differing costs incurred in the current period whose benefits are expected in future periods or capitalization (Wild, et.al., 2001). The examples of long-term accruals are depreciation and amortization expense.

Accrual accounting allows management to make judgment using various estimations, adjustments, and event their intent (Ball & Kothari, 1994). For example, intangibles can be capitalized aggressively to reduce costs. This kind of decisions is under the management discretions. Following Bernstein (1989), the accruals system, which produces in the income number, relies on accruals, deferrals, allocations, and valuations, which involve high degrees of subjectivity. So the accruals have strong relation to earning management. Shipper (1998) defines earning management as purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process). The concern that management will use their information advantage to opportunistically manipulate accruals is consistent with allowable set of accruals being limited by accounting conventions (Watts and Zimmerman, 1986).

The primary role of accruals is to overcome problems of measuring firms' performance when the firms are in continuous operations. Accruals can be a predictor to produce earning as one of the key outputs of the accounting process. The view that

accrual will improve the ability of earnings to measure firms' performance is expressed in FASB No.1, paragraph 44 stating that information about enterprise earnings and its component measured by accrual accounting generally provides a better indication of enterprise performance than information about current cash receipts and payments.

### **2.3 The Concept of Cash Flow**

Claimholders of a firm seek information about the firm's expected future cash flow. Statement of cash flow in financial statement provides information about various sources and uses of cash come from the firm's operating, financing, and investing activities. Operating cash flow refers to cash generate from a firm's ongoing operating activity. Operating activities comprise of net income, depreciation, changes in current assets and liabilities other than cash, short-term investment, and short-term debt. Cash flow from financing activities refers to cash generate from firm's financing activities such as the sale of short-term investment, issuance of debt or stock, paying dividends, or using cash for buyback activities. Cash flow from investing activities refers to cash generated from firm's financing activities such as when the firm decides to invest or divest its fixed assets.

Beside the kinds of the sources and uses of cash flow, there are various concepts of cash flow. These concepts are net cash flow, free cash flow, and operating cash flow. Net cash flow is defined as net income minus non-cash revenues plus non-cash charges. Free cash flow is defined as net operating profit after tax



minus new investment in operating capital. Free cash flow is the amount of cash flow remains after firms make assets investment to support its operations. This amount is available for distributions to investors. Investors investigate a firm's ability to generate free cash flow.

Operating cash flow is the difference between revenues and cost in cash. It equals to the net operating profits after tax plus non-cash adjustment. Operating cash flow come from the firm's normal operation. Presentation and reporting of cash flow from operating activity, the amount from cash flow coming from operating activity, represent the indicator determining whether from its operation a company can yield the cash flow which is the due date for paying loan, looking after ability to operate the company, paying dividend and doing the new investment without relying on financing source from outside. Information concerning certain element of historical cash flow along with other information is useful in prediction of operating cash flow for future earnings.

Many studies about cash flow have been conducted. Livnat and Zarowin (1990) reveal that components of cash flow ( operating, financing, and investing) and subcomponents of cash flow (cash flow from receivables, dividend, investments, and so on) explain the association between cash flow and stock return better than cash flow in aggregate. Dechow (1994) finds that operating cash flow can not explain stock returns as good as net income, which is a result of accruals accounting and the sum of accruals and operating cash flow. Barth, et.al. (2001) find that the cash flows

and accrual components of current earnings have substantially more predictive ability for future cash flow than several lags of aggregate earnings.

Cash flow from operations can measure performance of a firm in a less distorted way than accrual. Analysts believe that the higher the ratio of cash flow from operations to net income, the higher the quality of that income. Firms with high net income but low cash flow are suspected to use income recognition or expense accrual criteria.

The cash flow variable in this study deals only with operating cash flow. It is noted as cash flow from operations (CFO), which is the difference between earnings and accrual. Many financial analysts regard operating cash flows as a better gauge of corporate financial performance than net income, since it is less subject to distortion from differing accounting practice. Operating cash flow can be a tool to measure financial performance of the company in the future.

#### **2.4 The Relation of Business Growth in Estimating Future Earnings**

Prior research reveals that the accrual component of profitability has less ability to predict future earnings than cash flows. and investors fail to fully appreciate their differing implications for future profitability (Sloan,1996). However accrual is a component of growth in net operating assets as well as a component of profitability. According to Penman (2003), he states that net operating assets are increased by operating revenue, reduced by operating expenses, increased by cash investment, and reduced by cash from operation.

Feltham and Ohlson (1995), and Ohlson (1995) find that future profitability and firm value depend on the growth in net operating assets as well as current profitability. Growth in net operating assets and their components which include growth in working capital, depreciation and amortization, and growth in long term net operating assets also influence the ability to predict future earnings. Fairfield, et.al., (2003) investigate whether differential persistence and market mispricing of accrual are more broadly to grow in net operating assets. He find that growth in net operating assets has a significant impact with future earnings.

Looking at the previous research, it shows that growth in net operating assets and their components can be used as variables to predict future earnings. This research also investigates the ability of growth in working capital as a component of growth in net operating assets to predict future earning. In line with Fairfield, et.al., (2003) that used components of growth in net operating assets i.e. growth in long term net operating assets to predict future earnings. They find that growth in long term net operating assets has significant and negative association with future earnings.

## **2.5 Literature Review and Hypothesis Development**

Sloan (1996) investigates the nature of the contained information in the accrual and cash flow components of earnings. By using 40,679 firm year observations from 1962-1991, he finds that the accrual component of earnings are less persistence than cash flow components of earnings, and stock price act as if

investors fail to distinguish fully the different properties of accrual and cash flow component of earnings.

The finding from Collins and Hribar (2000) is similar with Sloan that the markets systematically overvalue (under price) the accrual (cash flow) component of earnings. They use quarterly Compustat and daily CRSP data for all NYSE/AMEX firms on the primary, Supplementary and Tertiary industrial File or research file over 1988-1997. In contrast to Sloan (1996), they estimate quarterly accruals as the difference between earnings and cash flow.

Xie (2001) extends the study by suggesting that the lack of persistence and the overpricing of total accruals here largely due to abnormal accruals. He uses Jones model to estimate abnormal accrual. He finds that the market overestimates and overprices the persistence of both, normal and abnormal accrual. After controlling abnormal accrual, he found that the market still overprice the abnormal accrual. He concludes that the markets overprices portion at abnormal accrual stem from management direction.

Sutopo (2001) examines that the extent to which the lower ability of earnings performance attributable to the accrual component of earning is due to earning management. Using 384 sample of firms obtained from Compustat data from 1989-1996, he proves that earnings performance attributable to accrual component of earnings is less persistent. He found that the earning management has a significant effect on the persistence of earnings performance.

In Indonesia, Wijaya (1999) applies the Sloan's method for an Indonesian case. The observation of 42 manufacturing firms listed in JEC during the period of 1993 to 1996 concludes that earnings performance attributable to the accrual component of earning exhibited similar ability to the earnings performance attributable to the cash flow component of earnings in predicting future earnings. Thus, the result of Indonesian case is in contradictory to the evidence of studies using U.S firms' data.

Bernstein (1989) states that the cash flow is less subject to the distortion than the net income when it is used to measure firms performance. In addition, analysts believe that the higher the ratio of cash flow to net income, the higher the income quality. Thus, accrual and cash flow components of current earnings have different implications for the assessment of future earnings in which the accruals of current earnings is less persistent than the cash flow components ( Sloan, 1996). This reason results the first hypothesis that:

H<sub>1</sub>: Accrual components of current earnings have less ability than the cash flow components of current earnings to predict one-year-ahead return on assets.

The second hypothesis is build based on the equal ability of accrual and growth in long-term net operating assets to one-year-ahead profitability. Following Mc. Nichols (2000) that accrual model should control growth; the persistence of accrual and cash flow components of current earnings is tested by adding growth in net operating assets as a controlling variable when the future profitability is regressed

on accrual and cash flow. Prior study conducted by Fairfield, et.al. (2003) find that after controlling growth in net operating assets, the ability of accrual and cash flow components of current earnings to predict future earnings is equal. The second hypothesis proposed is:

H<sub>2</sub>: Accrual components of earnings have equal ability to the cash flow components of earnings to predict one-year-ahead earnings after controlling growth in net operating assets.

Current profitability can give better predictable to future earnings. Because what is happens today depends on what happened yesterday (Trend), or Martingale effects. Wijaya (1999) finds that current return on assets has positive correlation with future earning, means that current return on assets will increase future earnings. But, future profitability (and also firm value) depends not only on current profitability but also on growth in net operating assets ( Ohlson (1995), Feltham and Ohlson (1995)).

Fairfield, et.al. (2003) developes Sloan's model by adding the growth in net operating assets components variable. They found that accrual and growth in net operating assets components (growth in long term net operating assets) have significant effect and negative correlation with future earnings. Their arguments about the negative correlation between future profitability and growth in net operating assets and it's component were diminishing marginal returns to increase investment and conservative accounting tend to reduce profitability for growing firms. Following Fairfield, et.al. (2003) diminishing marginal returns to increase investment tend to reduce the growth of firms. It arises when firms exploit their most

profitable investment opportunities before undertaking less profitable investment. Consequently, firms investing relatively more net operating assets will experience lower profitability in one-year-ahead. Conservative accounting has some characteristics that decrease book value such as accelerating depreciation and amortization using LIFO inventory method, and overestimating bad debt and write off. All of those characteristic may reduce earnings as well as book value.

This research will investigate the ability of growth in working capital as a component of growth in net operating assets to predict future earnings whether it also has significant and negative correlation with future earnings. Based on this theoretical background, the third hypothesis proposed is:

H<sub>3</sub>: Current return on assets, accrual and growth in working capital has ability and incremental correlation with one-year-ahead return on assets.

## **CHAPTER III**

### **RESEARCH METHOD**

#### **3.1 Research Object and Data Collection**

This study employs secondary data from manufacturing firms which their financial statements have been audited. The balance sheet and operating income are obtained from firms' financial statements during the period of 2001-2004. Cash flow from operations is obtained from cash flow statements of each firm during the period of 2001-2004.

The population includes all manufacturing firms listed in Jakarta Stock Exchange during the period of January 1, 2001 – December 31, 2004. The classification of manufacturing firms is adopted from the definition provided in the ICMD 2002 which states that the classification of manufacturing firm are arranged by industrial types following the sequence of the standard of industrial classification used by international finance corporation. The final population consists of 50 manufacturing firms, leaving some in sufficient and/ or incorrect data, and financial statement that is denominated in currency other than rupiahs.



Table 3.1

List of manufacturing companies	59
Less : Insufficient data	(6)
Incorrect data	(2)
Financial statement denominated in US\$	(1)
Number of population	50

### 3.2 Research Variables

The variables employed in this research are one-year-ahead return on assets, current earnings, accruals, and components of current earnings, cash flow components of current earnings, growth in net operating assets, and growth in working capital. To enable comparisons, these variables are deviated to the total assets as a relative measurement of the size of each firm. An average total asset is the average of the beginning and end-of-year book value of total assets.

Earnings or Return on Assets are defined as operating income (Earning before Interest and Taxes = EBIT) divided by average total assets (TA):

$$ROA_t = EBIT / \text{Ave} (TA_{t-1} + TA_t)$$

Accrual (ACC) is defined as change in current operating assets minus change in current operating liabilities minus depreciation and amortization expense.

$$\text{Accrual} = (DCA - DCash) - (DCL - DSTP - DTP) - \text{Dep}$$

(Dechow, et.al., 1995)

Where,

DCA = Change in current assets

DCash = Change in cash/cash equivalents  
 DCL = Change in current liabilities  
 DSTD = Change in debt included current liabilities  
 DTP = Change in income tax payable  
 Dep = Depreciation and amortization expense

$CFO_t$  is cash flow from operations. Operating cash flow is the difference between revenues and cost in cash. It equals to the net operating profits after tax plus non-cash adjustment. Operating cash flow come from the firm's normal operation.

$GrNOA_t$  is defined one year growth in net operating assets

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

Where, Net Operating Assets (NOA) is operating assets (excluding cash) minus operating liabilities.

$$NOA_t = AR_t + INV_t + OTHER CA_t + NPE_t + INTANG_t + OTHER LTA_t - AP_t - OTHERCL_t - OTHER LTL_t$$

Where,

AR = Accounts receivable  
 INV = Inventories  
 OTHER CA = Other current assets  
 NPE = Net property, plant and equipment  
 INTANG = Intangibles  
 OTHER LTL = Other long term assets  
 AP = Account payable  
 OTHER CL = Other current liabilities  
 OTHER LTL = Other long term liabilities

Final explanatory variable is Growth in Working capital ( $GrWC_t$ ) is defined as one-year growth in non cash working capital.

$$GrWC_t = (\Delta AR_t + \Delta INV_t + \Delta OTHER CA_t - (\Delta AP_t + \Delta OTHER CL_t))$$

Where,

$\Delta AR$	= Change in account receivable
$\Delta INV$	= Change in inventories
$\Delta OTHER CA$	= Change in other current assets
$\Delta AP$	= Change in account payables
$\Delta OTHER CL$	= Change in other current liabilities

### 3.3 Empirical Design

On the basis of the interrelationship among accrual, cash flow, growth in net operating assets, growth in working capital, and current profitability toward future earnings proposed in the hypothesis, it is deemed that a multiple linear regression equation approach is appropriate methodology to use.

Following Fairfield, et.al. (2003) the multiple linear regression equations model is estimated using Microsoft excel 2003. The dependent variable is proposed by using three regression equation models with one-year-ahead return on assets. Then other variables such as accrual, cash flows, growth in working capital, current profitability is as explanatory variables, while growth in net operating assets is as a controlling variable. The specification of the regression equation model is as follow:

$$ROA_{t+1} = \alpha_0 + \alpha_1 ACC_t + \alpha_2 CFO_t + v_{t+1}$$

$$ROA_{t+1} = \beta_0 + \beta_1 GrNOA_t + \beta_2 ACC_t + \beta_3 CFO_t + v_{t+1}$$

$$ROA_{t+1} = \delta_1 + \delta_2 ROA_t + \delta_3 ACC_t + \delta_4 GrWC_t + v_{t-1}$$

In the multiple linear regression method, it allows us to see how the independent variables influence the dependent variables by looking at the P-value. If the P-value  $< \alpha$ , it means that there is a significant effect on independent variable toward dependent variable.

### 3.4 Testing Procedure

In this research, we regress the three regression equation models by using Microsoft excel. The results can be seen by looking at the P-value of each regression result.

To test hypothesis 1, the regression below is used:

$$ROA_{t+1} = \alpha_0 + \alpha_1 ACC_t + \alpha_2 CFO_t + v_{t+1}$$

Hypothesis 1 is accepted if the P-value of accrual and cash flows is less than  $\alpha$  or has significant effect toward one-year-ahead return on assets and accrual has less value of significance than cash flows.

To test hypothesis 2, the regression below is used:

$$ROA_{t+1} = \beta_0 + \beta_1 GrNOA_t + \beta_2 ACC_t + \beta_3 CFO_t + v_{t+1}$$

Hypothesis 2 is accepted if the P-value of accrual, cash flows, and growth in net operating assets is less than  $\alpha$  or has significant effect toward one-year-ahead return on assets and accrual has equal value of significance than cash flows after controlling with growth in net operating assets.

To test hypothesis 2 the regression below is used:

$$ROA_{t+1} = \delta_1 + \delta_2 ROA_t + \delta_3 ACC_t + \delta_4 GrWC_t + v_{t+1}$$

Hypothesis 3 is accepted if the P-value of current return on assets, accrual and growth in working capital are less than  $\alpha$  or has significant effect toward one-year-ahead return on assets.



**CHAPTER IV**  
**DATA ANALYSIS**

**4.1 Descriptive Statistics**

The Descriptive Statistic on One-year-ahead Return on Assets ( $ROA_{t+1}$ ), Current Return on Assets ( $ROA_t$ ), Accruals ( $ACC_t$ ), Cash Flow from Operation ( $CFO_t$ ), Growth in Net Operating Assets ( $GrNOA_t$ ), and Growth in Working Capital ( $GrWC_t$ ) are shown in Table 4.1

**Table 4.1**  
**The Result of Mean and Standard Deviation**  
**Research Variables**

	$ROA_{t+1}$	$ACC_t$	$CFO_t$	$ROA_t$	$GrNOA_t$	$GrWC_t$
Minimum	-0.5028	-1.1E+12	-8.8E+11	0.2665	-1.7E+13	-2.3E+12
Maximum	0.1523	2.33E+12	3.35E+11	0.4361	2.21E+13	2.66E+12
Mean	-0.0031	8.07E+10	2.16E+10	0.0259	1.04E+12	6.14E+10
Standard Deviation	0.0877	4.5E+11	1.42E+11	0.0835	3.83E+12	4.67E+11
Skew ness	-2.1673	1.836225	-2.72001	0.6309	1.603025	1.930748
Count	100	100	100	100	100	100

The number of observation is 100 firm- years using financial data from 2001-2004. This amount can be compared with the same previous study conducted by Fairfield, et.al. (2003) and Sutopo (2001). Fairfield, et.al. (2003) use the number of observation 32.961 firm-years from 1964-1993, while Sutopo (2001) uses 384 firms

during year 1989-1993. But the observation number of this research is bigger compared with, Wijaya (1999) that uses 42 manufacturing firms from 1993-1996.

The table above shows the return on assets one-year-ahead is -0.0031. The mean of return on assets one-year-ahead is strongly negative; it means the level of future earnings is lower than the level of future earnings before. This happens to the firm's that we have observed because most of them had prefer to invest more heavily in operating assets during year  $t$ . So, they have lower return on assets in one-year ahead. This condition is not consistent with the finding of Fairfield, et.al. (2003), where the mean of one-year-ahead return on assets has a positive value of 0.111. The standard deviation value of 0.00877 shows that the data on return on assets one-year-ahead is classified as normal. These results are also supported with the minimum value range of -0.5028 and the maximum value of 0.1523. This value range is high enough, but it can be classified that the data is still distributed well. The balance data distribution above is supported with skewness value of -2.1673, which means that the one-year-ahead return on assets data do not have extreme value.

Accrual is defined as the change in current operating assets minus the change in current operating liabilities minus depreciation and amortization expense; it is the flow of non-cash assets. Accrual variable that has a mean of  $8.07E+10$  shows that on average accrual will increase income. It is different with the study result conducted by Sloan (1996) that accrual mean has a negative value of -0.18, this is happens because the different observation of the firms. With the standard deviation of  $4.5E+11$  it shows that data can be classified as normal. This is supported with the

minimum value  $-1.1E+12$  and the maximum value of  $2.33E+12$  which has not high of range. With the skew ness value of 1.84, it shows that the distribution of accrual variable has normal distribution.

Cash flow is the component of profitability. Cash flow variable has a mean of  $2.16E+10$ . It means that on average cash flow will increase income by  $2.16E+10$ . Value of standard deviation of  $1.42E+11$  that are bigger enough shows that the data has normal distribution. It shows that with the minimum value of  $-8.8E+11$  and the maximum value of  $3.35E+11$  with the value range that is not big enough. Based on the skew ness value of -2.72, it shows that the data collected in cash flow variable is normal.

Current return on assets as one of the variables that affects future earnings has a mean value of 0.0259. It means that the current return on assets has a power to affect future earnings by 2.59%. The value is relative small comparing with the research founded by Fairfield, et.al. (2003) that current return on assets mean is 0.114 the standard deviation value is 0.0835 that much bigger than the mean. Even though it has bigger standard deviation it can be classified as normal. This is supported by range on the minimum value of -0.2665 and the maximum value of 0.4361. Although the range is high enough, it still can be categorized that data distribution on current return on assets is normally distributed. It is also supported by the current return on assets data has skew ness value of 0.6309 that shows a good number. It means that the data is still on normal condition and do not have any extreme value.



For growth in net operating assets variable which is one of profitability component that has a mean value of  $1.04E+12$ , it means that the average growth of net operating assets of  $1.04E+12$ , and this will influence the future earnings of the firms. Standard deviation value of  $3.83E+12$  is much bigger than the mean. This shows that the data is normally distributed. It can be seen by the minimum value of  $-1.7E+13$  and the maximum value of  $2.21E+13$  which is not far enough. With the skewness of 1.603, it shows that the data do not have any extreme value and normal.

Growth in working capital is one of net operating assets' components, which is the growth in non-cash working capital. Likewise with growth in working capital which has a mean value of  $6.14E+10$ , means that growth in working capital has an ability to influence the future earnings by  $6.14E+10$ . It is consistent with the prior research Fairfield, et.al. (2003) finding that growth in working capital has a small amount of mean compare to growth in net operating assets. Standard deviation of growth in working capital is  $4.67E+10$  that bigger than the mean, but it can be categorized that the data is still in normal distribution. It is supported by the minimum value of  $-2.3E+12$  and the maximum value of  $2.66E+12$ . This shows that the range is not big enough. The skewness value of 1.93 is strengthening that the data collected in growth in working capital variable is normal.

#### 4.2 Auto-Correlation Test

Theoretically, a regression model analysis will give a reliable estimated model parameter providing its fulfillment of the classical assumption of normal linear regression, which is normally assumption and passes the test of auto-correlation. To indicate whether there is auto correlation or not in regression model, there is a correlation matrix among the variables.

**Table 4.2**  
**Correlation Matrix**

	<i>ROA t+1</i>	<i>GrNOAt</i>	<i>ACct</i>	<i>CFOt</i>	<i>GrWCt</i>	<i>ROA t</i>
<i>ROA t+1</i>	1					
<i>GrNOAt</i>	0.15219233	1				
<i>ACct</i>	0.48524196	0.604624	1			
<i>CFOt</i>	0.50211231	0.311493	0.475648	1		
<i>GrWCt</i>	0.04026697	0.077317	0.110065	0.131466	1	
<i>ROA t</i>	0.60109025	0.081606	0.343857	0.306749	0.081594	1

The above correlation matrix presents all variables in the regression model that have a weak relation below 0.6 levels. According to Singgih Santoso (2000), if the value of correlation matrix lies below 0.6 so it is assumed there is no auto-correlation matrix. This auto-correlation matrix also can support Durbin Watson test, which indicates that there is no auto-correlation among variables in the regression model.

### 4.3 Results of Hypothesis Examination

#### 4.3.1 The Ability of Current Accrual and Cash flow from Operations to Predict One-Year-Ahead Return on Assets (Test of $H_1$ )

The result of statistical test of hypothesizing can be seen in tables 4.3 and the regression equation is:

$$ROA_{t+1} = \alpha_0 + \alpha_1 ACC_t + \alpha_2 CFO_t + v_{t+1}$$

This test is to detect the ability of earnings performance, whether accrual ( $ACC_t$ ) and Cash Flow ( $CFO_t$ ) have the ability to predict future earnings.

##### 4.3.1.1 Model Test

To show the percentage of One-Year-Ahead Return on Assets which can be explained by all independent variables (accrual and cash flow), it can be seen in the following table:

**Table 4.3**  
**The Result of Regression Analysis**

<i>Regression Statistics</i>	
Multiple R	0.57497
R Square	0.33059
Adjusted R Square	0.31678
Standard Error	0.07249
Observations	100

The above table present the coefficient correlation (R) is 0.33059. This number shows the relation of pooled data between dependent variable and independent variable that can explain the relation between one-year-ahead return on

assets and two independent variables of 0.57497 that has strong relations. And the value of Adjusted R Square of 0.316788 shows that the variation of dependent variable (one-year-ahead return on assets) can be explained by independent variables (accrual and cash flow). Although it has small value, it means that the independent variables can explain for each 15.81%. It is a high value for each independent variable (accrual and cash flow) to explain the dependent variable (one-year-ahead return on assets), considering that there are many independent variables of one-year-ahead return on assets. From that determination it shows that the regression model is good, it also supported by the F-value that has a significant result of 3.516E-09.

**Table 4.4**  
**Test of One-Year-Ahead ROA Using F-Test**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.25174	0.12587	23.9518	3.51615E-09
Residual	97	0.5097	0.00525		
Total	99	0.76149			

From the table above, it is found that the value of F is 23.9518 with the probability of 3.51615 E-09. The results regarding on the effect of accrual and cash flow on one-year-ahead ROA are strongly significant.

#### 4.3.1.2 Variable Test

The statistical test results of independent variable are presented in following table:

**Table 4.5**  
**Regression of One-Year-Ahead ROA on Accruals and Cash Flow**

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-0.01273198	-1.723705	0.0879471
ACC <sub>t</sub>	6.2015E-14	3.372104	0.00107268
CFO <sub>t</sub>	2.16126E-13	3.712782	0.00034227

#### 4.3.1.2.1 Accrual

ACC<sub>t</sub> (Accrual component at time t) has a significant impact on the one-year-ahead return on assets, so it means that HO is rejected. This conclusion is supported by the P-value for the ACC<sub>t</sub> in the regression output which is equal to 0.00107268.

Previous research done by Sutopo (2001) also analyzes the ability of accrual and cash flow to predict future earnings resulting that accrual and cash flow has significant value of 0.001. It means that accrual and cash flow has significant impact with future earnings. Based on the regression test, it shows that coefficient on accruals is 6.2015E-14. Previous study by Sutopo (2001) examine the persistence of accrual and cash flow by looking at the coefficient value, that resulted the coefficient of accrual is 0.73 that is less than the coefficient of cash flow 0.75 shows that accrual has less ability to predict future earnings. But, according to Dechow (1994) accrual is predicted to improve earnings ability to measure firms' performance. The importance of accruals is to increase the shorter performance measurement system, the greater volatility on firm's working capital requirements, investment, and financing activities. The view that accruals will improve the ability of earnings to measure firm performance is expressed in FASB stating that information about enterprise earnings

and its component measured by accrual accounting generally provides a better indication of enterprise performance than information about current cash receipts and payments.

Accrual has good indication to predict future earnings because the primary role of accrual is to overcome problems by measuring firms' performance; when the firms are in continuous operation and also accruals include in the component of profitability. However, the use of accrual introduces a new set of problems that management typically has some discretion over the recognition of accrual. This discretion can be used by management to signal their private information to manipulate accrual. The concern of management will use their information advantage to opportunistically manipulate accrual which is consistent with the allowable set of accrual being limited by accounting conventions (Watts and Zimmerman, 1986). Because of this accrual will be a less reliable measurement of firms' performance, and cash flow will become preferable.

#### 4.3.1.2.2 Cash Flow

$CFO_t$  (Cash Flow from Operations at time t) has a significant impact on the one-year-ahead return on assets or in another word cash flow has ability to predict future earnings. It means that  $H_0$  is rejected. This conclusion is supported by the P-value for the  $CFO_t$  in the regression output which is equal to 0.00034227.

The previous study done by Sloan (2001) analyzes about the ability of accrual and cash flow to predict future earnings. The result shows that accrual and cash flow

have the significant value of 0.001. It means that accrual and cash flow have significant impact with future earnings. Cash flow has a strong effect on one-year-ahead return on assets. This can be seen by the coefficient value of  $CFO_t$  2.16126E-13. It is consistent with the research conduct by Sloan (1996) resulting the coefficient of cash flow of 0.855 and accrual of 0.765. It means that cash flow has more ability to predict future earnings than accrual. Consistent with Dechow (1994) he also finds that cash flow has an ability to predict future earnings has resulted significant value of cash flow is 0.001. The determination shows that the cash flow component has an ability to predict future earnings. He also finds that the coefficient result on cash flow as predictable to earnings of 0.328. Many financial analysts consider operating cash flow as a better indication to corporate financial performance than accrual, since it is less subject to distortion from differing accounting practices. Bowen, et.al., (1986) stated that cash flow can predict the failure, the risk, giving of loan, evaluate the company, and give the additional information to stock markets. According to Institutional Investors (August 1988) a growing number of portfolio managers and analysts insist that cash flow is a more meaningful measure of a company's value than reported earnings. Bernstein (1993) states that cash flow from operations as a measure of performance is less subject distortion than net income figure. This is because accrual systems, which produce the income number, relies on accrual, deferrals, allocation, and valuation, all of which involve higher degrees of subjectivity than what enters the determination of cash flow. That is why analysts prefer to use cash flow from operation to predicted future earnings.

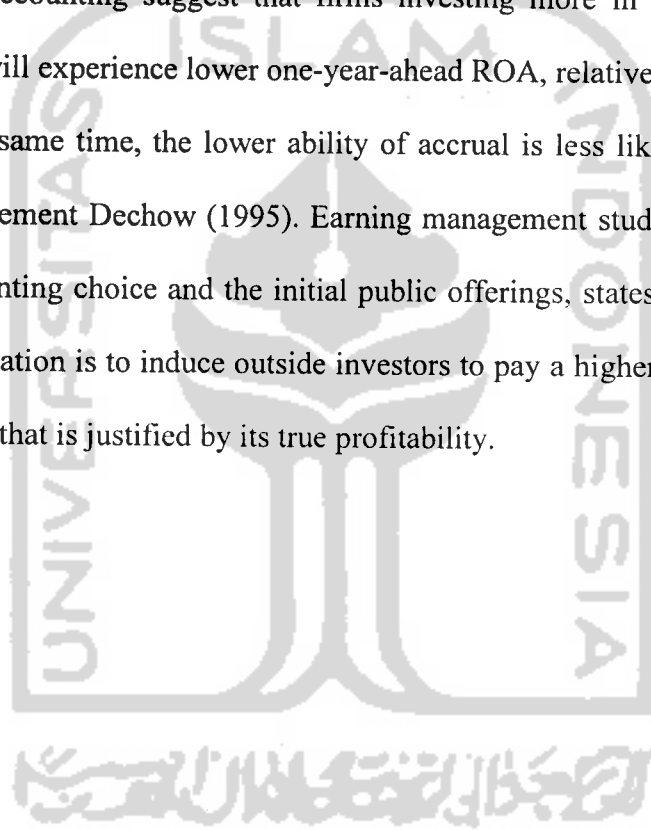
Based on the regression test, it shows that the coefficient of accrual is  $6.2015E-14$  that is smaller comparing with cash flow of  $2.16126E-13$ . This reflects that earnings performance that is attributable to the accrual component of earnings has less ability than earnings performance attributable to the cash flow components of earnings to predict future earnings. It is consistent with Dechow, et.al. (1995), Sloan (1996), Sutopo (2001) finding about examining the persistence of accrual and cash flow. They find that the accrual components of current profitability are less persistence than the cash flow components. Sutopo (2001) examines the lower persistence of accrual by comparing the mean of earning variance of the high accrual portfolio and the high cash flow portfolio. The results of the analysis show that the paired difference of mean is 714.9975 (t-statistic 12.03) which is significant at the 0.01 level. This result provides evidence supporting the hypothesis of the lower persistence of earnings performance attributable to the accrual component of earnings. According to Fairfield, et.al. (2003), the lower persistence of accrual is more likely the results of conservative bias in accounting and or the lower rate of economic profits that results from diminishing marginal returns to new investment opportunities.

To the extent that the lower ability of accrual arises because accrual are component of Growth in net operating assets, as well as accrual, we expect both diminishing marginal returns on investment Stigler (1963) and conservative accounting Penman (2001) to contribute to this negative incremental relation between future profitability and growth in net operating assets, but it is not clear whether the



lower persistence of accrual documented in Sloan (1996) is attributable to its role as a component of profitability or to its role as a component of growth in net operating assets. It is more likely to results from the conservative bias in accounting principles or the lower rate of economics profit that results from diminishing marginal return to new investment opportunities, or both. Thus, diminishing marginal returns and conservative accounting suggest that firms investing more in net operating assets during year  $t$  will experience lower one-year-ahead ROA, relative to other firms.

At the same time, the lower ability of accrual is less likely to results due to earning management Dechow (1995). Earning management study that has a relation with the accounting choice and the initial public offerings, states that presumed goal of this manipulation is to induce outside investors to pay a higher price for the firm's common share that is justified by its true profitability.



### 4.3.2 The Ability of Current Accrual and Cash flow from Operations to Predict One-Year-Ahead Return on Asset after Controlling Growth in Net Operating Assets (Test of H<sub>2</sub>)

The result of statistical test can be seen at tables 4.4 and the regression equation is:

$$ROA_{t+1} = \beta_0 + \beta_1 GrNOA_t + \beta_2 ACC_t + \beta_3 CFO_t + v_{t+1}$$

This test is to detect the ability in earnings performance, whether accrual (ACC<sub>t</sub>) and Cash flow (CFO<sub>t</sub>) have equal ability to predict future earnings after controlling with Growth in Net Operating Assets (GrNOA<sub>t</sub>).

#### 4.3.2.1 Model Test

To show the percentage of One-Year-Ahead Return on Assets which could be explained by all independent variables (Accrual, Cash flow and Growth in Net Operating Assets), it can be see in the table below:

**Table 4.6**  
**The Result of Regression Analysis**

<i>Regression Statistics</i>	
Multiple R	0.60123
R Square	0.36148
Adjusted R Square	0.34152
Standard Error	0.07117
Observations	100

The above table presents the coefficient correlation (R) is 0.36148. This means that 36.148% of the total variation in one-year-ahead return on assets can be explained by accrual, cash flow and growth in net operating assets. While the value of Adjusted R Square of 0.34152 shows that variation of dependent variables (one-year-ahead return on assets) can be explained by independent variables (accrual, cash flow, and growth in net operating assets). Although it has small value but it means that the independent variables can explain for each 11.384%, it is a high value for each independent variables (accrual, cash flow, and growth in net operating assets) to explain the dependent variables (one-year-ahead return on assets), considering that there are many independent variables of one-year-ahead return on assets. From that determination shows that the regression model is good, It is also supported by the F-value that has a significant result of 2.14562E-09.

**Table 4.7**  
**Test of One-Year-Ahead ROA Using F-Test**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	0.275263	0.091754	18.11575	2.14562E-09
Residual	96	0.486229	0.005065		
Total	99	0.761492			

From the table above, it is found that the value of F is 18.11575 with the probability of 2.14562E-09. The results regarding on the effect of Accrual, Cash flow and Growth in Net Operating Assets on One-Year-Ahead ROA are strongly significant.

Comparing with the F-test of regression model 1 that has a significance of 3.51615E-09, it shows that after adding growth in net operating assets as controlling variable, the regression model 2 has resulted of F-test significance of 2.14562E-09. From those results, we can see that the significance of regression model 2 is smaller than the significance of regression model 1. This means that regression model 2 give the better result in predicting future earnings.

#### 4.3.2.2 Variable Test

The statistical test results of independent variable are presented in following table:

**Table 4.8**  
**Regression of One-Year-Ahead on Accrual and Cash flow with Growth in Net Operating Assets as Controlling Variable**

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-0.009577	-1.29458	0.1985704
ACC <sub>t</sub>	9.165E-14	4.0382554	0.0001084
CFO <sub>t</sub>	2.0911E-13	3.6531357	0.0004222
GrNOA <sub>t</sub>	-5.21E-15	-2.154977	0.0336651

##### 4.3.2.2.1 Accrual

The table above showing P-value for the ACC<sub>t</sub> is equal to 0.0001084. Regression outputs indicate that the P-Value ACC<sub>t</sub> is significant, so H<sub>0</sub> is rejected. It means that accrual has impact on the one-year-ahead current on assets after controlling with growth in net operating assets.

The regression test shows that after controlling with  $GrNOA_t$ ,  $ACC_t$  has significant value of 0.0001084 that has a greater value comparing with regression 1 that accrual has significant value of 0.00107268. This means that accrual has more ability to predict future earnings after controlling with growth in net operating assets. It is supported by the coefficient value of accruals  $9.165E-14$  that is greater than the accruals coefficient value of  $6.2015E-14$  in regression 1. This is might because accrual is component of growth in net operating assets.

The regression test shows that after controlling with  $GrNOA_t$ ,  $ACC_t$  still has smaller coefficient value of  $9.15E-14$  than  $CFO_t$  coefficient value of  $2.0911E-13$ . It means that accrual still has less ability to predict future earnings. Following Mc Nichols (2000), he states that accrual model should be able to control growth to give better predictable in earnings. The research conducted by Fairfield, et.al. (2003) about the ability of accrual after controlling by growth in net operating assets has the coefficient value of -0.06 significance of 0.001. It has a negative impact because according to Fairfield, et.al. (2003) accrual has negative significant correlation with future earnings. Accrual is component of growth in net operating assets. as well as accrual, we expect both diminishing marginal returns on investment (Stigler 1963) and conservative accounting (Penman 2001) contribute to this negative incremental relation between future profitability and growth in net operating assets

#### 4.3.2.2.2 Cash Flow

$CFO_t$  (Cash Flow from Operations at time  $t$ ) has a significant impact on the one-year-ahead return on assets or in another word cash flow has an ability to predict future earnings after controlling with growth in net operating assets. So, it means  $H_0$  is rejected. This conclusion is supported by the P-value for the  $CFO_t$  in the regression output which is equal to 0.0004222.

The regression test show that after controlling with  $GrNOA_t$ ,  $CFO_t$  has a significant value of 0.004222 than has lesser value compare to regression 1 that cash flow has significant value 0.00034227. This means that cash flow has less ability to predict future earnings after being controlled with growth in net operating assets. It is support by the cash flow coefficient value of 2.0911E-13 that is lesser than the cash flow coefficient value of 2.16126E-13 in regression 1. Previous study done by Fairfield, et.al. (2003) that analyzes about the persistence of accrual and cash flow to predict future earnings after controlling with Growth in net operating assets, has result that accrual, and cash flow has a significant value of 0.001. It means that accrual and cash flow has significant impact with future earning after controlling with growth in net operating assets. Research conducted by Fairfield, et.al. (2003) shows that the coefficient of cash flow after controlling with growth in net operating assets has the value of 0.78, which is greater than accrual coefficient of -0.06. Cash flow can provide better ability to predict future earnings. According to Hastuti (1997) who examines about the information contained in the cash flow, she finds that cash flow has strong information inside to give better performance of the company.

#### 4.3.2.2.3 Growth in Net Operating Assets

The table above showing the P-value for GrNOA<sub>t</sub> (Growth in Net Operating Assets at year t) is equal to 0.0336651. Regression output indicates that the P-Value GrNOA<sub>t</sub> is significant, so H<sub>0</sub> is rejected. It means that Growth in net operating assets has impact on the one-year-ahead return on assets.

From the determination, it shows that growth in net operating assets has an ability to predict future earnings. It can be seen by the coefficient result of -5.21E-15. However, future profitability depends not only on current profitability but also growth in net operating assets (Ohlson, 1995). Previous study by Fairfield, et.al. (2003) shows that after accrual and cash flow control with growth in net operating assets, GrNOA<sub>t</sub> has a coefficient of -0.04 significance in 0.001. It has the negative impact, meaning that growth in net operating assets will decrease future earnings.

After being controlled by using growth in net operating assets accrual has more significant impact on future earnings than before being controlled with growth in net operating assets. But, cash flow has less significant impact on future earnings after it is controlled with growth in net operating assets. It is clear that growth in net operating assets do not have much influence on the ability of cash flow to predict future earnings. But from the regression show that accrual still has less ability than cash flow to predict future earnings after it is controlled with growth in net operating assets. It not consistent with conjectures in prior research conducted by Fairfield, et.al. (2003). Fairfield, et.al. (2003) find that after controlling growth, accrual and

cash flow components of earnings have equal persistence. Accrual and cash flow have coefficient of 0.111 and 0.112 and significance of 0.001. According to the Fairfield, et.al. (2003) from those results it can be conclude that accrual and cash flow has equal persistence to predict future earnings. They argue that accrual models should control for growth to avoid incorrect conclusion about earning management. This regression shows that after controlling with  $GrNOA_t$  makes the  $ACC_t$  has less ability than  $CFO_t$  to predict future earnings. It has different results because of different adoption of Generally Accepted Accounting Principle and management behavior. So this will impact on the different result in Indonesian case.

It is obvious that the lower ability of accrual to predict future earnings is not influence by growth in net operating assets. But, it is because of earning management. According to Sutopo (2001) who also tests the effect of earning management on the lower persistence of the earning performance, he analyzes the unexpected standardize total accrual effecting on the mean earning variance also size variable, which is the focus of the study. Regression results show that coefficient of UAC and controls size is significant (0.001 and -0.000). From that result it shows that earning management has a significant effect on the persistence of earnings performance.



### 4.3.3. The Ability of Current Return on Assets, Accrual and Growth in Working Capital to Predict One-Year-Ahead Return on Assets (Test of H<sub>3</sub>)

The result of statistical test can be seen at tables 4.4 and the regression equation is:

$$ROA_{t+1} = \delta_1 + \delta_2 ROA_t + \delta_3 ACC_t + \delta_4 GrWC_t + u_{t+1}$$

The regression is to detecting the ability of current return on assets, accrual, and growth in working capital to predict one-year-ahead return on assets.

#### 4.3.3.1 Model Test

To show the percentage of One-Year-Ahead Return on Assets which can be explained by all independent variables (Accrual, Growth in Working capital, and Current Return on Assets), it can be seen in the following table:

**Table 4.9**  
**The Result of Regression Analysis**

<i>Regression Statistics</i>	
Multiple R	0.67490
R Square	0.45550
Adjusted R Square	0.43848
Standard Error	0.06572
Observations	100

The above table presents the coefficient correlation (R) is 0.45550. This number shows the relation of pooled data between dependent variables and independent variables that can explain the relation between one-year-ahead return on

assets and three independent variables of 0.67490 has strong relations. And the value of Adjusted R Square of 0.43848 shows the variation of dependent variables (one-year-ahead return on assets) can be explained by independent variables (accrual, growth in working capital and current return on assets). Although it has small value, it means that the independent variables can explain for each 14.616%. It is a high value for each independent variable (accrual, growth working capital, and current return on assets) to explain the dependent variable (one-year-ahead return on assets), considering that there are many independent variables of one-year-ahead return on assets. From the determination, it shows that the regression model is good and it is also supported by the F-value that has significant result of 1.14531E-12.

**Table 4.10**  
**Test of One-Year-Ahead ROA Using F-Test**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	0.346857	0.115619	26.76914	1.14531E-12
Residual	96	0.414635	0.004319		
Total	99	0.761492			

From the table above, it is found that the value of F is 26.76914 with the probability 1.14531E-12. The results regarding the effect of Accrual, Growth in Working Capital, and Current Return on Assets on One-Year-Ahead ROA are strongly significant.

#### 4.3.3.2 Variable Test

The statistical test results of independent variable are presented in following table:

**Table 4.11**  
**Regression of One-Year-Ahead Return on Assets with Current Return on Assets**  
**Accrual and Growth in Working Capital**

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-0.02125655	-3.064966	0.0028266
ROAt	0.525144013	6.2260173	1.257E-08
ACCt	6.1779E-14	3.9403957	0.0001544
GrWCt	-6.6609E-15	-0.467197	0.6414175

Based on table above, the intercept value of -0.02125655 shows that when the growth in working capital, accrual, current return on assets still on zero value, the value of one-year-ahead return on assets will be decreased by 0.02125655. This intercept has a significant value of 0.0028266 so it can be categorized as moderate significant or close to strong significant. With intercept variable which is significant, estimated model above can be categorized as a regression model which is not good enough. Because of that, regression equation will be passed to point 0.0 to make the regression equation better, beside there is no theory supporting those explanation. So, there is a revision of the regression test.

**Table 4.12**  
**The Result of Regression Analysis after Revision**

<i>Regression Statistics</i>	
Multiple R	0.63478
R Square	0.40295
Adjusted R Square	0.38033
Standard Error	0.06850
Observations	100

The above table presents the coefficient correlation (R) is 0.40295. That is lower than before revision (R before revision is 0.45550). It shows the relation of pooled data between dependent variables and independent variables. And the value of Adjusted R Square of 0.40295 that is also lower than before revision (Adj R before revision is 0.43848) that shows variation of dependent variable (one-year-ahead return on assets) can be explained by independent variables (accrual, growth in working capital and current return on assets). Although it has small value, it means that the independent variables can explain for each 13.431%, it is a high value for each independent variable (accrual, growth working capital, and current return on assets) to explain the dependent variable (one-year-ahead return on assets), considering that there are many independent variables of one-year-ahead return on assets. Even though the number of independent variables is smaller than before revision that each variable can explain for 14.616% but the regression model is also good, supported by F-value that has a significant result of 7.37925E-11.

**Table 4.13**  
**The Result of F-Test after Revision**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	0.3072196	0.102407	21.821705	7.37925E-11
Residual	97	0.4552089	0.004693		
Total	100	0.7624285			

Based on the table 4.7, it shows the F-value has a significant result of 7.37925E-11 that has lower of significance than before revision (F-test before revision is 1.4531E-12). It means that the test model before revision is quite good than the test model after revision. The results regarding on the effect of accrual, growth in working capital, and current return on assets on one-year-ahead ROA are still strongly significant.

**Table 4.14**  
**Revision of T-Test Result**

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0	#N/A	#N/A
ROA t	0.46104999	5.41294	4.48E-07
ACCt	5.8673E-14	3.5976995	0.000507
GrWCt	-1.083E-14	-0.732002	0.465932

#### 4.3.3.2.1 Return on Assets

The table above showing P-value for the  $ROA_t$  (Return on Assets at year t) is equal to 4.48E-07. Regression output indicates that the P-Value  $ROA_t$  is significant, so  $H_0$  is rejected. It means that current return on assets has impact on the one-year-ahead return on assets.

ROA<sub>t</sub> can be said as current earnings. Earning is a good variable to predict future earnings because according to Dechow (1993) earning as the summary measure of firm performance under the accrual basis of accounting. Therefore, ROA<sub>t</sub> has a strong significant effect to predict future earning. With Current ROA can explain what will happens today depending on what has happened yesterday (Trend), or current ROA is adopt the Martingale effect not Random walk. From the regression, shows the coefficient value of current return on assets is 0.46104999. Previous research done by Fairfield, et.al. (2003) that regresses the current return on assets to predict future earnings has a significant value of 0.001 and coefficient value of 0.79. It means that current return on assets has an impact with future earnings.

By giving the current levels of profitability, it is defined as current return on assets will increase the one-year-ahead return on assets. From the regression, it shows that current return on assets has a big impact to predict future earnings. Consistent with Wijaya (1999) that find that current return on assets is a good variable to predict future earnings. This can be shown from the regression result of current return on assets that has a significant value of 0.001.

From the table above, it shows that current return on assets is a better predictor to calculate the future earnings, and has positive correlation with future earnings means that current return on assets can increase future earnings. So current return on assets variable can be used by internal and external party of company to give better prediction of the future earnings, because current ROA can explain what will happens today depending on what has happened yesterday (Trend).

#### 4.3.3.2.2 Accrual

The table above shows that P-value for the  $ACC_t$  is equal to 0.00050. Regression outputs indicate that the P-Value  $ACC_t$  is significant, so  $H_0$  is rejected. It means that accrual has impact on the one-year-ahead current on assets.

Accrual is related with earning management. Schipper (1998) defines earning management as purposeful intervention in the external financial reporting purpose, with the intent of obtaining some private gain that done by management. From the regression, it shows that accrual has a coefficient value of  $5.8673E-14$ . This is different with previous research conduct by Fairfield, et.al. (2003) finding that after having regressed with the current return on assets and growth in working capital, accrual components have coefficient value of -0.06 significance of 0.001. It shows that accrual has a negative correlation with future earnings, but in this regression accrual do not have incremental negative correlation with future profitability.

Accrual has positive correlation with future earnings. It can be shows by the coefficient value of  $5.8673E-14$ . The positive sign of accrual might be happened because of different management behavior. According to the explanation above, we know that accrual is related to earning management. Accrual has relationship with management intervention. The use of accrual introduces a new set of action that management typically has some discretion over the recognition of accrual. This discretion can be used by the management to signal their private information to manipulate accrual. So the different management behavior in Indonesian case and the

previous research makes the accrual variable has positive association with the future profitability

From this regression we know that accrual can be a good variable to predict future earnings because accrual has significant impact and positive correlation with future earnings. Management can use accrual to calculate the future ROA, because by using accrual as a variable it can give a better result to predict future earnings.

#### **4.3.3.2.3 Growth in Working Capital**

$GrWC_t$  (Growth in Working Capital at time  $t$ ) has not a significant impact on the one-year-ahead return on assets, so it means that  $H_0$  is fail to reject. This can be shown by the P-value of  $GrWC_t$  0.465932. This means that growth in working capital does not have any effect on the one-year-ahead return on assets.

Future profitability depends not only on current profitability but also growth in net operating assets (Ohlson, 1995). Growth in working capital is one of the components of growth in net operating assets. According to Fairfield, et.al. (2003) component of growth in net operating assets can give influence toward future earnings. From the statement we, regresses growth in working capital as the component of growth in net operating assets with accrual and current return on assets to predict future earnings. But from the regression result growth in working capital do not have any influence toward future earnings. This result is not consistent with previous study conducted by Fairfield, et.al. (2003) finding that growth in working capital as component of growth in net operating assets will have influence and

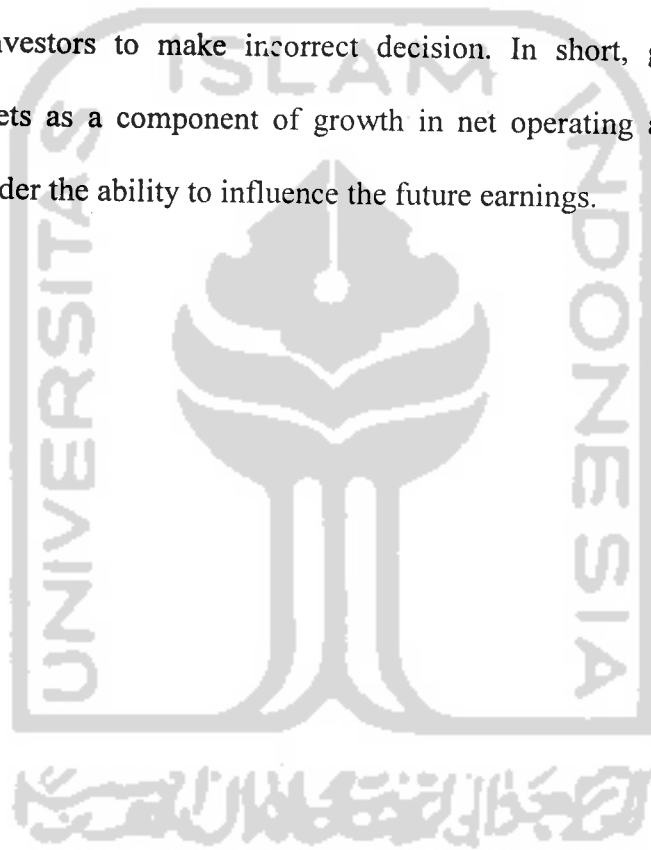


negative correlation with future earning with the regression coefficient result of -0.04 with t-stat -5.25 and significance of 0.001.

In this regression growth in working capital has not significant effect on the future earnings because growth in working capital also related with earning management. According to the previous explanation stated that accrual has a relationship with earning management, it will make growth in working capital has no effect on future earnings because the ability to influence the future earnings has been represent by accrual. Even though growth in working capital do not have impact on future earnings, but the coefficient of growth in working capital shows  $-1.083E-14$ , means that growth in net operating assets will reduce future earnings. It can be explained that  $GrWC_t$  is one of the component of  $GrNOA_t$ . The firms that have almost similar  $ROA_t$ , that invest more heavily in operating assets during year t, have lower  $ROA_{t+1}$  relative to similar firms that invest less heavily in operating assets during year t.

The above table shows that growth in working capital variable cannot predict future earning because growth in working capital do not has any significant impact on future earnings. Being selective in choosing another variable that can represent the ability to predict future earnings is important to get better results for the next research. Growth in long term operating assets can be used by the next research to predict future earnings. According to previous research done by Fairfield, et.al. (2003) found that growth in long term operating assets as a component of growth in net operating assets has a significant effect with future earnings. This is because

according to Ohlson (1995), future profitability and firm value depend on growth in net operating assets as well as current profitability. Growth in operating assets can disaggregate into two components i.e. accrual and growth in long term net operating assets. Buyers appears to overvalue and fail to understand the implication of Growth in long term net operating assets relative to its ability to predict future earning, so it will make investors to make incorrect decision. In short, growth in long term operating assets as a component of growth in net operating assets can be a good variable consider the ability to influence the future earnings.



## CHAPTER V

### CONCLUSIONS, LIMITATIONS AND RECOMMENDATION

#### 5.1 Conclusions

The findings in this study support the empirical discussions of the ability of accrual and cash flow component of current earnings for Indonesian case. And study the impact of growth toward accrual and cash flows for future profitability.

##### 5.1.1 The Ability of Current Accrual & Cash flow from Operations to Predict One-Year-Ahead Return on Assets.

This study proves that accrual and cash flow components of earnings have significant impact with future earnings means that accrual and cash flow has an ability to predict future earnings. In this study accrual has less ability to predict future earnings than cash flows, because accrual is related to earning management. The use of accrual introduces a new set of actions that management typically has some discretion over the recognition of accrual. This discretion can be used by management to signal their private information to manipulate accrual. The lower persistence of accrual might happen because of the results from conservative bias in accounting and/ or the lower rate of economic profits that results from diminishing marginal returns to new investment opportunities.

### **5.1.2 The Ability of Current Accrual and Cash flow from Operations to Predict One-Year-Ahead Return on Asset after Controlling Growth in Net Operating Assets.**

The results show that accrual, cash flows, and growth in net operating assets have significant impact on future earning. Having controlled by growth in net operating assets accrual has a more significant impact to future earnings than before, and cash flow has less significant impact on future earnings after it is controlled by growth in net operating assets. But, from the regression it show that accrual still has less ability than cash flow to predict future earnings after it is controlled by growth in net operating assets. It is clear that growth in net operating assets do not have much influence on the ability of accrual to predict future earnings. So, it is obvious that the lower ability of accrual to predict future earnings is not influence by growth in net operating assets but because of earning management.

### **5.1.3 The Ability of Current Return on Assets, Accrual and Growth in Working Capital to Predict One-Year-Ahead Return on Assets.**

This study proves that, current profitability, and accrual have significant impact on future earnings while growth in working capital do not. Current return on assets has a positive correlation with future earnings, it means that current return on assets can increase future earnings. So current return on assets variable can be used by internal and external party of company to give better predict the future earnings, because current ROA can explained what will happen today depending on what has happened yesterday (Trend).

Accrual can be a good variable to predict future earnings because it has significant impact and positive correlation with future earnings. This results is different with the previous research that find that accrual has a negative association with future earning because accrual are related with earning management. Accrual has relationship with management intervention. So with has different management behavior in Indonesian case with the previous research makes the accrual variable has positive association with future profitability.

From the findings, it shows that growth in working capital do not has significant effect on future profitability. This happen because growth in working capital is also related with earning management. According to the previous explanation stating that accrual has a relationship with earning management, so it will make growth in working capital has no effect with future earnings because the ability to influence the future earnings has been represent by accrual. Being selective to choose another variable that can represent the ability to predict future earnings is important to get better results for the next research. Growth in long term operating assets can be used for the next research to predict future earnings. Buyers appears to overvalue and fail to understand the implication of growth in long term net operating assets relative to its ability to predict future earnings, so it will make investors to make incorrect decision. So growth in long term operating assets as a component of growth in net operating assets can be a good variable to consider the ability to influence the future earnings.

## **5.2 Limitations**

1. This research only uses manufacturing firms at the research population, while the choice is intended to reduce industry effect that may distort the analysis. The researches finding may not be able to generalize to other industries.
2. This study does not cover observation using specific industry characteristic due to the limit of sample. Some sub sectors in this manufacturing classification are classified into one sector, because of the small number of firms manufacturing sub sectors. According to Indonesian capital market Directory 2002, July 2002, there are 157 manufacturing firms classified into 20 lines of business. To separate samples based on the line business will cause the smaller number of samples.

## **5.3 Recommendation**

1. The future study may use sample for any type of industry, not only restricted to manufacturing firms. However, researchers should be careful of the industry effect that may distort the analysis.
2. The future study should also separate the firms into more specific characteristics by using sub sector data. Prior research show that the relative importance of accrual and cash flow depend on some specific characteristic such as industry membership, and operating cycle (Wild et al., 2001)

## BIBLIOGRAPHY

1. Ball, and Khotari. (1994), *Financial Statement Analysis*, McGraw-Hill.US.
2. Ball, R., and R. Watts. (1972), "Some time-series properties of Accounting Income" *Journal of Finance*, (June), Pp.663-82
3. Barth, M.D,Cram., and K. Nelson. (2001), "Accruals and the prediction of future cash flow" *The Accounting Review*, Vol.76 (January), Pp.27-58
4. Bernstein, L, A. (1989) *Analysis of Financial Statement*, third edition, Dow Jones-Irwin.
5. Bowen, Robert, M.,David Burgstahler., and Lane A.Daley. (1987), "The incremental information content of accrual versus cash flow " *The Accounting Review* Vol.61, Pp.723-727
6. Collins, D., and P. Hribar. (2000),"Earning-based and accrual-based market anomalies: One effect or two?" *Journal of Accounting and Economics*,Vol 29 (October), Pp.101-123
7. Dechow, Patricia M., Richard G.Sloan., and Amy P.Sweeney.(1995), *Detecting earning management*, Working paper University of Pennsylvania, Philladelphia, PA.
8. Dechow, Patricia M (1994), "Accounting earning and cash flows as measure of firm performance: The role of Accounting accrual" *Journal of Accounting and Economics*, No.18, Pp.3-42

9. Finger, C. (1994), "The ability of earnings to predict future earnings and cash flow" *Journal of Accounting Research*, Vol.32, No.2 (Autumn), Pp.211-223
10. Fairfield, P., John Scott Whisenant, T. Yohn. (2003), "Accrued Earnings and Growth: Implications for Future Profitability and Market Mispricing" *The Accounting Review*, Vol.78, No.1, Pp.353-371
11. Feltham, G., and J. Ohlson. (1995), "Valuation and Clean Surplus Accounting for Operating and Financial Activities" *Contemporary Accounting Research*, No.11 (Spring), Pp.689-731
12. Gantowati, Evie. (1998), *Hubungan antara operating cash flow and accrual dengan Return Saham: Studi pada Bursa Efek Jakarta*. Msi Thesis Gadjah Mada University (Unpublished)
13. Hastuti, Ambar Woro. (1997), *Pengaruh Publikasi Laporan Arus Kas terhadap Volume Perdagangan Saham di Bursa Efek Jakarta*, Msi Thesis Gadjah Mada University (Unpublished)
14. John, J, Wild. (2001), *Financial Statement Analysis*, 8<sup>th</sup> edition. McGraw-Hill
15. Livnat, Joshua., and Paul Zarowin. (1990), "The incremental information content of cash-flow components," *Journal of Accounting and Economics*, No.13, Pp.25-46
16. McNichols, M. (2000), "Research Design Issue in Earnings Management Studies" *Journal of Accounting and Public Policy*, No.19 (4-5), Pp.313-345



17. Ohlson, J. (1995), "*Earnings, book values, and dividend in equity valuation*," *Contemporary Accounting Research*, No.11 (Spring), Pp.661-687
18. Ou, J., and S. Penman. (1989), "*Financial statement analysis and the prediction of stock return*," *Journal of Accounting and Economics*, No.11 (November), Pp.144-315
19. Penman, S (2001), *Financial Statement Analysis and Security Valuation*, second edition Boston, MA: McGraw-Hill
20. Schipper. (1998), "*Earnings Management Studies*," *The Accounting Review*, Pp.92
21. Sloan, R. (1996), "*Do stock prices fully reflect information in accruals and cash flow about future earning?*" *The Accounting Review*, No.71 (July), Pp. 289-315
22. Sutopo, Bambang. (2001). "*The Relative persistence of earning performance attributable to accrual versus cash flow components of earning and earning management*," *Jurnal Riset Akuntansi, Manajemen, Ekonomi*, Pp.33-51
23. Watts, R., and J. Zimmerman. (1986), *Positive Accounting Theory*, Englewood Cliffs, NJ: Prentice Hall
24. Wijaya, Kiatten. (1999) "*The reflection of accruals and cash flow in future earnings*" Msi Thesis Gadjah Mada University (Unpublished)

25. Wilson, G.P. (1987), "*The incremental information content of the accrual and funds component of earnings after controlling for earnings,*" *The Accounting Review*, No.2, Pp.293-322
26. Xie, H. (2001). "*The mispricing of abnormal accruals,*" *The Accounting Review*, No.76 (July), Pp.357-373





**APPENDIX I**

No	COMPANY NAME	YEAR	ROA <sub>t+1</sub>	ROA <sub>t</sub>	ACC <sub>t</sub>	CFO <sub>t</sub>	GrWC <sub>t</sub>	GrNOA <sub>t</sub>
1	PT. Ades Waters Indonesia Tbk	2003	-0.038307	0.026361	-412162000	-3.112E+10	-31162000	2.1215E+12
2	PT. Argha Karya Prima Industri Tbk	2003	0.025609	0.089021	7.087E+11	1.8093E+11	12820105000	2.61376E+12
3	PT. Alakasa Industrindo Tbk	2003	0.018594	0.436105	2.975E+09	6477455000	-1820232000	1.43214E+11
4	PT. Asahimas Flat Glass Tbk	2003	0.078508	0.093984	6.352E+11	1.9997E+11	46954811000	2.33346E+12
5	PT. APAC Citra Centerex Tbk	2003	-0.054958	-0.029781	-5.091E+11	-7.055E+10	23818362000	4.18317E+12
6	PT. Aqua Golden Mississippi Tbk	2003	0.087329	0.091543	3.474E+11	6.7096E+10	-1.2307E+11	5.702E+11
7	PT. Argo Pantes Tbk	2003	-0.014514	0.122305	-3.054E+09	-3.889E+10	3054000000	3.59439E+12
8	PT. Sepatu Bata Tbk	2003	0.122809	0.165748	5.569E+10	5.126E+10	2234301000	2.28906E+11
9	PT. BAT Indonesia Tbk	2003	-0.066834	0.175238	-1.163E+11	-4.259E+10	-3300438126	1.2515E+12
10	PT. Primarindo Asia Infrastruktur Tbk	2003	-0.266505	-0.205833	-2.707E+11	-8.564E+10	37410888000	2.21339E+11
11	PT. Branta Mulia Tbk	2003	0.030351	0.049331	7.043E+11	1.7707E+11	-1.321E+11	2.85099E+12
12	PT. Berlina Tbk	2003	0.032903	0.103942	7.938E+10	3.9422E+10	-3339135000	2.38073E+11
13	PT. Barito Pacific Timber Tbk	2003	0.011165	-0.033464	8.01E+11	1.6295E+11	92337142000	1.12642E+13
14	PT. Daya Sakti Unggul corporation	2003	-0.033181	0.042697	-1.738E+11	2.394E+10	3029091000	6.32754E+11
15	PT. Darya Varia Laboratoria Tbk	2003	0.106234	0.141384	6.289E+10	6.1499E+10	-1.0355E+10	5.44299E+11
16	PT. Eterindo Wahanatama Tbk	2003	-0.001266	-0.005507	1.773E+10	9.1418E+10	2.08357E+12	5.53346E+12
17	PT. Cahaya Kalbar Tbk	2003	0.009647	-0.011732	1.408E+11	1.4865E+10	-5.7441E+10	1.85397E+11
18	PT. Gudang Garam Tbk	2003	0.080186	0.104036	1.685E+12	1.0159E+11	2.7435E+11	1.32349E+13
19	PT. Goodyear Indonesia Tbk	2003	0.033273	0.032108	2.219E+11	3.9589E+10	-626603000	5.37383E+11
20	PT. Hanjaya Mandala Sampoerna Tbk	2003	0.109893	0.13308	5.615E+11	1.0666E+11	2.22982E+11	9.42746E+12

21	PT. Kageo Igar Jaya Tbk	2003	0.076048	0.077759	7.916E+10	4.4587E+10	4533426000	3.53154E+11
22	PT. Intikeramik Alamasari Industry Tbk	2003	-0.024909	-0.027818	-2.499E+11	2.12E+10	-2.0973E+10	1.75E+12
23	PT. Jembo Cable company Tbk	2003	-0.013537	0.014079	-1.036E+11	-461510000	40098965000	1.59666E+11
24	PT. Jakarta Kyoel Steel Works Tbk	2003	0.001260	0.030406	1.239E+11	9877761869	7230878000	7.24919E+11
25	PT. Karwell Indonesia Tbk	2003	-0.032741	-0.011625	-3.672E+10	-1.302E+10	3388000000	6.21502E+11
26	PT. Kabelindo Murni Tbk	2003	-0.064573	-0.033153	-9.738E+10	-473189051	-3870405000	4.99548E+11
27	PT. Kedawang Setia Industrial Tbk	2003	-0.043783	-0.001266	-1.308E+11	-2.27E+10	-2.8526E+10	6.97114E+11
28	PT. Kedaung Indah Can Tbk	2003	-0.027811	-0.002698	-6.489E+10	-2.583E+10	-3560363000	4.23601E+11
29	PT. Komatsu Tbk	2003	0.044191	0.044096	1.386E+11	3.7754E+10	20171507000	5.95865E+11
30	PT. Multi Bintang Indonesia Tbk	2003	0.137622	0.124273	1.897E+11	1.0356E+11	-1.5995E+10	6.54306E+11
31	PT. Mulia Industrindo Tbk	2003	-0.019882	0.059504	-1.12E+12	5.4794E+10	1.24275E+12	-1.66529E+13
32	PT. Mayora Indah Tbk	2003	0.047314	0.063358	2.984E+11	1.1602E+11	19379247000	0
33	PT. Hanson International Tbk	2003	-0.013837	-0.055329	-4.061E+11	-9.518E+09	-3.9175E+10	1.18976E+12
34	PT. Nipress	2003	0.014468	0.056405	-6.013E+10	2.6644E+10	-6297606000	1.76966E+11
35	PT. Panasia Filament Inti Tbk	2003	-0.036024	0.019639	-2.56E+11	-4.26E+10	-3.8617E+10	1.55593E+12
36	PT. Pan Brothers Tbk	2003	0.033123	0.075722	3.323E+10	5869978317	33564420000	2.26209E+11
37	PT. Pelangi Indah Canindo Tbk	2003	-0.057371	-0.034393	-7.619E+10	-1.301E+10	15433763000	4.8972E+11
38	PT. SUCACO Tbk	2003	0.021551	0.085327	6.25E+10	5.2056E+10	77481453000	4.66555E+11
39	PT. Sari Husada Tbk	2003	0.152301	0.145936	1.281E+12	1.5129E+11	634000000	7.43548E+11
40	PT. Sierad Produce Tbk	2003	-0.014178	0.051844	-1.952E+11	9819917934	17796758000	-5.86581E+11
41	PT. Semen Cibinong Tbk	2003	0.011335	0.032232	2.107E+11	1.3654E+11	-5.2474E+10	1.02926E+13
42	PT. Semen Gresik Tbk	2003	0.041632	0.026675	1.158E+12	3.3451E+11	-3.1758E+11	2.20633E+13
43	PT. Sarasa Nugraha Tbk	2003	-0.061363	-0.049131	-2.697E+10	-1.897E+10	1596682000	2.83452E+11
44	PT. Siantar Top Tbk	2003	0.047075	0.049364	5.06E+10	0	35548281000	5.03023E+11

45	PT. Suba Indah Tbk	2003	-0.061142	0.005131	-2.431E+10	-6.083E+10	-1.7764E+10	1.35907E+12
46	PT. Surya Dumai Industri Tbk	2003	-0.142536	-0.134425	-4.486E+11	-3.974E+11	32113136000	2.25053E+12
47	PT. Surabaya Agung Industri Pulp & Kertas Tbk	2003	-0.009403	0.041439	-6.494E+10	1.4218E+10	-1.3826E+10	5.21397E+12
48	PT. Trias Sentosa Tbk	2003	0.041418	0.08152	3.267E+11	2.1599E+11	9721847000	2.06765E+12
49	PT. Ultra Jaya Milk Industry & Trading Tbk	2003	0.004912	0.011931	-4.758E+10	3.1661E+10	48764761000	1.58088E+12
50	PT. Voksel Electric Tbk	2003	-0.018122	0.022751	-1.31E+11	-1.864E+09	1819961000	7.67338E+11
51	PT. Ades Waters Indonesia Tbk	2004	-0.502786	-0.038307	-2.075E+11	-9.531E+10	183748000	-1.8562E+11
52	PT. Argha Karya Prima Industri Tbk	2004	0.003585	0.025609	7.213E+11	1.1658E+11	31129285000	-80432158000
53	PT. Alakasa Industrindo Tbk	2004	-0.004686	0.018594	3.57E+10	562032000	-3.3822E+10	-35967980000
54	PT. Asahimas Flat Glass Tbk	2004	0.097145	0.078508	6.492E+11	1.6882E+11	2.25634E+11	2.21357E+11
55	PT. APAC Citra Centerex Tbk	2004	-0.033061	-0.054958	-8.711E+10	1.8861E+10	-4.4168E+10	-62559758000
56	PT. Aqua Golden Mississippi Tbk	2004	0.111751	0.087329	2.06E+11	5.827E+10	81420308000	-1.03368E+11
57	PT. Argo Pantes Tbk	2004	-0.088544	-0.014514	-4.113E+11	-1.152E+11	1.72116E+11	-4.58918E+11
58	PT. Sepatu Bata Tbk	2004	0.107110	0.122809	7.066E+10	5.059E+10	-5178387800	-646251800
59	PT. BAT Indonesia Tbk	2004	-0.017248	-0.066834	-1.188E+11	-1.748E+11	3039900044	-22125100000
60	PT. Primarindo Asia Infrastruktur Tbk	2004	-0.253543	-0.266505	-7.109E+11	-2.109E+10	7355938000	2323489000
61	PT. Branta Mulia Tbk	2004	0.026665	0.030351	6.192E+11	1.2951E+11	62904948000	8333174000
62	PT. Berlina Tbk	2004	0.045881	0.032903	-5.238E+09	4.7467E+10	-4529340000	82012791000
63	PT. Barito Pacific Timber Tbk	2004	-0.024176	0.011165	-8.515E+11	-6.556E+10	1.13186E+11	-2.27521E+12
64	PT. Daya Sakti Unggul corporation	2004	-0.014816	-0.033181	-1.167E+11	6239993148	75519987000	93310510000
65	PT. Darya Varia Laboratoria Tbk	2004	0.093929	0.106234	2.274E+11	6.7927E+10	-2.761E+10	-21072339000
66	PT. Eterindo Wahanatama Tbk	2004	-0.040849	-0.001266	-3.291E+11	-955755947	-2.2887E+12	-4.15655E+12
67	PT. Cahaya Kalbar Tbk	2004	-0.026506	0.009647	1.726E+11	1.6843E+10	2.9202E+11	2.49239E+11

68	PT. Gudang Garam Tbk	2004	0.067763	0.080186	2.333E+12	2.1125E+11	1.72743E+12	1.0181E+13
69	PT. Goodyear Indonesia Tbk	2004	0.046934	0.033273	2.575E+11	4.1338E+10	-3549583000	11984574000
70	PT. Hanjaya Mandala Sampoerna Tbk	2004	0.000141	0.109893	2.856E+10	2.0247E+11	2.66429E+12	3.88168E+12
71	PT. Kageo Igar Jaya Tbk	2004	0.087196	0.076048	9.967E+10	4.3621E+10	-2.428E+10	-45349616000
72	PT. Intikramik Alamasari Industry Tbk	2004	-0.006442	-0.024909	-2.296E+10	5.7863E+10	43834866000	5440348000
73	PT. Jembo Cable company Tbk	2004	-0.015534	-0.013537	-1.479E+11	2.2866E+10	15145235000	6315624000
74	PT. Jakarta Kyoel Steel Works Tbk	2004	-0.028308	0.00126	-2.061E+11	-3.797E+09	-7.4012E+10	-95662023000
75	PT. Karwell Indonesia Tbk	2004	0.001830	-0.032741	3.262E+10	1.4519E+10	13407275000	8077275000
76	PT. Kabelindo Murni Tbk	2004	-0.068920	-0.064573	-1.753E+11	-8.725E+09	-2.189E+10	-42342449000
77	PT. Kedawang Setia Industrial Tbk	2004	-0.047607	-0.043783	-1.417E+11	-1.042E+09	-1.9241E+10	-37606470000
78	PT. Kedaung Indah Can Tbk	2004	-0.055082	-0.027811	-4.162E+10	-5.302E+09	24424837000	-10902790000
79	PT. Komatsu Tbk	2004	0.102092	0.044191	2.645E+10	7.7527E+10	1.46792E+11	1.11121E+11
80	PT. Multi Bintang Indonesia Tbk	2004	0.123745	0.137622	3.624E+11	1.0963E+11	-6.6817E+10	-68964594000
81	PT. Mulia Industrindo Tbk	2004	-0.084324	-0.019882	-1.414E+11	-2.207E+11	62561147000	-2.6087E+12
82	PT. Mayora Indah Tbk	2004	0.048995	0.047314	4.763E+11	1.2837E+11	-9.6112E+10	-1.40383E+11
83	PT. Hanson International Tbk	2004	0.002435	-0.013837	4.459E+10	2.2155E+10	44989514000	48748079000
84	PT. Nipress	2004	-0.010296	0.014468	-1.536E+09	2.1093E+10	-1.6364E+10	43768644000
85	PT. Panasia Filament Inti Tbk	2004	-0.046386	-0.036024	-1.766E+11	-1.799E+10	82878155000	45895040000
86	PT. Pan Brothers Tbk	2004	0.049663	0.033123	5.246E+10	1.6611E+10	-1.7799E+10	-6717563000
87	PT. Pelangi Indah Canindo Tbk	2004	-0.039180	-0.057371	-1.125E+11	-6.453E+09	36834898000	-8068914000
88	PT. SUCACO Tbk	2004	-0.034806	0.021551	-1.863E+11	-8.348E+09	-3.0516E+10	-4991268000
89	PT. Sari Husada Tbk	2004	0.125364	0.152301	1.985E+11	3.1664E+11	-3.7193E+10	-52100000000
90	PT. Sierad Produce Tbk	2004	-0.074152	-0.014178	-2.644E+11	-1.173E+09	-3837272000	2.09969E+11
91	PT. Semen Cibinong Tbk	2004	-0.035148	0.011335	1.024E+11	-3.111E+11	1.04845E+11	1.42584E+11

92	PT. Semen Gresik Tbk	2004	0.059047	0.041632	3.052E+11	1.1073E+11	-3.019E+11	-7.33189E+11
93	PT. Sarasa Nugraha Tbk	2004	-0.114992	-0.061363	-4.716E+10	-1.285E+10	-1.3933E+10	-623596000
94	PT. Siantar Top Tbk	2004	0.041899	0.047075	1.395E+10	2.7191E+10	1.00316E+11	1.09691E+11
95	PT. Suba Indah Tbk	2004	-0.087397	-0.061142	-7.627E+10	-2.428E+11	-6.6264E+10	-8.09041E+11
96	PT. Surya Dumai Industri Tbk	2004	0.079930	-0.142536	4.461E+11	2.9757E+11	30056589000	-1.99169E+11
97	PT. Surabaya Agung Industri Pulp & Kertas Tbk	2004	-0.105266	-0.009403	-1.06E+11	-8.792E+11	18871583000	-2.17656E+12
98	PT. Trias Sentosa Tbk	2004	0.011041	0.041418	2.741E+11	1.3598E+11	1.32455E+11	3.04347E+11
99	PT. Ultra Jaya Milk Industry & Trading Tbk	2004	0.000375	0.004912	1.804E+09	4035042358	1.46635E+11	1.53203E+11
100	PT. Voksel Electric Tbk	2004	-0.084455	-0.018122	-3.686E+11	-5.746E+09	-1.0138E+11	-1.30813E+11





## APPENDIX II

### SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.57497
R Square	0.33059
Adjusted R Square	0.316788
Standard Error	0.072492
Observations	100

ANOVA				
	df	SS	MS	Significance F
Regression	2	0.251742	0.125871	23.9518749
Residual	97	0.50975	0.005255	3.51615E-09
Total	99	0.761492		

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.012732	0.007386	-1.7237	0.087947099	0.027391953	0.001928	-0.02739	0.001928
ACCt	6.2E-14	1.84E-14	3.372104	0.001072681	2.55148E-14	9.85E-14	2.55E-14	9.85E-14
CFOt	2.16E-13	5.82E-14	3.712782	0.000342266	1.00592E-13	3.32E-13	1.01E-13	3.32E-13

### APPENDIX III

#### SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.60123
R Square	0.36148
Adjusted R Square	0.34152
Standard Error	0.07117
Observations	100

#### ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.275263	0.091754	18.11575	2.14562E-09
Residual	96	0.486229	0.005065		
Total	99	0.761492			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.00957701	0.007398	-1.29458	0.19857	-0.024261471	0.005107	-0.02426	0.005107
ACct	9.165E-14	2.27E-14	4.038255	0.000108	4.65999E-14	1.37E-13	4.66E-14	1.37E-13
CFOt	2.0911E-13	5.72E-14	3.653136	0.000422	9.54858E-14	3.23E-13	9.55E-14	3.23E-13
GrNOAt	-5.2098E-15	2.42E-15	-2.15498	0.033665	-1.00086E-14	-4.1E-16	-1E-14	-4.1E-16

## APPENDIX IV

### SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.67490
R Square	0.45550
Adjusted R Square	0.43848
Standard Error	0.06572
Observations	100

ANOVA				
	df	SS	MS	Significance F
Regression	3	0.346857	0.115619	26.76914
Residual	96	0.414635	0.004319	1.14531E-12
Total	99	0.761492		

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.021256552	0.006935	-3.06497	0.002827	0.035023073	-0.00749	-0.03502	-0.00749
ROA t	0.525144013	0.084347	6.226017	1.26E-08	0.35771714	0.692571	0.357717	0.692571
ACCt	6.1779E-14	1.57E-14	3.940396	0.000154	3.06577E-14	9.29E-14	3.07E-14	9.29E-14
GrWct	-6.66089E-15	1.43E-14	-0.4672	0.641417	-3.4961E-14	2.16E-14	-3.5E-14	2.16E-14

## APPENDIX V

### SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.63478
R Square	0.40295
Adjusted R Square	0.38033
Standard Error	0.06850
Observations	100

### ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.3072196	0.102407	21.821705	7.37925E-11
Residual	97	0.4552089	0.004693		
Total	100	0.7624285			

	Coefficients	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
ROA t	0.461049987	5.41294	4.48E-07	0.2920002	0.630099814	0.292	0.6301
ACct	5.86731E-14	3.5976995	0.000507	2.631E-14	9.1041E-14	2.63E-14	9.1E-14
GrWct	-1.08288E-14	-0.732002	0.465932	-4.019E-14	1.85321E-14	-4E-14	1.85E-14