



**THE ANALYSIS OF FINANCIAL RATIO IN PREDICTING
THE GROWTH OF EARNINGS IN MANUFACTURING
COMPANIES LISTED IN INDONESIA STOCK
EXCHANGE 2005 - 2008**

By

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PANEL OF EXAMINERS APPROVAL SHEET

The Panel of Examiners declare that the thesis entitled “**THE ANALYSIS OF FINANCIAL RATIO IN PREDICTING THE GROWTH OF EARNINGS IN MANUFACTURING COMPANY LISTED ON INDONESIA STOCK EXCHANGE 2005 – 2008**” that was submitted by Annie Clara Desianty majoring in Accountancy from the Faculty of Economics was assessed and approved to have passed the Oral Examination on September 17th , 2010.

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DECLARATION OF ORIGINALITY

I declare that this thesis, entitled “**THE ANALYSIS OF FINANCIAL RATIO IN PREDICTING THE GROWTH OF EARNINGS IN MANUFACTURING COMPANIES LISTED IN INDONESIA STOCK EXCHANGE 2005 – 2008**” is, to the best of my knowledge and belief, an original piece of work that has not been submitted, either in whole or in part, to another university to obtain a degree.

Cikarang, Indonesia, September 17th, 2010

Annie Clara Desianty

ABSTRACT

The objective of this research is to examine the usefulness of *Gross Profit Margin (GPM)*, *Net Profit Margin (NPM)*, *Operating Profit Margin (OPM)*, *Return on Asset (ROA)*, *Return on Equity (ROE)*, *Inventory Turnover (IT)*, *Total Asset Turnover (TAT)*, *Current Ratio (CR)*, *Debt to Equity (DTE)*, and *Leverage Ratio (LR)* in predicting the growth of earnings in manufacturing companies.

The sampling technique used in this research used in this research is purposive sampling, with some criteria, those are: (1) manufacture company listed in ISX and still operating consistently during the research period; (2) the company does not exit (delisting) on the JSE during the study period; (3) during the period of research, firm earns positive profits; (4) company that has positive financial ratio.

The result of this research shows that the data has fulfill the classical assumption, such as; no multicollinearity, no autocorrelation, no heteroscedasticity and distributed normally. From the bivariate test, found that only six ratios may entered into multivariate model, which are: *Gross Profit Margin (GPM)*, *Operating Profit Margin (OPM)*, *Return on Equity (ROE)*, *Inventory Turnover (IT)*, *Total Asset Turnover (TAT)*, and *Debt to Equity (DTE)*. Besides, from the regression analysis, it can be concluded, partially *Inventory Turnover (IT)*, *Total Asset Turnover (TAT)*, *Return on Equity (ROE)* and *Operating Profit Margin (OPM)* have a positive significant to profit growth of manufacture company. From the research also known that six variables (GPM, IT, TAT, ROE, DTE, and OPM) simultaneously have an influence in predicting the profit growth in manufacture company. The prediction percentage of those variables simultaneously is 38.7%

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The writer realized that this thesis is far from perfect. Advices and critics needed to make the thesis be perfect in the future. Hopefully this thesis could be useful for the readers and also could be useful as resources in accounting purpose.

Cikarang, September 2010

Annie Clara Desianty

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CHAPTER I

INTRODUCTION

The first chapter will give the reader a background to what this thesis is about and then narrows it down to the faced problem. The writer will begin with a brief description of background of the study. After that, the writer will state research purpose and finally, the chapter ends with the theoretical framework of this thesis.

1.1. Background of the study

The beginning of globalization era which marked by the rivalry between companies is becoming very tight, not only between companies in similar industries but also for the overall industry. Competitive ability is determined by whether the condition of the company is developed properly and is able to survive and also achieves its objectives. To determine whether the company's financial performance is good, we need to know the condition of the company that can be seen through the company's financial statements, consisting of balance sheets, income statements, statements of cash flows and notes to the financial statements.

Survival of a company always associated with the ability of management and financial health conditions that bring business units to survive as long as possible. Society, in general measure the success of a company based on its financial performance.

Financial condition and results of operations are reflected in company financial statements. Openness in explaining the information about the financial condition and results of operations is intended to provide each party to obtain the useful, financial information, however, the financial statements alone actually cannot provide meaningful information before performing any analysis on the statements.

Owners and managers require financial statements to make important business decisions that affect its continued operations. Financial analysis is then performed on these statements to provide management with a more detailed understanding of the figures. Employees also need financial reports in discussing their compensation, promotion and rankings. Prospective investors make use of financial statements to assess the viability of investing in a business. Financial analyses are often used by investors and providing them with the basis for making investment decision. Financial institution (banks and other lending companies) use financial report to decide whether to grant a company with extend debt, long term bank loan or debentures and other significant expenditures.

Research on the usefulness of financial ratios to predict changes and growth in income have been conducted by several of researcher (Ou, 1990; Takarini and Ekawati, 2003; Suwarno, 2004; Meythi, 2005). Research has been done before shows different results. Therefore, this study intended to conduct further testing about financial ratio related to its usefulness in predicting changes in earnings in the future.

This study uses 10 financial ratios and grouped into four categories, considering the availability of the data reported in the Indonesian Capital Market Directory. The financial ratios are:

1. **Profitability** category consists of: Gross Profit Margin (GPM), Net Profit Margin (NPM), Operating Profit Margin (OPM), Return on Asset (ROA), and Return on Equity (ROE)
2. **Activity** category consists of: Inventory Turnover (IT), Total Asset Turnover (TAT)
3. **Liquidity** category consists of: Current Ratio (CR)
4. **Solvability / Leverage** category consists of: Leverage Ratio and Debt to Equity (DTE)

Financial ratios used in this study to predict the growth of company's profit is expected to have benefits for the related parties.

The selection of manufacture companies as samples based on the reason that the manufacturing industry is the most industry groups listed in ISX. Company profit growth is influenced by many factors, including economic conditions. This will have implications that the information contained in the analysis of financial ratios may not be able enough to predict the growth of company profits for a long time, considering the uncertain economic condition in Indonesia that may affect the performance of manufacturing companies indirectly.

According to the issues above then this research has been arranged with title:

THE ANALYSIS OF FINANCIAL RATIO IN PREDICTING THE GROWTH OF EARNINGS IN MANUFACTURING COMPANIES LISTED IN INDONESIA STOCK EXCHANGE 2005 – 2008.

1.2. Problem Identified

The company profit is expected to have increased each of accounting periods, so we need the estimation on future earnings. This also can be a reference for owners of capital, investors and creditors who will invest their own funds into the company, so required the estimation of future earnings that company would achieve.

The previous researchers that have conducted the study about the useful of financial ratios in predicting the changes of earnings show various results. The results of previous researchers can be summarized as follows:

1. Agus Endro Suwarno (2004) with the study, titled as “Manfaat Informasi Rasio Keuangan Dalam Memprediksi Perubahan Laba” shows that TAT is not significantly affect the earnings growth, while NPM is significantly affect the earnings growth.
2. Nurjanti Takarini dan Erni Ekawati (2003) with the study, titled as “Analisis Rasio Keuangan dalam Memprediksi Perubahan Laba Pada Perusahaan Manufaktur di Pasar Modal Indonesia” shows that TAT and NPM are not significantly affect in predicting the earnings growth.
3. Meythi (2005) with the study, titled as “Rasio Keuangan yang paling baik Untuk Memprediksi Pertumbuhan Laba.” Shows the result that NPM is not significantly affected in predicting the earnings growth.
4. Epri Ayu Hapsari (2007) with the study, titled as “Analisis Rasio Keuangan untuk Memprediksi Pertumbuhan Laba” shows the result that TAT is not significantly affect in predicting earnings growth.

Based on different results from previous researchers, this study conducted to review the analysis of financial ratios in predicting the earnings growth on manufacturing companies listed in ISX period 2005-2008.

1.3. Statement of Problem

This research is about to test the usefulness of financial ratios in predicting earnings growth using nine variables. The analysis by financial ratios is expected to give a significant prediction to the company's earnings in the future.

The following problem statements have been used to guide this research work:

- a) Are the financial ratios GPM, NPM, OPM, ROA, ROI, IT, TAT, CR, LR and DTE together / simultaneously predict the growth of earnings for a period of next year period in manufacturing companies listed on the ISX.

- b) Are the financial ratios GPM, NPM, OPM, ROA, ROI, IT, TAT, CR and, LR DTE individually / partially predict the growth of earnings for a period of next year period in the manufacturing company listed on the ISX.

1.4. Research Objective

Based on the research gap that are different from the results of previous research, then the objectives of this research are:

- To determine whether the ten financial ratios can predict the growth of earnings in manufacturing companies listed in JSE period 2005 – 2008 simultaneously.
- To determine whether the ten financial ratios can predict the growth of earnings in manufacturing companies listed in JSE period 2005 – 2008 partially.

1.5. Significant of the Study

1. For company

This research may provide information about the usefulness of financial ratios in the financial statement for predicting the earnings growth in next period to the related parties, such as: managers, stakeholders, shareholders, investors, government and the needy.

2. For the writer

Through this study the writer will know whether the financial ratio gives the usefulness in predicting the company's earnings growth. Beside to fulfill one of the requirements for the student of President University to finish Bachelor Degree in Accounting Faculty, this thesis also make the writer be open minded about knowledge which get in the college and know how to implement the information.

3. For Other Researchers

This research is expected to provide information, advice and knowledge for the other researchers to enrich understanding about the use of financial ratio analysis. This study provides explanation and definition of the topic that would make easier for the reader to understand.

Finally, this research is expected to be useful for some other beneficiaries who are interested in the information of the financial ratio

1.6. Theoretical Framework

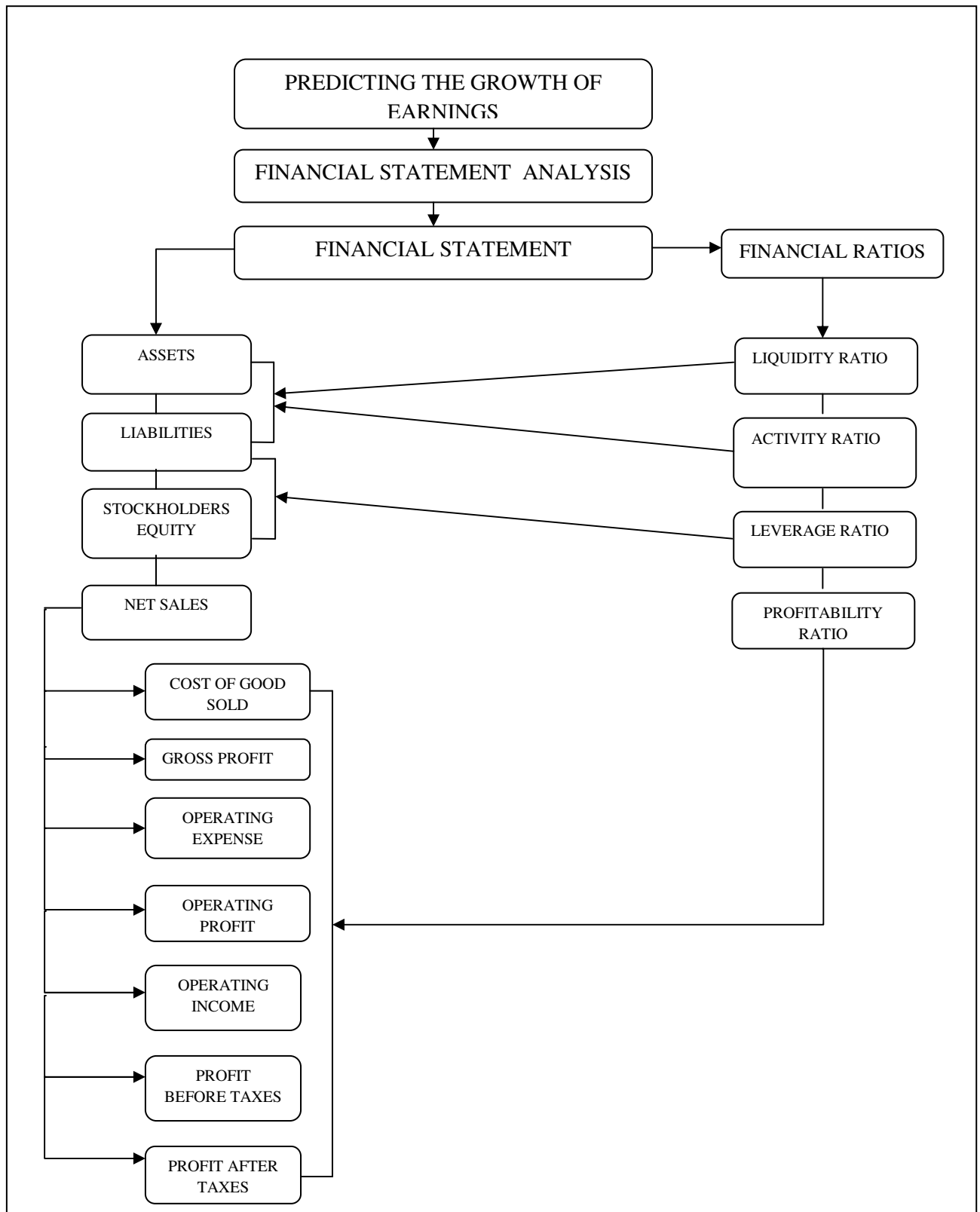


Figure 1.1 : Theoretical Framework

1.7. Scope and Limitation of the study

There are 330 companies of various industries listed in ISX, consist of more than ten different industries, such as, construction, manufacturing, insurance, banking, etc.

The study research is based on secondary data and will be conducted in Indonesia Stock Exchange by taking the data only from manufacturing companies in the period 2005 – 2008. There are 149 companies from manufacturing industries listed in JSE. Those companies are the population of this study and the writer use *purposive sampling method* to taking the samples.

This study is about to analyze the usefulness of financial ratios in predicting the earnings growth in the period 2005 – 2008, considering the availability of the data reported in financial statement, the writer only used 10 ratios.

The growth of earnings which become the independent variable in this study is the earnings after taxes. The meaning of earnings in this study is different with the meaning of revenue/income. Earning is usually specified as whether it is income before taxes or income after taxes. Net earnings are the balance remaining of the differences of income and revenues. Revenue refers to all the money a company takes from making goods or providing services. Other sources of funds, including investments gains are usually labeled as “gross income”.

Company earnings growth is influenced by many factors. These are some factors that may influence the changes of profit growth:

- Economic conditions
- Inflation
- Purchasing power
- Level of sales

Since there are many variable affecting earnings growth, and this study only choose ten financial ratios to predict earnings growth, so the result may have some constraint.

The writer would collect the financial report data from 2005 - 2008. This data is collected and will be calculated to determine the financial ratio and will be analyzing for predicting the earnings growth of the company. For supporting the data, writer takes data from some books and other literature review, also the writer will comparing from the previous study about the use of financial ratio to predict the earnings growth.

1.8. Hypothesis

Based on the problem statement, there are some variables that will be tested and evaluated. To test whether each ratio has a significant financial ratios on the growth of earnings one year and two years on manufacture companies on the JSE, the hypothesis is partially formulated below:

H1: GPM has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H2: NPM has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H3: OPM has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H4: ROA has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H5: ROE has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H6: IT has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H7: TAT has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H8: CR has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H9: DTE has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H10: LR has significant impact to predict the growth of earnings in manufacturing companies listed in ISX period 2005 – 2008

H11: GPM, NPM, OPM, ROA, ROE, IT, TAT, CR, DTE, and LR simultaneously have significant impact in predicting the growth of earnings in manufacturing companies listed in ISX period 2005 - 2008

1.9. Definition of Term

1. Globalization: is the fact that different cultures and economic systems around the world are becoming connected and similar to each other because of the influence of large multinational companies and of improved communication. (Oxford Dictionary 7th edition, 2005)
2. Financial statement: document that report on a business in monetary amount, providing information to help people make informed business decision. (Wild, 2003 p.55)
3. Investors: an individual who commits money to investment products with the expectation of financial return.
4. Creditors: is a party that has a claim to the services of a second party. It is a person or institution to whom money is owed.(www.investopedia.com)
5. Balance sheet: summary statement of financial position of a firm at a given point of time. (www.investopedia.com)
6. Income statement: summary of an entity's revenue, expense, and net income or net loss for a specific period. (www.investopedia.com)
7. Profit: the positive gain from an investment or business operation after subtracting for all expense. (www.investopedia.com)
8. Financial ratio: is a relative magnitude of two selected numerical values taken from an enterprise's financial statements. (www.investopedia.com)

9. PSAK: Pernyataan Standar Akuntansi Keuangan
10. ISX: is Indonesia Stock Exchange, a stock exchange based in Jakarta, Indonesia.(www.articlebase.com)
11. ICMD: for the parties who doing research that related to the data in ISX, ICMD is having all the data and information in ISX. (www.articlebase.com)
12. Hypothesis: is a proposed explanation for an observables phenomenon.
13. Dependent variable: the element that is being predicted in a regression model
14. Independent variable: the element used to predict the value of the dependent variable in a regression model.

CHAPTER II

LITERATURE REVIEW

2.1. Literature review

2.1.1. Financial Statement

The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions. Financial statements also show the results of the stewardship of management, or the accountability of management for the resources entrusted to it. (PSAK NO.1, 2007).

Financial statements is a reports on a business in monetary amount, providing information to help people make informed business decisions (Hongren, Harrison, and Bamber, 2002 pg.6)

The writer can conclude that financial statement is a main form to make financial information report to the people inside the company (management and employees) and to the outside party (investors, creditors, suppliers, etc). The financial statements presented should be relevant to the needs of each user. The financial statements used to determine the growth of a company and the company's financial condition. Basically, the financial statements are the result of the process of recording, classification and summary from events that are financial in a way rigorously as tool for communication between the financial data of an enterprise or activity with the parties concerned. The financial statements are usually prepared at year end accounts (December).

Comprehensive financial report consists of:

- Balance Sheet

The balance sheet of statement of financial position reports major classes and amounts of assets, liabilities, and stockholder's equity and their interrelationship at specific point in time (White, Sondhi, and Fried, 2003)

Munawir (2004) states that balance sheet is a systematical statement about asset, liability, and equity at a certain moment.

The writer concludes that balance sheet is used to describe the company's financial condition at any given time. Balance is a systematic statement of assets, liabilities and capital of a company at the specified date. Balance consists of three main parts: assets, liabilities and stockholder's equity. Here are the explanations of content in the balance sheet:

- 1) Assets

Future economic benefit embodied in an asset is the potential in contribute, directly or indirectly, to the flow of cash and cash equivalents to the enterprise. The potential may be a productive one that is part of the operating activities of the enterprise. It may also take the form or convertibility into cash or cash equivalents or a compatibility to reduce cash outflows, such as when an alternative manufacturing process lowers the cost of production (PSAK NO.1, 2007)

Current assets are tangible assets of companies and the money can be withdrawn in the short term, i.e. less than one year. For example: cash (corporate property in the form of cash) temporary investments / short-term (investing in bonds, shares, securities with a maturity of less than one year), accounts receivable or accounts receivable (trade receivables arising due to credit sales), inventories (inventories of goods purchased or produced goods, whether raw materials, semi finished or finished goods). (Wild, 2003)

2) Liabilities

An essential characteristic of a liability is that enterprise has a present obligation. An obligation is duty or responsibility to act or perform in a certain way. Obligations may be legally enforceable as consequences of a binding contract or statutory requirement. This is normally the case, for example, with amounts payable for goods and services received. Obligations also arise, however, from normal business practice, custom and a desire to maintain good business relations or act in an equitable manner. (PSAK NO.1, 2007)

Debt / liabilities represent all the company's financial obligations to other parties that have not been fulfilled. Debt is the source of the funding comes from corporate creditors (Wild, 2003). Debt can be divided into two:

➤ Current Liabilities

Current liabilities are liabilities with maturities of less than one year. For example: Short-term bank loans, notes payable (notes payable) and commercial debt (debt arising from the purchase of goods on credit).

➤ Non-current liabilities

Non-current liabilities are liabilities with maturities of more than one year. For example: bank loans, long-term notes, bonds and obligations to shareholders.

3) Statements of changes in equity

Capital or equity is a right or part owned by the owner of the company indicated in the heading of capital, surplus and retained earnings. Capital or equity also intended as an excess value of assets owned by the company with all his debts (Munawir, 2004).

- Income Statement

Income Statement is a systematic statement of income, the cost of income derived by an enterprise during a period of time (Munawir, 2004)

Income statement is a summary of the revenue and expenses for a specific period of time, such as a month or a year (Warren, Reeve, and Fees, 2005 p.16)

From both quotes above, income statement can be understandable as a statement that contained information about net profit and loss that obtained from whole income minus whole expenses incurred in a certain period. Companies that always increase their net income will attract investor's interest to invest their money to the company, which will rise up stock price and also will increase the stock return.

- Statements of Cash Flows

A statement of cash flows explains the change during the period in cash and cash equivalents (Skousen and Stice, 2000 p.227)

The statement of cash flow report the cash receipt, cash payment, and net changes in cash resulting from operating, investing and financing activities of an enterprise during a period in a format that reconciles the beginning and ending balances (Kieso, 2007 p.190)

The writer conclude cash flow statement is a report presents information on cash flow into or out of a period which is the result of the company's main activities, such as operating, investing and financing activities. The operations include transactions involving the production, sale, receipt of goods and services. Investment activities include the purchase or sale of buildings, plant and equipment. Financing activities including transactions to obtain funds from bonds, stock issuance and repayment of loans.

- Notes to the financial statements

A note to the financial statement is the estimates and judgments that are outlined in the notes to the financial statements. In addition, the notes contain supplemental information as well as information about items not included in the financial statements (Skousen, Stice and Stice, 2008).

Notes to financial statement covering narrative explanation or the details of the amount that appear in balance sheet, income statement, and statement of cash flow and also added information from statement of owner's equity (PSAK, 2007)

Based on definitions above, the writer concludes that notes to the financial statements present disclosure which includes the accounting treatment and disclosure of other information.

The Company combines the components in the financial statements that will be reported each year. In the financial statements not only have the listing, classification and summary of events that are financial, but there are also other types of information. The information referred to the verbal information, which the commissioners and directors convey conclusions about the condition of the company in terms of productivity, management and finances. Verbal information is called Letters from the Chairman, which includes Letters from Board Commissioners and Letters from Board Directors.

2.1.2. Financial Statement Analysis

The analysis of the financial statements of a company is basically done to see the company's prospects and risk. Prospects to determine the rate of return (profitability) also to know how big the risk of failure or financial difficulties experienced by the company. (Backer and Gosman, 1978)

A bank balance sheet describes the amount of property, liability, and capital of the company in a period. Wealth or assets are presented on the assets side, while the obligation or debt, and capital are presented on the liabilities side. Income Statement of a bank illustrates the amount of income or revenue and costs from the company at a certain period. Statement of Income prepared in total revenue and total cost incurred during one year of starting date of January 1 to December 31. If total revenue exceeds total costs will produce profits, whereas if the total income is less than the amount it costs the company suffered losses.

There are many parties who have an interest to know more about the financial statements by the company. Each side has its own interests and goals to the financial statements issued by the company, among others:

- For Owners / Shareholders

For shareholders as owners, have an interest to the financial statements for the advancement of the company. If deemed to be unsatisfactory then the probability that the existing management will be replaced soon and vice versa. Assessment of shareholders will be more emphasis on management skills in developing their capital to earn a reasonable income to support their business development.

- For Taxation

The tax man will be able to more easily carry out their duties in determining the amount of corporate tax is concerned; by studying the financial statements have been announced. This is because the income of the respective companies will be

obvious from the statement of income. Apart from it can be to measure the reasonableness of the company's profit or loss.

- For Employees

Employees are concerned to know the financial condition of the company, so they also feel the need to expect welfare improvement if the company earns a profit. In view of our employees is a major production factor.

- Bank Management

To assess the performance of company management in achieving the targets that has been specified, also to assess management performance in manage the resources.

2.1.3. Financial Ratio Analysis

Munawir (2004) states the ratio is the relationship between each component presented in of mathematically ways between a certain amounts with the other.

According to Bambang RJ (1995) financial ratios are tools that are stated in the form of arithmetic that can be used to explain the relationship between two data.

Dennis (2006) states that, financial ratio analysis is the best method to describe the company's overall financial conditions. Ratio analysis is to interpret and analyze financial statements in order to display the relationships and financial indicators which then show the risks and opportunities during this period. Although financial analysis is based on data that period has elapsed but are intended to assess the risks and opportunities in the years to come.

The writer draw conclusions from the theories above, the financial ratio is a measure of the ratio of two financial components of certain amount from balance sheet or income statement that can be used as standards and can describe business conditions in the comparable period. Financial ratio analysis can be done by comparing ratios of different periods. It will provide information about the progress

ratio from time to time. Financial ratio analysis can also be done by comparing with similar ratios of other companies in the same period.

In this study the author adopted the theory (Ang, 1997):

Multivariate Ratio Analysis, which uses more than one variate in the analysis, like the Altman's Z-Score and Zeta Score

2.1.4. Types of financial ratio analysis

Basically a lot of variety of financial ratios that are made with different terms. The difference, according to the needs and objectives of the analysis, but generally, financial ratios can be grouped into five ratios, liquidity, leverage / long term solvency, activity, and profitability ratio.

Here is an explanation of understanding and financial ratio formula to be used in this study.

1. Liquidity Ratio

The ratio indicates the company's ability to resolve short – term liabilities (less than one year). According to Munawir (2004), liquidity ratio divided into three:

a. *Current Ratio* (CR), defined as the relationship between current assets and current liabilities. It is a measure of general liquidity and is most widely used to make the analysis for short term financial position or liquidity of a firm.

b. *Quick Ratio* (QR), also termed as “liquidity ratio”, “acid test ratio” or “quick ratio”. It measures the firm's capacity to pay off current obligations immediately and is more tight test of liquidity than the current ratio.

c. *Working Capital to Total Asset* (WCTA), defined as the ratio between current assets minus current liabilities to total assets.

In this research, the liquidity ratio is represented by the current ratio, considering the availability of the data reported in the Indonesian Capital Market Directory.

Current ratio can be formulated as follows:

$$\text{Current Ratio} = \frac{\text{Current asset}}{\text{Current liabilities}}$$

2. Leverage / Solvency Ratio: ratios that are found out the company's ability to settle their long term obligation. According to Hapsari (2007), there are six kind of leverage ratio:

a. *Leverage / Debt Ratio (DR)*, defined as the ratio between total debts to total assets.

b. *Debt to Equity Ratio (DER)*, indicates the proportionate claims of owners and the outsiders against the firm assets. The purpose is to get an idea of the framework to outsiders on the liquidation of the firm.

c. *Long Term Debt to Equity Ratio (LTDER)*, is the comparison between long term debt and capital.

d. *Times Interest Earned (TIE)*, defined as the comparison between earning before tax with long term debt interest.

e. *Current Liabilities to Inventory (CLI)*, is the comparison between current liability with the inventory.

f. *Operating income to Total Liability (OITL)*, is the ratio between operating profit before interest and taxes to total debt.

In this study, leverage ratio represented by Debt to Equity. The formula for Debt to Equity is as follows:

$$\text{Leverage Ratio} = \frac{\text{Total Debt}}{\text{Total Asset}}$$

$$\text{Debt to Equity} = \frac{\text{Total Debt}}{\text{Shareholder's Equity}}$$

3. Activity ratio: ratios that are intended to measure up how big the company's effectiveness in working on the source of the funds. This ratio shows the capability and efficiency in utilizing the assets that company have or the turnover of the assets (Reilly, 1991). Activity ratio can be divided into:

a. *Total Asset Turnover (TAT)*, defined as comparison between the net sales by total assets. Net sales are the result of net sales for one year. Total assets are the sum of total current assets and fixed assets.

b. *Inventory Turnover (IT)*, is measures the velocity of conversion of stock into sales. Usually a high inventory turnover indicates efficient management of inventory because more frequently the stocks are sold, the lesser amount of money required financing the inventory. A low inventory turnover ratio indicates an inefficient management of inventory.

c. *Average Collection Period (ACP)*, this ratio measures the quality of debtors. A short collection period implies prompt payment by debtors, it reduces the chances of bad debts, and a longer collection period implies inefficient credit.

d. *Receivable Turnover (RT)*, this ratio indicates the number of times the debtors are turned over a year. The higher the value of debtors turnover the more efficient is the management, and the low debtors turnover implies inefficient management.

e. *Working Capital Turnover (WCT)*, this ratio measures the efficiency with which the working capital is being used by a firm. A high ratio indicates efficient utilization of working capital and a low ratio indicates otherwise.

In this study, activity ratio represented by inventory turnover ratio and total assets turnover ratio. The formulas for both ratios are:

$$\text{Inventory Turnover} = \frac{\text{Cost of Good Sold}}{\text{Average Inventory}}$$

$$\text{Total Asset Turnover} = \frac{\text{Sales}}{\text{Total Assets}}$$

4. Profitability ratio: ratios used to measure the efficiency of a company in using assets. This ratio also indicates the end result of a number of policies and decisions (Reilly, 1991). This study represented profitability ratios with:

a. *Net Profit Margin (NPM)*, is the ratio that expressed a percentage of the comparison amount between net profits after taxes to net sales. NPM can be formulated as:

$$\text{Net Profit Margin} = \frac{\text{Net Profit After Taxes}}{\text{Sales}} \times 100\%$$

b. *Gross Profit Margin (GPM)*, is the ratio that expressed the percentage of the relationship between gross profit and sales. The formulation for GPM is:

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100\%$$

c. *Return on Asset (ROA)*, is the comparison between earnings after taxes and total assets. The formulation of ROA is:

$$\text{Return on Asset} = \frac{\text{Net Profit After Taxes}}{\text{Total Asset}}$$

d. *Return on Equity (ROE)*, is the ratio of net profit to share holder's equity. It is the relationship between net incomes, with shareholder's fund. The formulation of ROA as follows:

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

e. *Operating Profit Margin (OPM)*, this ratio measures the cost of operations of sales, can be calculated as follows:

$$\text{Operating Profit Margin} = \frac{\text{Earnings Before Interest and Taxes}}{\text{Sales}}$$

2.1.5. Earnings Growth

One of the main focuses in financial statement is profit. Profit is the difference between revenue and costs incurred to bring those profits in a period. Profits increase is good news for all concerned, while the profit that declined was bad news.

Salvatore (2001) argued that high income is a sign that consumers want more industrial output.

According to Ghozali Chariri (2003: 213) profit growth is the increase in economic benefits during the accounting period in the form of additional assets or decrease liabilities to increase in equity not resulting from their capital contributions

Based on the two theories above, the writer draw a conclusion that the definition of profit is the difference between revenue and cost measurement. Income is based on the true transaction that really happened, which is also the company's achievements in a certain period. Presentation of earnings information through the financial statements is also one of the most important focuses of the company.

Baruch Lev & T Ramu, 1993 stating that the information gain also is used to predict future earnings growth. The value of earnings in the past, based on historical cost and current value, has proved useful by previous researcher in forecasting future earnings value.

Indications of earnings growth that is used in this study is the profit before tax (earnings before taxes), excluding items extraordinary items, discounted operation, and changes in accounting policy. Profit growth is calculated by subtracting the current earnings period with the previous period and then divided by the income of the previous period (Meythi, 2005), which can be formulated as follows:

$$\Delta Y_{it} = \frac{(Y_{it} - Y_{it-1})}{Y_{it-1}}$$

Where:

ΔY_{it} = corporate earnings growth in period t

Y_{it} = firm's profit in period t

Y_{it-1} = firm's profit in previous period (t-1)

Profit growth is influenced by several factors, among others:

- The company
The bigger the company, the expected growth in earnings increases.
- Age of company
A newly established company has less experience in improving profits compared with the older company.
- Level of sales
The higher sales level the higher the expected earnings growth.
- Leverage Level
High corporate debt levels tend to reduce growth of profit.
- Changes in income in prior periods
The greater the profit change the past, the more uncertain profits in the future

According Angkoso (2006) financial ratios that affect corporate profit growth among manufacture companies is Debt Ratio and Return on Equity.

2.2. Relationship between independent and dependent variables of financial ratios

2.2.1 Relationship Gross Profit Margin on Earnings Growth

Gross profit margin is one of the profitability ratios. GPM returns show a gross profit to net sales (Ang, 1997). GPM shows that the larger increase in gross profit earned on the company's net sales. This shows that the company is able to cover administrative costs, depreciation costs are also of interest expense on debt and tax costs. This means that performance is considered good and company can increase the attraction of investors to invest in that company, with revenues obtained by the company automatically increases.

2.2.3 Relationship of Net Profit Margin with Earnings Growth

Net profit includes the categories of profitability ratios. NPM showed the ability of companies in generating net income to total net sales (Kieso, 2007). NPM greater indicates that the larger the company earned net income from sales activities. With a clean net income, expanding opportunities for companies to expand their business without going through the debt capital - the new debt, so that income earned to be increased.

2.2.4 Relationship Operating Profit Margin with Earnings Growth

Operating profit margin shows the operational efficiency of the business. Lower operating ratio shows higher operating profit and vice versa.

2.2.5 Relationship Return on Asset with Earnings Growth

Return on assets included in the profitability ratios. With this ratio will look how big the entire asset productivity. An operating ratio ranging between 75% and 80% is generally considered as standard for manufacturing concerns.

2.2.6. Relationship Return on Equity with Earnings Growth

Return on equity is one of the categories of profitability ratios. ROE is a measure of efficient use of capital in a company. As the primary objective of business is to maximize its earnings, this ratio indicates the extent to which this primary objective of businesses being achieved. As the ratio reveals how well the resources of the firm are being used, higher the ratio, better are the results. The inter firm comparison of this ratio determines whether the investments in the firm are attractive or not as the investors would like to invest only where the return is higher.

2.2.7. Relationship Inventory Turnover with Earnings Growth

Inventory turnover is included in the activity ratio. This ratio is one of the most important ratios used for measuring the overall efficiency of a firm. The higher ratio reveals how well the resources of the firm are being used. This ratio determines whether the investments in the firm are attractive or not as the investors would like to invest only where the return is higher

2.2.8. Relationship Total Asset Turnover with Earnings Growth

Total asset turnover ratio is one category profitability. TAT showed the efficiency of the entire assets of the company to support sales. The bigger companies TAT showed more efficient in using all the assets of the company to generate net sales. The faster turnover of assets to support the activities of a company's net sales, the revenue earned increased resulting in huge profits gained.

2.2.9. Relationship Current Ratio with Earnings Growth

Current ratio is one of the liquidity ratio. A relatively high current ratio is an indication that the firm is liquid and has the ability to pay its current obligations in time and when they become due. On the other hand, a relatively low current ratio represents that the liquidity position of the firm is not good and the firm shall not be able to pay its current liabilities in time without facing difficulties

2.2.10. Relationship Debt to Equity with Earnings Growth

Debt to equity ratio indicates the proportionate claims of owners and the outsiders against the firm's assets. The purpose is to get an idea of the framework available to outsiders on the liquidation of the firm. However, the interpretation of the ratio depends upon the financial and business policy of the company. The higher debt to equity's rates, gives an impact to the lower of profit of the company

2.1.1. Relationship Leverage ratio with Earnings Growth

Leverage ratio indicates the proportionate company's debt to the firm's assets. The purpose is to get an idea of the framework of company's liabilities of the firm. If the leverage ratio shows a big rate, means company cannot settle their liabilities.

2.3 Review of previous research

As mentioned in background and problems identification, research on the financial ratios on the growth of earnings has been conducted by several researchers. Below is a summary of the contents of the research performed by previous researchers:

No	Researcher	Research Title	Analysis Method	Results
1	Hapsari (2007)	<i>Analisis Rasio Keuangan Untuk Memprediksi Pertumbuhan Laba</i>	Multiple Linear Regression	<i>Total Asset Turnover</i> are not significantly affecting the profit growth
2	Takarini dan Ekawati (2003)	<i>Analisis Rasio Keuangan Dalam Memprediksi Perubahan Laba pada Perusahaan Makanan dan Minuman di Pasar Modal Indonesia</i>	Logit Model	<i>Current Liabilities Equity</i> and <i>WCTA</i> are significantly influence the profit growth at significance level of 5% <i>CR, Sales Total Asset</i> and <i>NPM</i> are not affecting the profit growth
3	Suwarno (2004)	<i>Manfaat Informasi Rasio Keuangan Dalam Memprediksi Perubahan Laba (Studi empiris terhadap PT.XYZ)</i>	Multiple linear regression	<i>Operating profit, NPM</i> and <i>Net Income to Sales</i> are positively affecting to profit growth
4	Meythi (2005)	<i>Rasio Keuangan yang Paling Baik untuk Memprediksi Pertumbuhan Laba pada Perusahaan Manufaktur yang Terdaftar di BEJ</i>	Factor Analysis	Only <i>ROA</i> ratio that affecting profit growth <i>TAT, NPM, and GPM</i> are not significantly influence the profit growth

Source: previous research that has been summarized

2.3.1. Similarities and differences in the study

A similarity contained in this research with research that has been done by previous researchers is on the method of analysis undertaken by Suwarno (2004) and Hapsari (2007), namely multiple linear regressions.

The differences of the study that will be conducted by the author with the research done previously is the object of the research, the author will examine the influence of financial ratios on the growth of earnings on manufacture companies listed on the ISX. Besides, the difference also can be seen on the observation period, i.e. 2004-2008.

2.3.2. Advantage Financial Ratio Analysis

The advantages of financial ratio analysis, including:

- a) The ratio of the numbers easier to read and interpret.
- b) Can be a substitute for the simpler of the information presented in financial statements that is very detailed and complicated.
- c) Know the company's position in terms of many kinds.

2.3.3. Limitation of Financial Ratio Analysis

Besides having the advantage, financial ratio analysis also has several limitations.

There are four limitations of financial ratio analysis¹ :

- a) Difficulty in identifying the category of industry of companies that were analyzed when the company is engaged in several business activities.

CHAPTER III

METHODOLOGY OF RESEARCH

3.1. Research Method

Research can be interpreted comes from the word "re" meaning again, and "search" which means searching or investigating. What to search? Sought in an investigation is the answer to an unsolved problem or question that is still a riddle, predictions or even mystery. Research is also interpreted as a set of methods used systematically to generate knowledge (Neuman, 2003).

There are several definitions of research as stated by some experts. According to Munawir (2004), research is a problem using scientific methods and systematic design to find new and reliable knowledge of the truth. According to Martono (2010), research as the process of observing the phenomenon in depth and collect data and then draw some conclusions from these data.

Based on the data collection techniques, types of research is divided into:

a. Qualitative Research

This research was conducted by collecting quotes or sentences from individuals, books or other sources. Qualitative research has many variants, such as comparative history, discourse analysis and so forth.

b. Quantitative Research

This research was conducted by collecting data in the form of numbers. The data consist of numbers then processed and analyzed to gain scientific information behind the numbers. Quantitative research has four variants, namely:

1. Survey research, is the type of research using questionnaires as the primary data source. In the survey, respondents were asked to give brief answers that have been written in the questionnaire and then processed using a particular analysis.
2. Content analysis (content analysis), a type of research that utilizes the information or content that is written as a symbol of material. Sources of data in

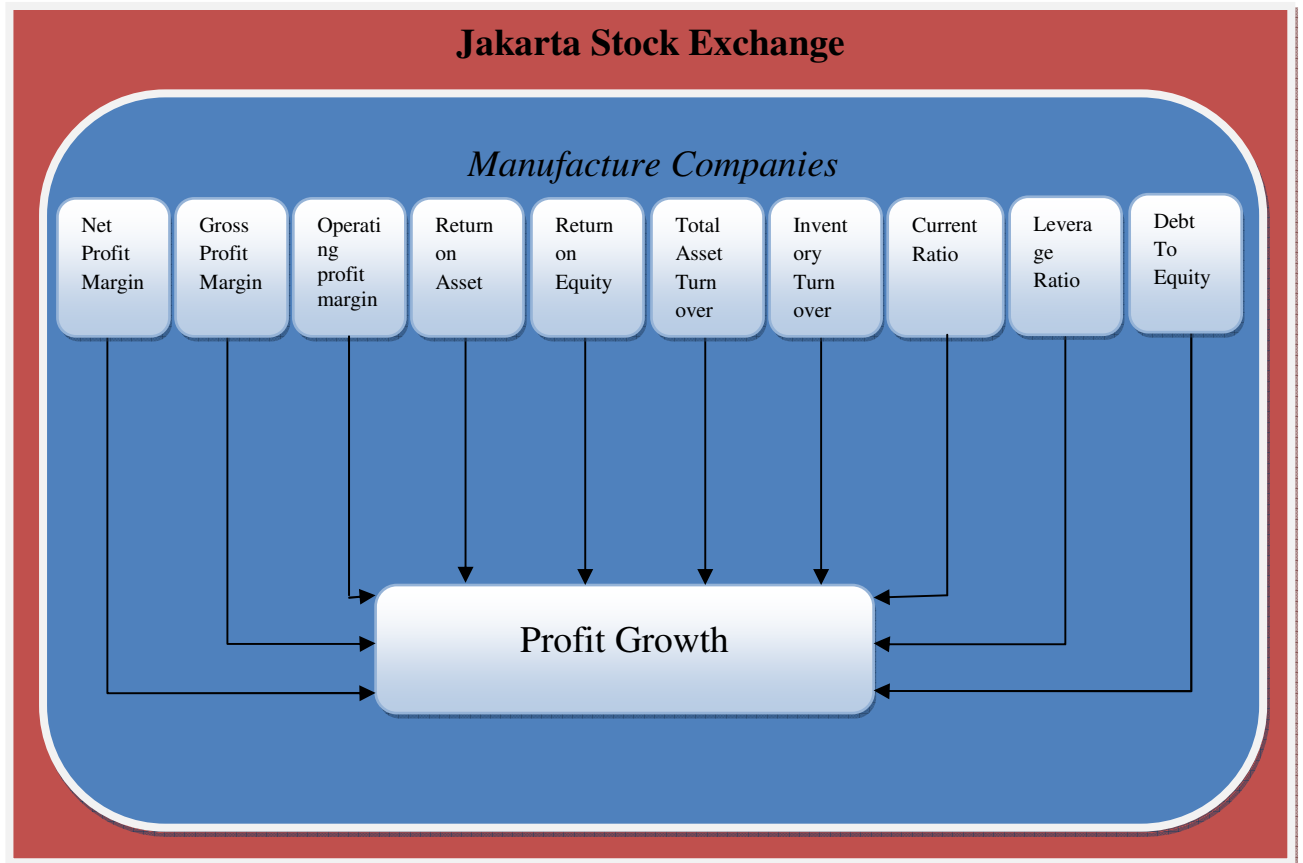
this study could be magazines, newspapers, advertisements, television or other media.

3. Analysis of secondary data (existing statistics), similar to content analysis, but secondary data analysis using data already available from government or other institutions. Secondary data analysis can also take advantage of data generated from the survey, example is the results of population census data.

4. Experiments, this type of research is actually adopted from the methods of exact science research (natural science), commonly called experimental research. This study uses some of the group given a particular treatment. In some experimental research in social sciences, researchers often divide into two or more groups, respectively - each group is given the different treatment. This type of research is using statistical method.

In relation with this research, the writer would apply a mixed methods approach as the method in analyzing data. Mixed methods is the method which combining quantitative and qualitative methods. By using multiple approaches can capitalize on the strength of each approach and offset their different weaknesses. Furthermore, descriptive analysis is chosen since it is typically used to present quantitative description in manageable form.

3.2. Research Framework



3.3. Research Instrument

Research instrument used in this research are data collection and data analysis. Data collection that uses in this secondary research method consist of company's financial report and literature review

3.3.1. Data Collection

a. Company's Financial Report

The financial reports of manufacture companies that will use in this research is listed in BEJ. The financial report of the company also listed in ICMD (Indonesia Capital Market Directory) 2005 – ICMD 2008. Financial report period 2005 – 2008 used to calculate both earnings growth over the next year or two years.

b. Literature Review

Some theories are using to strengthen this research based on valid statement stated in the book and journals. The theories uses in this research are highly related with company's financial condition, profit growth and financial ratio. There literature review are using for building hypothesis as a guideline. For detail information about literature review see Chapter 2: Literature Review

c. Microsoft Excel 2007 & SPSS 17

The combination between Microsoft Excel 2007 version and SPSS (Statistical Package for Social Science) version 17.0 are used in processing statistical data for determine the correlation each variables. Microsoft excel is used as the place for input raw data sourced from company's financial report and spss is purposed to analyze data for multicollinearity, normality, autocorrelation and heteroscedasticity test and for the implementation of multiple linear regression.

3.4. Sampling Design

Population

Population is the whole object or a subject that is in the region, and meets some specific requirements related to research problems. (Nanang Martono, quantitative research methods, 2010). In any scientific research is always faced with the problem of population and sample, because the sample and population and is a source of data that will be used to achieve the research objectives.

The population this research is from Manufactur Company which listed in Indonesia Stock Exchange, as the emitter within the period 2005-2008. Manufactur sector was chosen because this sectors are assumed to continue to survive, because it is one of basic needs. Year 2005 - 2008 was chosen because in these years, the economic situation in Indonesia is stable and also considering the limitations of the data obtained. The population in this study amounted to 46 companies.

Sample

The sample represents some members of the selected population using a specific procedure that is expected to be representative of the population. The selection of samples is decided with the Nonprobability sampling techniques. Nonprobability sampling is a sampling technique that does not provide the same opportunities or the opportunity for each element or member to be elected as the sample population. In nonprobability there are several kinds of sampling techniques. The techniques to be used in this study is, purposive sampling, which is a technique to determine the sample with a certain consideration, which is highly competent with this research topic.

Purposive sampling technique used by writers who aim to obtain representative samples in accordance with specified criteria. Criteria for selected samples are:

- a) The Company has been listed on the JSE during the period between the years 2005 - 2008
- b) The Company does not exit (delisted) on the JSE during the study period
- c) During the period of research firm earns positive profits
- d) Publish the audited financial statements for the period of independent research

Sample selection process based on the criteria mentioned above, it appears as follows:

Table 3.1
Sample selection process based on criteria

No	Criteria	Criteria violations	Accumulation
1	Total manufacturing companies have been listed on the JSE in the year 2005-2007	0	149
2	The company does not exit (delisting) on the JSE during the study period	10	139
3	During the period of research, firm earns positive profits.	86	53
4	Company has positive financial ratio	23	30
Number of sample companies			30
Year of observation (number)			4
The number of total samples during the study period			120

3.5. Research of Variables

In doing inference on the population, not all characteristics of the population must be known, only one or a few characteristics of the population that need to be known, referred as a variable. According to (Arikunto, 2002: 96), the variable is an object of research or what became a focal point of research. Variables defined in the study divided into two groups, namely:

3.5.1. Dependent Variable

Dependent variable (bound) is variable depending on the independent variable given and measured to determine whether there is any influence / criteria from the free variable. The dependent variable (Y) in this study is earnings growth.

Earnings used in this study is income before Taxes. Can be formulated as follows (Usman, 2003):

$$\text{Earnings Growth (Y)} = \frac{\Delta Y_{it} = (Y_{it} - Y_{it-1})}{Y_{it-1}}$$

Di mana:

ΔY_{it} = corporate earnings growth in period t

Y_{it} = profit firm i in period t

Y_{it-1} = profit firm i in period t-i

3.5.2. Independent Variable

Independent Variable (free) is a variable that affecting other variables, or produce a result in another variable, which generally are happened in first order.

Free variable in this study consisted of: gross profit margin, net profit margin, operating profit margin, return on assets, return on investment, inventory turnover, total asset turnover, current ratio and debt to equity.

Operational definitions and measurements of the measurement of the variable - the variable is as follows:

1. Gross Profit Margin (X1)

GPM is a profitability ratio that shows the rate of return on gross profit on net sales.

Gross profit margin can be formulated as follows:

$$\text{GPM} = \frac{\text{gross profit}}{\text{net sales}}$$

If GPM increases, the financial performance will improve.

2. Net Profit Margin (X2)

Net profit margin is one of the profitability ratios. NPM showed its ability to generate net income to total net sales. NPM can be formulated as follows:

$$\text{NPM} = \frac{\text{earning after taxes}}{\text{net sales}}$$

Net sales

If NPM increases, the financial performance will improve.

3. Operating Profit Margin (X3)

Operating income is income from the company's main activities. Therefore, this profit should be greater than the yield of the major non-profit. OPM can be formulated as follows:

$$\text{OPM} = \frac{\text{net profit}}{\text{sales}}$$

If OPM increases, the financial performance will improve.

4. Return on Asset (X4)

Return on assets Included in the profitability ratios. This ratio indicates how much the level of productivity throughout the company's assets. ROA can be formulated as follows:

$$\text{ROA} = \frac{\text{Net Profit After Taxes}}{\text{Total Asset}}$$

If ROA increases, the financial performance will improve.

5. Return on Equity (X5)

Return on equity is the ratio of net profit to share holder's equity. It is the relationship between net income, with shareholder's fund. The formulation of ROA as follows:

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

If ROE increases, the financial performance will improve.

6. Inventory turnover (X6)

Inventory turnover is included in the activity ratio. This ratio is measures the overall efficiency of a firm.

IT can be formulates as follows:

$$IT = \frac{\text{Cost of Good Sold}}{\text{Average Inventory}}$$

If IT increases, the financial performance will improve.

7. Total Asset Turnover (X7)

Total asset turnover ratio is one that shows the efficiency of the profitability of all its assets (total assets) to support the company's sales (sales). TAT can be formulated as follows:

$$TAT = \frac{\text{sales}}{\text{total assets}}$$

If TAT increases, the financial performance will improve.

8. Current Ratio (X8)

Current Ratio is one of the liquidity ratio. This ratio measures the ability of company in settle the current obligation.

CR can be formulated as follows:

$$CR = \frac{\text{Current asset}}{\text{Current liabilities}}$$

If CR increases, the financial performance will improve.

9. Debt to Equity (X9)

Debt to equity included in leverage/solvency ratio. This ratio indicates the proportionate claims of owners and the outsiders against the firm's assets.

DTE can be formulated as follows:

$$DTE = \frac{\text{Total Debt}}{\text{Shareholder's Equity}}$$

If CR increases, the financial performance will decrease

3.6. Analysis Technique

This study is used multiple linear regression analysis. Multiple linear regression is an analysis of the relationship between several independent variables with one dependent variable. Data in this study will be processed in the form of *pooled cross-sectional*. Purpose of this method is the repetition in the sample entry into the SPSS at each measurement point. Each sample reflects population at the time it is drawn. ²

3.7. Classical Assumption Test

3.7.1. Normality Test

Normality test aims to test whether the regression model, the dependent variable and independent variables have normal distribution or not. A good regression model has a normal or nearly normal data distribution.

To detect the normality can be done by statistical tests. Statistical test used in this study is an analysis of the histogram graph (Normal probability plots).

Below are more details about this normality test can be done through the graph:

Graph Analysis

One of the easiest ways to see the normality of residuals is to look at a histogram graph, which compares observational data with approximately normal distribution. However, just by looking at the histograms, this can be confusing, especially for small sample size. Another method that can be used is to look at a normal probability plot that compares the cumulative distribution of the normal

²

http://localgov.fsu.edu/readings_papers/Research%20Methods/Podesta_Pooled_Time_Series_Cross_Section.pdf

distribution. Basis for a decision from the normal probability plot analysis is as follows:

- If the data are spread around the diagonal line and follow the direction of the diagonal line, it shows the normal distribution pattern, then the regression model to meet the assumption of normality.
- If the data are spread far from the diagonal line and did not follow directions or diagonal line pattern, it does not show normal distribution, then the regression model did not meet the assumption of normality.

3.7.2. Multicollinearity Test

Multicollinearity test has purpose to find out whether there are correlations in each of independent variable that will be use in regression model. A good regression model should not shows correlation between independent variables. If there is a correlation between the independent variable, this variable is not orthogonal. Orthogonal variable is the independent variable correlation values among the independent variables are zero. To detect the presence or absence multicollinearity in the regression model can be seen from the tolerance value or the variance inflation factor (VIF). As a basic reference can be concluded:

1. If *tolerance* value > 0.1 and VIF value < 10 , in conclusion there is no multicollinearity between independent variables in regression model.
2. If *tolerance* value < 0.1 and VIF value > 10 , in conclusion there is a multicollinearity between independent variables in regression model.

The simpler explanation would be, if VIF value around 1 and does not more than 10, and has *tolerance* value near 1, and *correlation* in each of independent variable is weak (less than 0,5) so in the regression model has not multicollinearity problem. In other way, if the criteria are not fulfilling, so in the regression model has multicollinearity problem.

3.7.3. Autocorrelation Test

In a linear regression model, assuming there is no existence of autocorrelation. Autocorrelation is the correlation between the presence of symptoms of error disruptors in period t with errors disruptors in period $t-1$ (previous period). If there is correlation, then the autocorrelation problem is occur. This problem arises because the residuals (errors disruptors) are not free from one observation to other observations, usually found in time series data (time series). The risk of autocorrelation in the regression model is not able to describe the sample variance, population variance, so that the resulting regression model cannot be used to assess the value of the dependent variable on the value of certain independent.

To detect whether there is autocorrelation, can be done by Durbin Watson test. The foundation in making decision if there is occur autocorrelation is based on the table below:

Table 3.2
Durbin Watson Table

< 1	Autocorrelation exist
1,1 – 1,54	Without Conclusion
1,55 – 2,46	No Autocorrelation exist
2,46 – 2,9	Without Conclusion
> 2,9	Autocorrelation Exist

3.7.4. Heteroscedasticity Test

Heteroscedasticity test has purpose to testing whether there is a difference variance residual value in regression model from each observation. If the residual variance is static from each observation, then it called Homoscedasticity, and if the residual variance is difference, then it called Heteroscedasticity.

A good regression model is have to occur the homoscedasticity or do not have heteroscedasticity problem.

To detect the heteroscedasticity, can be done by looking at the graph plot between the predicted value of the dependent variable (ZPRED) with residual (SRESID).

The basic analysis:

1. If there is a certain pattern, like dots that form a pattern particular, the regular pattern (wavy, broad, then narrows), it indicates there has been heteroscedasticity.

2. If there is no particular pattern and the spread of points above and below zero on the Y axis, then there is no homoscedasticity, that indicates there has been heteroscedasticity.

3.8. Testing the Hypothesis

This research is using multiple regression analysis technique to find out the influence independent variable to dependent variable.

Based on J. Supranto, regression coefficient model is as follows:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_2 + b_5 X_5 + b_6 X_6 + b_7 X_7 + b_8 X_8 + b_9 X_9 + b_{10} X_{10} + e$$

Where:

Y	= Earnings Growth
a	= Constant
b ₁ , b ₂ , b ₃ , ..., b ₉	= linear regression coefficient based on n data objects
X ₁	= Gross Profit Margin
X ₂	= Net profit Margin
X ₃	= Operating profit Margin
X ₄	= Return on Asset
X ₅	= Return on investment
X ₆	= Inventory Turnover
X ₇	= Total Asset Turnover
X ₈	= Current Ratio

X9	=Debt to Equity
X10	= Leverage Ratio
E	= Errors

1. Simultaneous Test / F statistic test

Simultaneous test have a purpose to show that all independent variables which inputting to the model has significance influence simultaneously to dependent variable. Simultaneous test is using F statistic (ANOVA) tests which is a form of simultaneous test from independent variables and dependent variables.

The foundation in taking the decision is based on:

If F-statistic $< 0,05$ then H_0 is rejected and H_a is accepted, it means independent variables simultaneously has influence to dependent variables.

Whereas, if F-statistic $> 0,05$ so H_0 is accepted and H_a is rejected, it mean all independent variables simultaneously has no significance influence to dependent variables.

2. Partial test or t-test

The t-test has a purpose for testing each of independent variables to dependent variables to know how much the impact of independent variables partially to dependent variables. The t-test is done by comparing the result of t-statistic significant calculation with level α (0,05), where if there is a significant happen $> 0,05$ so H_0 is accepted. Whereas if the significant $< 0,05$ then H_0 is rejected.

If the result of significant test $> \alpha$ then H_0 is accepted, means, the nine variables has no significance influence to profit growth with the level confidence of 95%. In other way, if significant test $< \alpha$ then H_0 is rejected, means the nine variables has significance influence to dependent variable which is stock return with the level confidence of 95%.

3.9. Limitations

In general, there were no significant limitations which constrained the data gathering process since author only obtained financial statement from several sources. However, the data analysis was constrained by several problems due to lack of essence materials and journals in president university campus library. The author had to go to other places as well as University of Indonesia library and Bina Nusantara library.

CHAPTER IV

ANALYSIS DATA AND INTERPRETATION OF RESULT

4.1. Observation Unit Outlook

As the sampling criteria, which is purposive sampling method, this study uses manufacturing companies as the sample; throughout the period 2005 – 2007 issued annual financial statement with positive earnings information. After choosing the criteria, obtained 30 manufacturing companies as the samples of data for analysis. The sample selection processes are presented in the table below.

Table 4.1
Criteria of Sampling

No	Criteria	Criteria violations	Accumulation
1	Total manufacturing companies have been listed on the JSE in the year 2005-2007	0	149
2	The company does not exit (delisting) on the JSE during the study period	10	139
3	During the period of research, firm earns positive profits.	86	53
4	Company that has positive financial ratio	23	30
Number of sample companies			30
Year of observation (number)			4
The number of total samples during the study period			120

Source: ICMD 2009

Based on the criteria above, the companies that fulfill the criteria to be the sample in this research, is as follows:

Table 4.2
Representative list of samples

No	Category of Industry	Code	Name of the Companies
1.	Food and Beverages	DLTA	Delta Djakarta Tbk
2.		INDF	Indofood Sukses Makmur Tbk
3.		MYOR	Mayora Indah Tbk
4.		FAST	Fast Food Indonesia Tbk
5.	Tobacco Manufactures	GGRM	Gudang Garam Tbk
6.		HMSP	HM Sampoerna Tbk
7.	Apparel and Other Textile Products	INDR	Indorama Synthetics Tbk
8.		BATA	Sepatu Bata Tbk
9.	Chemical and Allied Products	AKRA	AKR corporindo Tbk
10.		BUDI	Budi Acid Jaya Tbk
11.	Adhesive	EKAD	Ekadharna Tape Industries Tbk
12.	Plastics and Glass Products	AKPI	Argha Karya Prima Industry Tbk
13.	Cement	SMGR	Semen Gresik Tbk
14.	Metal and Allied Products	ALMI	Alumindo Light Metal Industry Tbk
15.		BTON	Betonjaya Manunggal Tbk
16.		CTBN	Citra Tubindo Tbk
17.	Electronic and Office Equipment	ASGR	Astra Graphia Tbk
18.	Automotive and Allied Products	AUTO	Astra Otoparts Tbk
19.		UNTR	United Tractors Tbk

20.		HEXA	Hexindo Adiperkasa Tbk
21.		INTA	Intraco Penta Tbk
22.		BRAM	Branta Mulia (Indo Kordsa) Tbk
23.	Pharmaceuticals	SQBI	Bristol-Myers Squibb Indonesia Tbk
24.		DVLA	Darya-Varia Laboratories Tbk
25.		KLBF	Kalbe Farma Tbk
26.		MERK	Merck Tbk
27.	Consumer Goods	TCID	Mandom Indonesia Tbk
28.		EPMT	Enseval Putra Megatrading Tbk
29.		HERO	Hero Supermarket Tbk
30.		ACES	Ace Hardware Indonesia Tbk

Source: ICMD 2009

4.2. Analysis and Interpretation

4.2.1. Descriptive Statistic

This study uses data in the form of *pooled cross-sectional*. This study examines the years from 2005 – 2008 with 30 samples manufacturing companies, then using a pooled cross-sectional method, acquired 30 manufacturing x 4 years = 120 observations of data.

Independent variables used in this study are CR, DTE, LR, NPM, GPM, OPM, IT, TAT, ROA and ROE, and the dependent variable is earnings growth. Earnings growth data is obtained from the calculation that is derived based on the annual financial statement from the ICMD.

Descriptive statistics to be discussed include: The amount of data (N), The average sample (Mean), Maximum value, Minimum value, and Standard deviation (σ) for each variable. The meaning of *minimum value* is a form of the lowest amount from all the data has been gathered in a certain period of time. *Maximum value*, is a form of highest amount from all of the data which analyzed by the writer in a certain period of time. The meaning of *mean* (μ), is a value that shows average amount from all of the data. *Standar deviation* (σ), is a form of value which showing the variation or dispersion from the data that will be analyzed.

With the Microsoft excel and SPSS 17 program, a description of statistical research data can be viewed in the following table:

Table 4.3
Descriptive Statistics

	N	Minimum	Maximum	Mean (μ)	Std. Deviation (σ)
earnings growth	120	-0.86	9.73	0.5755	1.4418
debt to equity	120	0.08	3.76	1.0137	0.7520
operating profit margin	120	0.01	14.43	0.3579	1.6399
inventory turnover	120	0.06	15.89	5.1123	2.7352
total asset turnover	120	0.69	3.37	1.4821	0.6209
return on asset	120	0.00	0.39	0.0994	0.0789
gross profit margin	120	0.06	0.66	0.2834	0.1689
current ratio	120	0.74	17.61	2.6491	2.1426
leverage ratio	120	0.07	0.76	0.4310	0.1780
net profit margin	120	0.01	4.22	0.2062	0.6019
return on equity	120	0.01	0.62	0.1751	0.1199
Valid N (listwise)	120				

Source: research data that processed using SPSS 17

Below is the explanation of the calculation from the table above:

1. Earnings growth is the ratio between income after tax in year t (current year) less the profit after tax in year t-1 (previous year) with a profit after tax in year t-1, which varies up and down, shows that out of 30 companies with 120 data observations. The minimum value is (-0.86) and the maximum value is 9.73. The *mean* of earnings growth during the period observations of 0.5755 with $\delta >$ mean earnings growth. The greater the standard deviation shows that the more fluctuate and uncertain the changes in profit rates from 30 manufacturing companies within the period of the study.

2. Financial ratios Debt to Equity which is the ratio between total debt to shareholder's equity varies up and down throughout the study period, showed a mean of 1.0137, with $\delta < \text{mean}$ (0.75201). The minimum value is 0.08, and the maximum value is 3.76. This shows that the debt to equity ratio indicates good results, because the δ that reflects the deviation of the variable data is low enough. The smaller the standard deviation, not really indicate fluctuating and uncertain the changes of debt to equity value from 30 manufacturing companies over the study period.

3. Operating Profit Margin ratio is the ratio between operating profit to net sales, during the period showed the up and down variations, with a mean of 0.3579, and $\delta > \text{mean}$, that is equal to 1.63993. The minimum is 0.01, and the maximum value is 14.43. This shows that the operating profit margin ratio not indicates good result, because the δ that reflects the deviation of the variable data is high. The greater the standard deviation shows that the more fluctuate and uncertain the changes in operating profit margin from 30 manufacturing companies within the period of the study.

4. Inventory Turnover ratio which is the ratio between cost of goods sold by average inventories, throughout the study period showed up and down variations, with a mean of 5.1123, and $\delta < \text{mean}$ (2.73515). The minimum value is 0.06 and the maximum value is 15,89. This shows the Inventory Turnover ratio indicates a good thing, because δ is smaller than the mean. The smaller the standard deviation, not really indicate fluctuating and uncertain the changes of inventory turnover value from 30 manufacturing companies over the study period.

5. Total Asset Turnover financial ratios which is the ratio between sales to total assets, over the study period showed up and down variations, with a mean of 1.4821, and $\delta < \text{mean}$, that is equal to 0.62087. The minimum value is 0.69 and the maximum value is 3.37. This shows Total Asset Turnover ratio indicates a good thing, because δ is smaller than the mean. The smaller the standard deviation, not

really indicate fluctuating and uncertain the changes of total asset turnover value from 30 manufacturing companies over the study period.

6. Return on Assets ratio which is the ratio between net profit after taxes by total assets, over the study period showed variations up and down, with a mean of 0.0994, and $\delta < \text{mean}$, that is equal to 0.07885. The minimum value is 0.00, and the maximum value is 0.39. This show Return on Asset ratio indicates a good thing, because δ is smaller than the mean. The smaller the standard deviation, not really indicate fluctuating and uncertain the changes of return on asset value from 30 manufacturing companies over the study period.

7. Financial Ratios Gross Profit Margin is the ratio between gross profit by net sales, during the period showed up and down variations, with a mean of 0.2834, and $\delta < 0.16887$. The minimum value is 0.06, and the maximum value is 0.66. This shows that the variable gross profit margin indicates a good result, because the δ that reflects the deviation of the variable data is smaller than the mean value. The smaller the standard deviation, not really indicate fluctuating and uncertain the changes of gross profit margin from 30 manufacturing companies over the study period.

8. Financial Ratios Current ratio is the ratio between current assets to current liabilities varies up and down throughout the study period, showed a mean of 2.6491, with $\delta < \text{mean}$ (2.14258). The minimum value is 0.74, and the maximum value is 17,61. This shows that the current ratio indicates a good result, because the δ that reflects the deviation of the variable data is low enough, because it is smaller than the mean. The smaller the standard deviation, not really indicate fluctuating and uncertain the changes of current ratio value from 30 manufacturing companies over the study period.

9. Leverage Ratio which is the ratio between total liabilities to total assets vary up and down throughout the study period, showed a mean of 0.4310, with $\delta < \text{mean}$ (0.17803). The minimum value is 0.07, and the maximum value is 0.76. This shows that the leverage ratio indicates a good result, because the δ that reflects the deviation of the variable data is low enough, because it is smaller than the mean. The smaller the standard deviation, not really indicate fluctuating and uncertain the changes of leverage ratio value from 30 manufacturing companies over the study period.

10. Net Profit Margin ratio is the ratio of earnings after tax by net sales, during the period showed up and down variations, with a mean of 0.2062, and $\delta > \text{mean}$, that is equal to 0.60183. The minimum value is 0.01, and the maximum value is 4.22. This shows the Net Profit Margin ratio indicates unfavorable outcome, because of δ greater than the sum of the mean. The greater the standard deviation shows that the more fluctuate and uncertain the changes in net profit margin from 30 manufacturing companies within the period of the study.

11. Financial Ratios Return on Equity which is the ratio of net income to shareholder's equity, over the study period showed up and down variations, with a mean of 0.1751, and $\delta < \text{mean}$, that is equal to 0.11999. The minimum value is 0.01, and the maximum value is 0.62. This shows the Return on Equity ratio indicates good results, because δ is smaller than the mean number. The smaller the standard deviation, not really indicate fluctuating and uncertain the changes of return on equity value from 30 manufacturing companies over the study period.

4.2.2. Testing Data and Hypothesis

a. Bivariate test

Bivariate test is to find out whether there is correlation between variables. In this study, bivariate test has purpose to find out whether there is correlation between each independent variables to dependent variable. Variables that can enter the multivariate model, is the variables which has p value ≤ 0.25 . The test will be used in this study is the test of correlation, because the form of variables is numerical variables.

(Table is attached on appendix)

From the bivariate analysis with correlation test above, the variables that has p value ≤ 0.25 , are: *gross profit margin*, *inventory turnover*, *total asset turnover*, *return on equity*, *debt to equity* and *operating profit margin*, this variables can be entered in to regression model, and the rest of variables that has p value ≥ 0.25 , which are: *current ratio*, *leverage ratio*, *net profit margin*, and *return on asset* cannot be entered to regression model.

Thus, it is done all the selection of independent variables, from ten independent variables, has been chosen six of financial ratios that can entered to the next process, which is multivariate model.

b. Classical Assumption Test

A tool that is used to answer the purposes of this research is multiple linier regressions. Regression is the correlation between one dependent variable with one or more independent variable which later will be represented in the regression equation model. Classical assumption test is used to test whether the regression model used in the study ready to be tested or not.

Classical assumption test is used to ensure that there is no multicollinearity, autocorrelation, and heteroscedasticity within the model used, also have normal distribution. If overall conditions are met, then the writer can do hypothesis test to testing the influence between independent variables and dependent variable.

- **Normality Test Assumption**

This test has purpose to find out whether the data have normal distribution or not, using the multiple regression linear analysis. A good regression model is the one that has normal distribution or close to normal (Epri ayu hapsari, 2007)

Normal P-P Plot of Regression Standardized Residual

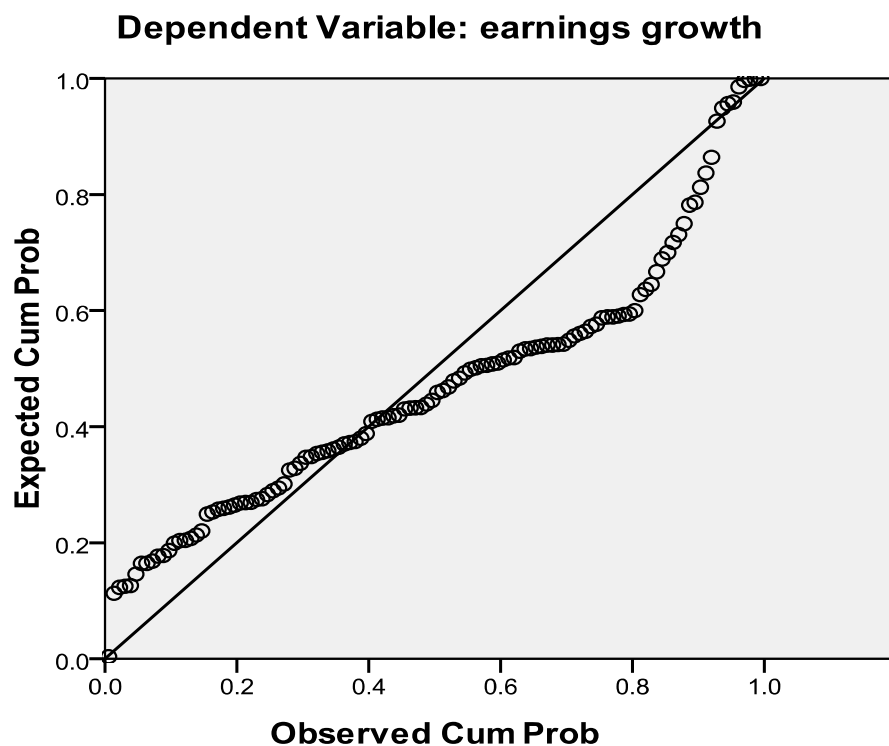


Figure 4.1: The Result of Normality Assumption Test for the Year 2005 - 2008
From the graphic of Normal Probability Plot above, it can be seen that the dots spread around diagonal line, and the spreading follow the direction of diagonal line,

it shows that the data have normal distribution and ready to be use in analysis, because has fulfill normal assumption test.

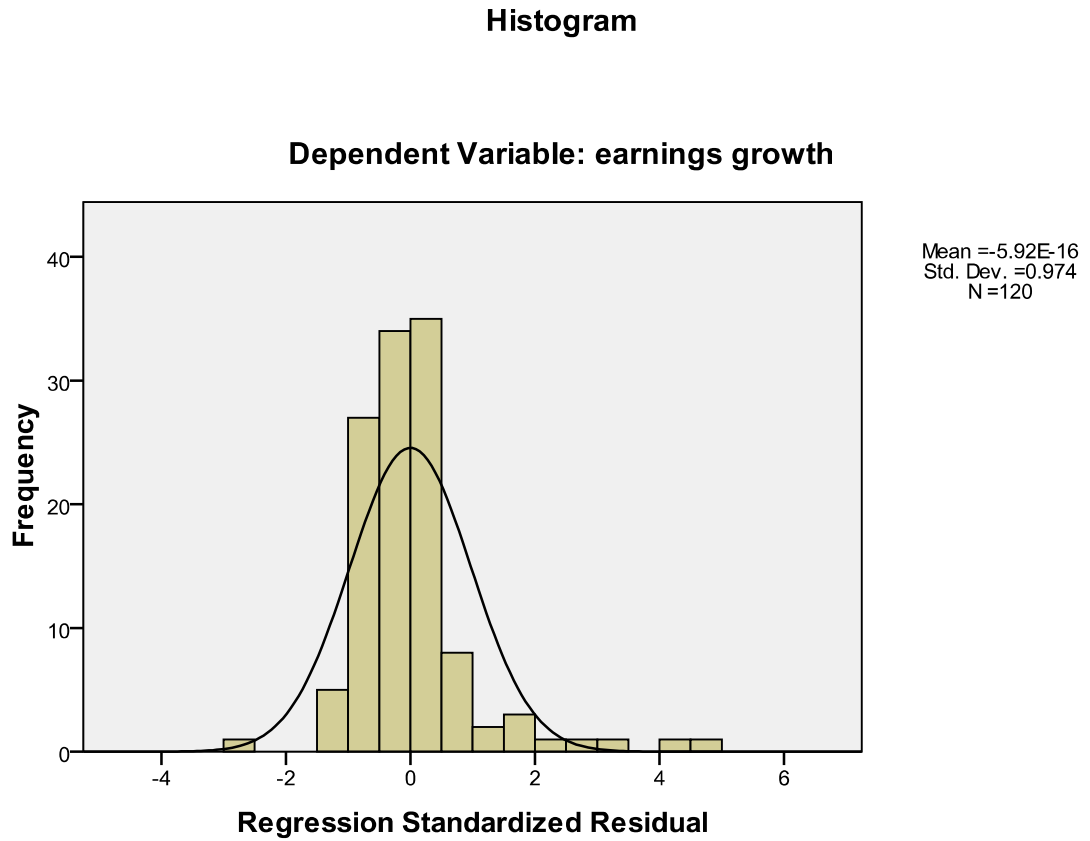


Figure 4.2: The Result of Normality Assumption Test by Histogram Graph for the Year 2005 – 2008

While, on histogram graphs in figure 4.2, we can see that the distribution of residual values (error) showed a normal distribution (bell-shaped image). Thus, the conditions of normality distribution are met, and can conduct further research.

- **Autocorrelation Test**

Autocorrelation shows there correlation between disturbance errors in current period and disturbance errors in previous period. The consequences if there is autocorrelation is, the variance of sample cannot describe the population, the worst consequences is, the regression model cannot be use to describe the relations between independent and dependent variable.

Autocorrelation test have a purpose to testing whether in a linier regression model there are correlation between the disturbance errors in t period (current period) with the disturbance errors in period t-1 (previous period). The foundation in taking the decision in autocorrelation test is using the Durbin – Watson theory, by looking on the figure 4.4.

Table 4.4
Autocorrelation Table

< 1	Autocorrelation exist
1.1 – 1.54	No conclusion
1.55 – 2.46	No autocorrelation exist
2.46 – 2.9	No conclusion
> 2.9	Autocorrelation exist

Source: Hapsari (2007)

As the table 4.4 shows above, we can see the numeral value and the decision. If the value of DW (Durbin Watson) is more less than 1 and more greater than 2.9, it indicates that there is no autocorrelation exist. If the DW value is in between 1.1 – 1.54 and if it is between 2.46 – 2.9, it indicates that there is no conclusion, means the correlation between independent and dependent variable is almost has autocorrelation problem.

If met the autocorrelation or no conclusion decision, for eliminate the errors can be decrease the amount of period. If the DW value is in between 1.55 – 2.46, means there is no autocorrelation exist.

Table 4.5
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.494 ^a	.244	.204	1.28660	1.997

a. Predictors: (Constant), operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment

b. Dependent Variable: earnings growth

As the table 4.5 shows above, we can see that the value of durbin-watson is 1.997. Based on the Durbin Watson table, the value of 1.997 is in between 1.55 – 2.46 (can be seen from table Durbin Watson). The value is located in the area that has no autocorrelation. Based on the result, the writer can conclude that regression model has no problem with autocorrelation and multiple regression models are suitable to be use in this research.

- **Multicollinearity Test**

Multicollinearity test assumption have a purpose to testing whether in a regression model is found an existence of correlation between one independent variable and another independent variable. If its occur multicollinearity, then one of independent variables must be out from the multiple regression model.

Multicollinearity test is done by seeing the value of VIF (Variance Inflation Factor) and the value of tolerance that generated from analysis data with SPSS. The foundation of taking the decision is, if VIF value is around 1 and more less than 10, also tolerance level is close to 1, it indicates in the regression model has no multicollinearity problem. On the other side, if VIF is exceed from 10, and the tolerance value is more than one, it indicates that there is multicollinearity problem exist.

The table of the result multicollinearity testing can be seen in table 4.6, as follows:

Table 4.6
Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	gross profit margin	.610	1.639
	inventory turnover	.655	1.527
	total asset turnover	.684	1.463
	return on equity	.644	1.553
	debt to equity	.703	1.422
	operating profit margin	.752	1.329

As we seen in the table above, the tolerance level and VIF value for all independent variables shows the value of:

- **Gross Profit Margin**

The tolerance value of gross profit margin ratio is 0.610, which is greater than 0.1. The VIF value is 1.639, which is less than 10, so there is no multicollinearity problem in the gross profit margin ratio

- **Inventory Turnover**

The tolerance value of inventory turnover ratio is 0.655, which is greater than the standard at 0.1. The VIF value is 1.527, which is greater than the standard at 10, so inventory turnover ratio has no multicollinearity problem.

- Total Asset Turnover

The tolerance value of total asset turnover ratio is 0.684, which is greater than the standard at 0.1. The VIF value is 1.463, which is greater than the standard at 10, so total asset turnover ratio has no multicollinearity problem.

- Return on Equity

The tolerance value of return on equity ratio is 0.644, which is greater than the standard at 0.1. The VIF value is 1.553, which is greater than the standard at 10, so return on equity ratio has no multicollinearity problem.

- Debt to equity

The tolerance value of debt to equity ratio is 0.703, which is greater than the standard at 0.1. The VIF value is 1.422, which is greater than the standard at 10, so debt to equity has no multicollinearity problem.

- Operating profit margin

The tolerance value of operating profit margin ratio is 0.752, which is greater than the standard at 0.1. The VIF value is 1.329, which is greater than the standard at 10, so operating profit margin has no multicollinearity problem.

The value of VIF for all independent variables are around numeral point of 1, and less than 10, and for tolerance level for all independent variables are close to 1. Based on the result, the writer can conclude that the regression model has no multicollinearity problem.

- **Heteroscedasticity Test**

Heteroscedasticity test is done to find whether in the regression model have similarities or irregularly variants from one observation to another. A good regression model is has to Homoscedasticity, means, the variance and the residual from one observation to another is stabil. There are several ways to detect the heteroscedasticity problem, in this study used scatter plot for the foundation of taking the decision. Homoscedasticity will be show if the dots in scatter plot scattered randomly, but if the dots are form a certain well ordered pattern, so can be conclude that in the multiple regression model has heteroscedasticity.

Heteroscedasticity test is done by seen the data spreading which represented by dots in the scatterplot graphic, in which the X-line is regression standardized predicted value, and Y-line is regression standardized residual.

Below is the graphic of heteroscedasticity test for the year 2005 – 2008 in figure 4.3.

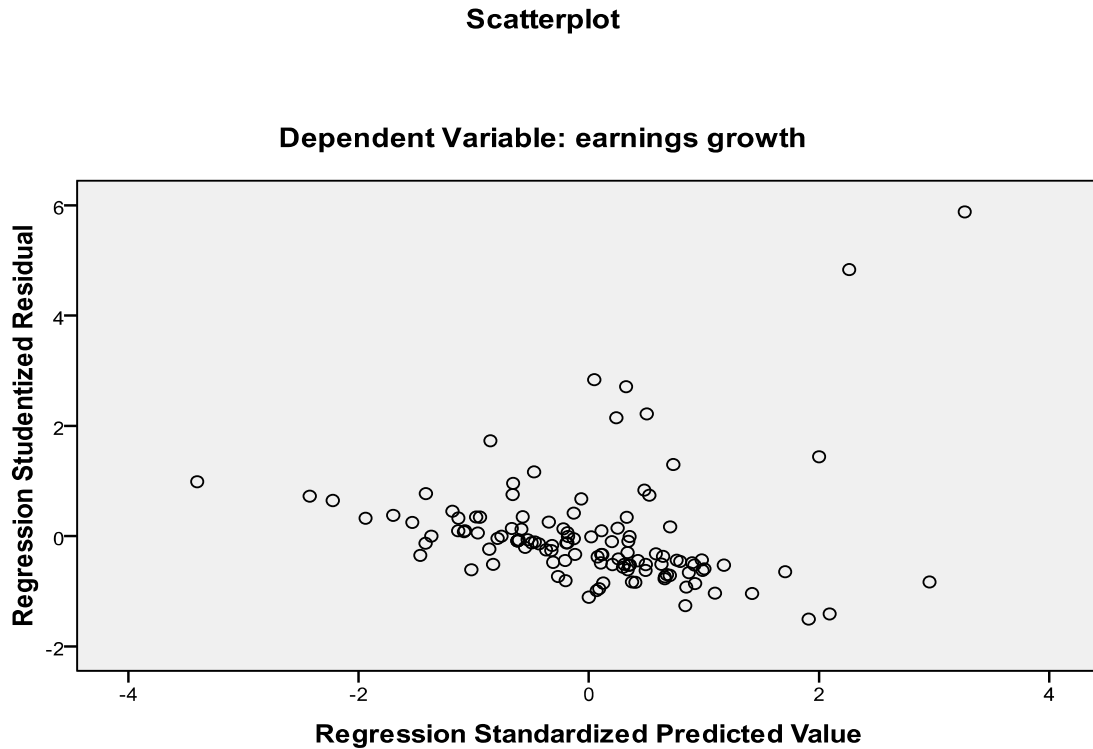


Figure 4.3: The Result of Heteroscedasticity Test for the year 2005 – 2008

In the figure 4.3, it can be seen that the image of data spreading in the scatter plot does not forming a certain pattern, also spreading below and above the numeral point of zero on line Y. From the graphic above, can be conclude that multiple regression model has no heteroscedasticity problem, so the data is suitable to be use in next process.

c. Multiple Regression Analysis

After doing the classical assumption test and testing all the data to be using in this research, can be concluded that the data normally distributed, there is no multicollinearity, autocorrelation and heteroscedasticity problem. Then the writer is going to the next level, which is testing the coefficient regression. The objective is to find out whether gross profit margin, inventory turnover, total asset turnover, return on equity, debt to equity and operating profit margin has influence in predicting earnings growth in the manufacturing companies, period 2005 – 2008. Regression model that will be use in this research is multiple linear regression equations. This research is done by using SPSS 17.

The testing multiple regression linear models is using probability level of 5%, means, if the result showing the significance level <0.05 so H_0 (independent variable has no significance to dependent variable) is rejected, and H_a (independent variables has significance to dependent variable) is accepted. In other way, if the testing showings the significance level > 0.5 then, can be conclude that H_0 is accepted and H_a is rejected.

Multiple linear regression equation use in this research is:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_2 + b_5 X_5 + b_6 X_6 + b_7 X_7 + e$$

Where :

Y = Earning Growth

A = Constant

$b_1, b_2, b_3, \dots, b_9$ = linear regression coefficient based on n data objects

X_1 = Gross Profit Margin

X_2 = Operating profit Margin

X_3 = Debt to equity

X_4 = Return on equity

X_5 = Inventory Turnover

X6 = Total Asset Turnover

Table 4.7
Output SPSS 17
Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment ^a		Enter

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment ^a		Enter

. All requested variables entered.

a. Dependent Variable : Earnings Growth

On table 4.8 shows variables that have input into SPSS program to be processing. Independent variables that already input are operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity and return on investment with dependent variable is earnings growth. The empty *Variables Removed* columns shows that there are no variables rejected in data processing, and the explanation below the table *All requested variables entered* means that all the variables is already inputted in the SPSS program is already complete.

Before go to further explanation about the result of testing linear regression , to find out the significance of each independent variable in predicting the dependent variable, the writer will explain about multiple regression linear equation including the meaning from that equation. The explanation in this part will be done based on the output from SPSS from the table below.

Table 4.8
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.199	.523		-.382	.704
gross profit margin	-.253	.894	-.030	-.283	.777
inventory turnover	.149	.053	.283	2.799	.006
total asset turnover	-.654	.230	-.282	-2.846	.005
return on investment	3.639	1.225	.303	2.971	.004
debt to equity	.323	.187	.169	1.728	.087
operating profit margin	.248	.083	.282	2.987	.003

a. Dependent Variable: earnings growth

• **Interpretation Regression Model Equation for the year 2005 – 2008**

The Equation of multiple regression model based on the data processing for the year 2005 - 2008 by using the SPSS program in this research (based on the table 4.8) is as follows:

$$Y = -0.199 - 0.253 X_1 + 0.149 X_2 - 0.654 X_3 + 3.639 X_4 + 0.323 X_5 + 0.248 X_6 + e$$

Where:

Y = Earnings Growth
A = Constant

$b_1, b_2, b_3, \dots, b_9$	= linear regression coefficient based on n data objects
X1	= Gross Profit Margin
X2	= Operating profit Margin
X3	= Debt to equity
X4	= Return on equity
X5	= Inventory Turnover
X6	= Total Asset Turnover
e	= Error term (residual)

Multiple regression equation above is showing the influence prediction to dependent variable that can be interpreted as follows:

- Constant value of -0.199 tells if gross profit margin, operating profit margin, debt to equity, return on equity, inventory turnover and total asset turnover have 0 values, then the amount of earnings growth is -0.199 per units (in percentage).
- Coefficient regression X1(b_1) of -0.253 explains about the change direction of gross profit margin variable to earnings growth in the contradictory direction. If gross profit margin increased 1 unit (in rupiah) with assumption total X2,X3,X4,X5 and X6 is constant or has a zero value, then there will be an decreased in earnings growth as big as -0.253. Whereas if there is a decreased in 1 unit with assumption total X2,X3,X4,X5 and ,X6 is constant or has zero value, then will increased earnings growth as big as -0.253.
- Coefficient regression X2(b_2) of 0.149 explains about the change direction of operating profit margin variable to earnings growth in the same direction. If operating profit margin increased 1 unit (in rupiah) with assumption total X1,X3,X4,X5 and X6 is constant or has a zero value, then there will be an increased in earnings growth as big as 0.149. Whereas if there is a decreased in 1 unit with assumption total X1,X3,X4,X5 and ,X6 is constant or has zero value, then will decreased earnings growth as big as 0.149.

- Coefficient regression X3(b3) of -0.654 explains about the change direction of debt to equity variable to earnings growth in the contradictory direction. If gross profit margin increased 1 unit (in rupiah) with assumption total X1,X2,X4,X5 and X6 is constant or has a zero value, then there will be an decreased in earnings growth as big as -0.654. Whereas if there is a decreased in 1 unit with assumption total X1,X2,X4,X5 and ,X6 is constant or has zero value, then will increased earnings growth as big as -0.654.

- Coefficient regression X4(b4) of 3.639 explains about the change direction of return on equity variable to earnings growth in the same direction. If return on equity increased 1 unit (in rupiah) with assumption total X1,X2,X3,X5 and X6 is constant or has a zero value, then there will be an increased in earnings growth as big as 3.639. Whereas if there is a decreased in 1 unit with assumption total X1,X2,X3,X5 and ,X6 is constant or has zero value, then will decreased earnings growth as big as 3.639.

- Coefficient regression X5(b5) of 0.323 explains about the change direction of inventory turnover variable to earnings growth in the same direction. If inventory turnover increased 1 unit (in rupiah) with assumption total X1,X2,X3,X4 and X6 is constant or has a zero value, then there will be an increased in earnings growth as big as 0.323. Whereas if there is a decreased in 1 unit with assumption total X1,X2,X3,X4 and ,X6 is constant or has zero value, then will decreased earnings growth as big as 0.323.

- Coefficient regression X6(b6) of 0.248 explains about the change direction of total asset turnover to earnings growth in the same direction. If total asset turnover increased 1 unit (in rupiah) with assumption total X1,X2,X3,X4 and X5 is constant or has a zero value, then there will be an increased in earnings growth as big as 0.248. Whereas if there is a decreased in 1 unit with assumption total X1,X2,X3,X4 and ,X5 is constant or has zero value, then will decreased earnings growth as big as 0.248.

- **Testing the Coefficient Regression**

After doing the analysis of the equation regression model for the year 2005- 2008 along with the interpretation, furthermore will be done the coefficient regression testing that makes a hypothesis as guidance.

- **Partial Test (t Statistic Test)**

In this step the writer will be doing t statistic test, this test has purpose to find out whether independent variables can be used for predicting the dependent variable. This test is done by comparing the significant value shown in table 4. With the standard significance value at 0.05. This testing is based on this hypothesis

Ho : not significant coefficient regression. Each variables is not influence partially to earnings growth.

Ha : significant coefficient regression. Each variable is influencing partially to stock earnings growth.

If the significance value in the analysis result has a value >0.05 then Ho is accepted. Whereas, if the significance value in the analysis result has a value <0.05 then Ho is rejected, and Ha is accepted.

Table 4.9
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.199	.523		-.382	.704
gross profit margin	-.253	.894	-.030	-.283	.777
inventory turnover	.149	.053	.283	2.799	.006
total asset turnover	-.654	.230	-.282	-2.846	.005
return on equity	3.639	1.225	.303	2.971	.004
debt to equity	.323	.187	.169	1.728	.087
operating profit margin	.248	.083	.282	2.987	.003

a. Dependent Variable: earnings growth

From the result of t statistic test for the year 30 manufacturing companies within 2005 – 2008 can be seen that:

- Gross profit margin has significance value at 0.777, the value is more than 0.05, then Ho is accepted, and Ha is rejected

- Inventory turnover has significance value at 0.006, the value is less than 0.05, then Ho is rejected and Ha is accepted

- Total asset turnover has significance value at 0.005, the value is less than 0.05, then H_0 is rejected and H_a is accepted
- Return on equity has significance value at 0.004, the value is less than 0.05, then H_0 is rejected and H_a is accepted
- Debt to equity has significance value at 0.087, the value is more than 0.05, then H_0 is accepted and H_a is rejected
- Operating profit margin has significance value at 0.003, the value is more than 0.05, then H_0 is rejected and H_a is accepted.

➤ **Simultaneous Test (ANOVA / F statistic test)**

The second hypothesis testing that will be done in this research is F statistics test or more famous with the called ANOVA test. ANOVA test has a purpose to find out whether there are any correlation between independent variables and dependent variable simultaneously.

ANOVA test foundation is based on the value of multiple correlations (R), and multiple determinations (R_2) from SPSS output. This test is based on the hypothesis:

H_0 : not significant coefficient regression, it means that each of independent variables not influence simultaneously to earnings growth

H_a : significant coefficient regression, it means that each of independent variables influencing simultaneously to earnings growth.

The foundation in taking the decision is based on the significant level that is showed by ANOVA result table test. From the ANOVA test, it can be concluded as a significant correlation between independent and dependent variable simultaneously, when, the significant value in ANOVA table result is below 0.05. If the significant value is >0.05, Ho is accepted, and if the value is <0.05, then Ho is rejected.

Below is the result of ANOVA test by SPSS.

Table 4.10
ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	60.324	6	10.054	6.074	.000 ^a
	Residual	187.052	113	1.655		
	Total	247.377	119			

a. Predictors: (Constant), operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment

b. Dependent Variable: earnings growth

Based on the table 4.9, can be seen that F value for the analysis in period 2005 – 2008 showing the value at 6,074, with the signifance value at 0.000^a, because the significance level is less than 0.05, it can be conclude that Ho is rejected and Ha is accepted, means, all independent variables significantly influence in predicting the dependent variable.

Besides the significant value, multiple correlations (R) is being use in this ANOVA test. If the value of multiple correlation (R) is more than or equal than 0.5, can be conclude that independent variables has strong relation to its dependent variable and the other way.

Table 4.11
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622 ^a	.387	.343	1.25896

a. Predictors: (Constant), operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment

b. Dependent Variable: Earnings Growth

Multiple correlation (R) at 0.622 on the table 4.10 shows that between independent variables and dependent variable has a strong relation because the multiple correlation value is more than 0.5.

Multiple determination (R²) on table 4.10 is at 0.387 which means, only 38.7% dependent variable can be explained by its independent variables, whereas the remainder, 61.3% is explained by other factors outside the model.

4.3. Hypothesis Testing

4.3.1. Hypothesis 1 (H1)

The first hypothesis in this study is the gross profit margin ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. From the research, obtained results of the regression coefficient for the gross profit margin amounted to -0.253 with significant value at 0.777, which is not significant because of greater than 0.05. Thus, the first hypothesis which states that the ratio of the GPM has a significant positive effect on earnings growth can not be accepted.

Based on the result of SPSS, indicates that the proportion of ups and downs of the GPM, which is the ratio between gross profit and net sales were not influencing in predicting profit growth. This result was the same with the result from previous research, Meythi, 2005, which states that the GPM has not effect in predicting profit growth in manufacturing companies. This condition may occur because the gross profit margin is the result of sales, which still produce costs that are quite large, such as, other income and taxes, thus may reducing company's profit.

4.3.2. Hypothesis 2 (H2)

The second hypothesis in this study is the net profit margin ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. Hypothesis 2 can not be accepted, because NPM was not passed the correlation test. By doing the correlation test, variables that can enter into the multivariate model is the variables that has p value ≤ 0.25 . While after bivariate test done, p value of net profit margin in 0.315, larger than the standard, so NPM ratio can not entered to the multivariate model.

Based on the SPSS output, NPM is the ratio that shows the comparison between net profit and total asset has no correlation with earnings growth, and hypothesis 2 is being rejected. This result is the same with the previous research conducted by Meythi, 2005. In her study “ *Rasio Keuangan yang Paling Baik Memprediksi*

Pertumbuhan Laba pada Perusahaan Manufaktur yang Terdaftar di BEJ” the result is NPM is not significantly influence the profit growth.

4.3.3. Hypothesis 3 (H3)

The third hypothesis in this study is the operating profit margin ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. From the research, obtained results of the regression coefficient for the operating profit margin at 0.248 with significant value at 0.003, which is significant because of less than 0.05. So that, the third hypothesis states that the ratio of the OPM has significant positive effect in predicting earnings growth can be accepted.

Based on the result of SPSS, indicates that the proportion of ups and downs of the GPM, which is the ratio between operating profit to total net asset is influencing in predicting profit growth. This result was the same with the result from previous research, Suwarno, 2004, which states that the OPM has significantly effect in predicting profit growth.

4.3.4. Hypothesis 4 (H4)

The fourth hypothesis in this study is the return on asset ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. Hypothesis 4 can not be accepted, because ROA was not passed correlation test. By doing correlation test, variables that can enter into multivariate model is the variable that has p value ≤ 0.25 , while ROA has p value at 0.442, greater than the standard, so ROA can not entered to the multivariate model.

Based on the SPSS output, ROA is the ratio that shows the comparison between earnings after taxes to total asset, has no correlation with earnings growth, and hypothesis 4 is being rejected. The result is the implication with the result of previous research, Meythi, 2005, that states only ROA that affecting profit growth.

4.3.5. Hypothesis 5 (H5)

The fifth hypothesis in this study is the return on equity ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. Hypothesis 5 can be accepted, because, from the research, obtained result of the coefficient regression for ROE amounted to 3.639 with significant value at 0.777, which is significant because of less than 0.05. Thus, the fifth hypothesis which states that the ratio of the ROE has a significant effect on earnings growth can be accepted.

Based on the SPSS output, indicates that the proportion of ups and downs of the ROE, which is the ratio between net income and shareholder's equity has an effect in predicting profit growth in manufacturing companies. This result was the same with the result from previous research, Meythi, 2005, that states, ROE has a significant effect in predicting earnings growth. This condition may occur because the higher return on asset, shows the higher amount from shareholder's have invested.

4.3.6. Hypothesis 6 (H6)

The first hypothesis in this study is the inventory turnover ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. From the research, obtained results of the regression coefficient for inventory turnover amounted to 0.149 with significant value at 0.006, which is significant because less than 0.05. Thus, the first hypothesis which states that the ratio of IT has a significant positive effect in predicting earnings growth can be accepted.

Based on the SPSS output, indicates that the proportion of ups and downs of the IT, which is the ratio cost of good sold and average inventory has an effect in predicting profit growth in manufacturing companies.

4.3.7. Hypothesis 7 (H7)

The seventh hypothesis in this study is the **total asset turnover** ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. From the research, obtained results of the regression coefficient for the gross profit margin amounted to -0.654 with significant value at 0.005, which is not significant because of less than 0.05. Thus, the seventh hypothesis which states that the ratio of the TAT has a significant positive effect on earnings growth can be accepted.

Based on the result of SPSS, indicates that the proportion of ups and downs of the TAT, which is the ratio between net sales to total asset has an effect in predicting the earnings growth. TAT ratio shows the efficient level of the company relating the ability to manage their asset, the faster the circumstances of the asset, then the higher their get the profit. If the company shows high TAT ratio, so it can be said that the company able to get high profit. The result is the implication with the result from previous researcher, Meythi, 2005, states that, TAT has no significant effect in profit growth.

4.3.8. Hypothesis 8 (H8)

The eight hypothesis in this study is the current ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. Hypothesis 8 cannot be accepted, because CR was not passed the correlation test. By doing the correlation test, variables that can enter into the multivariate model is the variables that has p value ≤ 0.25 . While after bivariate test done, p value of current ratio is 0.298, larger than the standard, so CR cannot enter to the multivariate model.

Based on the SPSS output, current ratio, which is the ratio that shows the comparison between total asset and total liabilities, has no correlation with earnings growth, and hypothesis 8 is being rejected. The result is same with the result in previous research by Takarini and Ekawati, 2003, that CR has not affecting the

profit growth. The logical analysis of the result is, the increasing of current ratio not always equal to increasing the profit. If the company may not be able to manage their asset and their liabilities, means they can not get the higher return, but if the asset is increase it is not only the reason that profit also may increase.

4.3.9. Hypothesis 9 (H9)

The first hypothesis in this study is the debt to equity ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. From the research, obtained results of the regression coefficient for the debt to equity ratio at 0.323 with significant value at 0.087, which is not significant because of greater than 0.05. So that, the third hypothesis states that the ratio of the DTE has significant positive effect in predicting earnings growth is accepted.

Based on the result of SPSS, indicates that the proportion of ups and downs of the DTE, which is the ratio between total debts to shareholder's equity has not effect in predicting profit growth.

4.3.10. Hypothesis 10 (H10)

The tenth hypothesis in this study is the leverage ratio has significant impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. Hypothesis 10 cannot be accepted, because LR was not passed the correlation test. By doing the correlation test, variables that can enter into the multivariate model is the variables that has p value ≤ 0.25 . While after bivariate test done, p value of net leverage ratio in 0.424, larger than the standard, so LR ratio cannot entered to the multivariate model.

Based on the SPSS output, LR is the ratio that shows the comparison between total liabilities and total asset has no correlation with earnings growth, and hypothesis 10 is being rejected. The logical reason for this analysis may be similar to current ratio, because asset and liabilities not only the reason for the profit growth.

4.3.11. Hypothesis 11 (H11)

The eleventh hypothesis is all financial ratio used in this study, simultaneously have impact in predicting the growth of earnings in manufacturing companies in period 2005 – 2008. Based on the ANOVA test, the significance value amounted at 0.000^a, because the significance level is less than 0.05, it can be concluded that the hypothesis 11 can be accepted, that GPM, IT, TAT, ROE, DTE and OPM simultaneously have an impact in predicting the earnings growth.

Based on the multiple correlation value at 0.622 which is more than 0.5, shows that between independent variables and dependent variable has a strong relationship, and based on multiple determination shows that only 38.7% dependent variable can be explained by its independent variables (GPM, IT, TAT, ROE, DTE and OPM) and the rest 61.3% is explained by other factors.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1. Conclusion

This study has purpose to test the usefulness of financial ratios in predicting the earnings growth of 30 manufacturing companies. There are four categories of financial ratios used in this study. From those categories, there are ten ratios as independent variables, which are: gross profit margin, net profit margin, operating profit margin, current ratio, debt to equity, leverage ratio, inventory turnover, total asset turnover, return on equity and return on asset. The sample is taken by purposive sampling method, and chosen 30 manufacturing companies as the samples within the period 2005 – 2008. Multiple linear regression is used as an analysis tool and expected that the result of this study may useful to the parties needed.

Based on the result of tested hypothesis in chapter IV, the writer came up with the conclusion as follows:

1. Based on Partial Test (t-test) the conclusion are:
 - Gross profit margin does not have significance influence in predicting the earnings growth for the year 2005 – 2008 with a level confidence at 95%. This matter can be prove with significant value at 0.777, the value is more than 0.05, so H_0 is accepted, that Gross profit margin does not influence partially to earnings growth. While, H_a is rejected, that Gross profit margin has significant influence partially to earnings growth.

- Inventory turnover has the significance influence in predicting the earnings growth for the year 2005 – 2008. This matter can be prove with significant value at 0.006, the value is less than 0.05, so Ho is rejected and Ha is accepted.
- Total asset turnover has the significance influence in predicting the earnings growth, because TAT has significance value at 0.005, which is less than 0.05, can be concluded, Ho is rejected, and Ha is accepted.
- Return on equity has the significance influence in predicting the earnings growth. It can be seen from the significance value at 0.004, the significance value is less that 0.05, then Ho is rejected and Ha is accepted.
- Debt to equity does not show the significance influence in predicting the earnings growth. The matter can be proved by looking at the significance value at 0.087, which is greater than 0.05. So, Ho is accepted and Ha is rejected.
- Operating profit margin has the significance influence to earnings growth. It can be seen from the significance value at 0.003, which is less than 0.05, then Ho is rejected and Ha is accepted.

From the partial test (t-Test) it can be concluded, the ratios that have significant influence in predicting earnings growth are Inventory Turnover, Total Asset Turnover, Return on Equity and Operating Profit Margin. While, the ratios that has not significance influence to earnings growth in this study are, Gross Profit Margin and Debt to Equity

2. Based on Simultaneous Test (F-test) the conclusion are:

➤ Simultaneously, all independent variables have significance influence in predicting the earnings growth for the year 2005 – 2008. It can be seen from the significance value from the ANOVA table at 0.000^a, which is less than the standard value, 0.05.

➤ Multiple correlations (R) for the year 2005 – 2008 shows that relation between earnings growth to its independent variables is strong, at the amount greater than 0.5, which is 0.622.

➤ The R² (multiple determination) value in the year 2005 – 2008 at 0.385, means that only 38.7% dependent variable can be explain by its independent variables, whereas the remainder of 61.3% is explained by other factors.

5.2. Limitation of research

Instead of based on the previous research, this study still has some limitation, remaining there are some factors can not be interpreted and explained in the analysis model:

1. Size of the company

In this study, the writer did not consider about the size of the company, which might be affected to the growth of earnings.

2. Economic condition

This study used the sample period within 2005 – 2008, whereas there might be an effect from the ups and downs of the Indonesian economic condition.

5.3. Recommendation

1. For the next researcher, hopefully the researcher may have longer observation period of time that makes the result of the data analysis is more accurate and better. Besides, observation from another industries not only from manufacturing companies, and the total of the samples in this research is also can be added to see the result of analysis.
2. The writer also recommend for adding some economic factors as the independent variables, considering that Indonesia has uncertain economic conditions, such as: inflation, exchange rate, etc.

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APPENDICES

The Result of SPSS For The Year of 2005 – 2008

Regression

Descriptive Statistics

	N	Minimum	Maximum	Mean (μ)	Std. Deviation (σ)
earnings growth	120	-0.86	9.73	0.5755	1.4418
debt to equity	120	0.08	3.76	1.0137	0.7520
operating profit margin	120	0.01	14.43	0.3579	1.6399
inventory turnover	120	0.06	15.89	5.1123	2.7352
total asset turnover	120	0.69	3.37	1.4821	0.6209
return on asset	120	0.00	0.39	0.0994	0.0789
gross profit margin	120	0.06	0.66	0.2834	0.1689
current ratio	120	0.74	17.61	2.6491	2.1426
leverage ratio	120	0.07	0.76	0.4310	0.1780
net profit margin	120	0.01	4.22	0.2062	0.6019
return on equity	120	0.01	0.62	0.1751	0.1199
Valid N (listwise)	120				

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	Current Ratio	Gross Profit Margin	Operating Profit Margin	Net profit Margin	Inventory Turnover	Total Asset Turnover
1	1	4.345	1.000	.00	.01	.01	.00	.01	.01	.01
	2	.978	2.108	.00	.00	.00	.45	.31	.00	.00
	3	.917	2.177	.00	.02	.02	.20	.51	.00	.00
	4	.419	3.219	.00	.40	.02	.07	.11	.07	.05
	5	.182	4.884	.00	.44	.68	.15	.03	.10	.00
	6	.108	6.350	.00	.01	.12	.03	.00	.55	.68
	7	.051	9.231	.99	.13	.15	.08	.03	.27	.26

a. Dependent Variable: Earnings Growth

Variables Entered / Removed

Model	Variables Entered	Variables Removed	Method
1	operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment ^a	.	Enter

Table 4.11
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622 ^a	.387	.343	1.25896

a. Predictors: (Constant), operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment

b. Dependent Variable: Earnings Growth

ANOVA^b

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	60.324	6	10.054	6.074	.000 ^a
Residual	187.052	113	1.655		
Total	247.377	119			

Predictors: (Constant), operating profit margin, gross profit margin, total asset turnover, inventory turnover, debt to equity, return on investment

b. dependent variable : earnings growth

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.199	.523		-.382	.704
gross profit margin	-.253	.894	-.030	-.283	.777
inventory turnover	.149	.053	.283	2.799	.006
total asset turnover	-.654	.230	-.282	-2.846	.005
return on equity	3.639	1.225	.303	2.971	.004
debt to equity	.323	.187	.169	1.728	.087
operating profit margin	.248	.083	.282	2.987	.003

a. Dependent Variable: earnings growth

Residuals Statistics^a

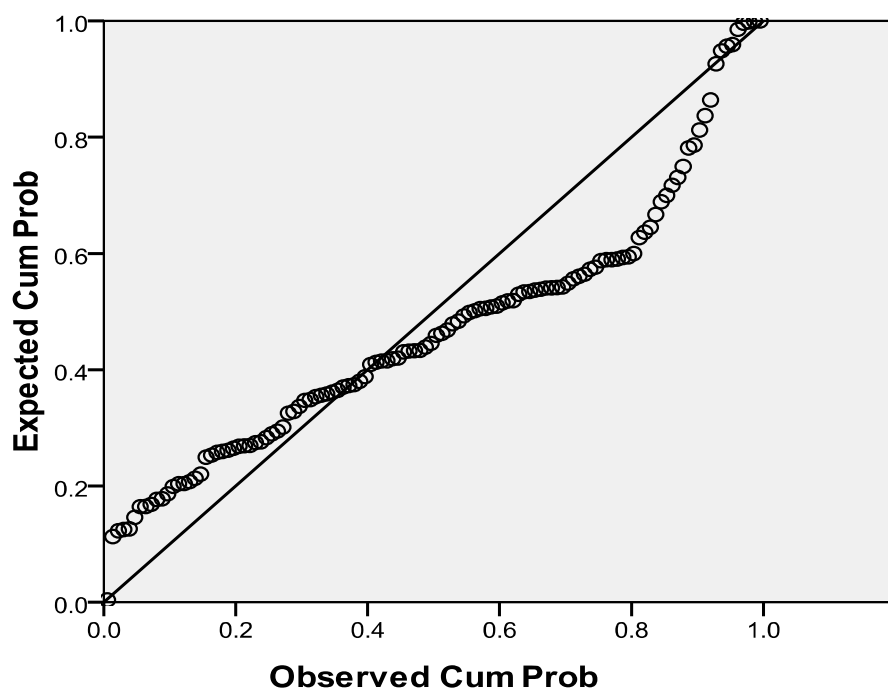
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.0376	8.2278	.5449	.96605	90
Std. Predicted Value	-1.638	7.953	.000	1.000	90
Standard Error of Predicted Value	.172	1.169	.312	.163	90
Adjusted Predicted Value	-2.7844	3.4001	.4381	.68550	90
Residual	-3.04998	6.47764	.00000	1.21579	90
Std. Residual	-2.423	5.145	.000	.966	90
Stud. Residual	-2.651	5.503	.022	1.064	90
Deleted Residual	-3.65102	10.84235	.10681	1.77213	90
Stud. Deleted Residual	-2.754	6.863	.044	1.172	90
Mahal. Distance	.682	75.681	5.933	10.479	90
Cook's Distance	.000	9.128	.121	.964	90
Centered Leverage Value	.008	.850	.067	.118	90

a. Dependent Variable: Earnings Growth

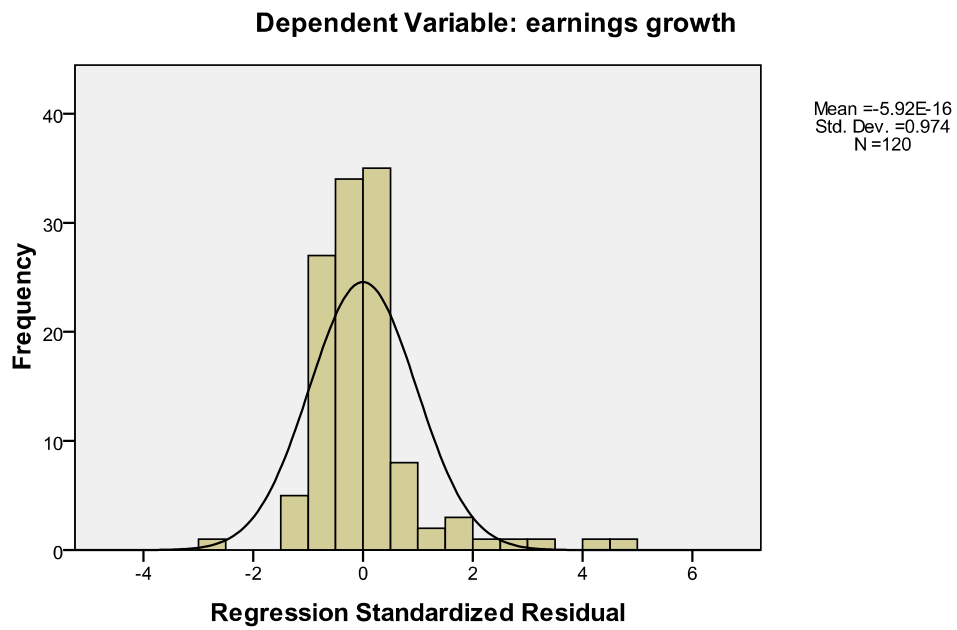
Charts

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: earnings growth



Histogram



Scatterplot

