MANAGEMENT OF EARNINGS THROUGH THE MANIPULATION OF REAL ACTIVITIES THAT AFFECT CASH FLOW FROM OPERATIONS

A THESIS

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

By

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Jogjakarta, December 2006

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ABSTRACT

Asrina, Dini Mulya (2006). Management of Earnings Through The Manipulation of Real Activities That Affect Cash Flows From Operation. Yogyakarta. Faculty of Economics. Islamic University of Indonesia.

This study tries to investigate whether there is any evidence of firm managers engaged in management of earning through the manipulation of real activities that affect cash flow from operation in reference to market value. This study concentrates on firm called "suspect firm-years". Suspect firm-years are firm years reporting small annual earnings and small annual earnings changes. Suspect firm-years have net income scaled by market value that is greater than or equal to zero but less than 0.005

This study uses secondary data which is taken from the financial statement of manufacture companies listed on Jakarta Stock Exchange (JSX) from 2001 until 2004. This study uses 319 samples, including suspect firm years. The amounts of suspect firm years are 15 companies.

This study analyzed data using multiple regressions which was developed by Sugata Roychowdhury (2004), involving four dependent variables and ten independent variables. In this study the writer failed to give empirical evidence whether there is any evidence of firm managers that engaged in management of earning through the manipulation of real activities that affect cash flow from operation in reference to market value. In order to make a different, the writer is replacing total asset at the beginning of year, the denominator for dependent variables, with market value at the beginning of year. But the results do not appear as the writer expected. None of independent variables are related significant to dependent variables. It also explains why the results of regression analysis are not consistent with the previous research done by Roychowdhury (2004).

Key Words: *Earnings. Earnings Management. Cash Flow from Operation.*

ABSTRAK

Asrina, Dini Mulya (2006). Manajemen Laba Melalui Manipulasi Aktivitas Riil yang Mempunyai Dampak Pada Arus Kas Operasi".

Studi ini mencoba untuk menemukan apakah terdapat bukti adanya manajemen laba yang dilakukan oleh manajer perusahaan melalui manipulasi aktivitas riil yang mempunyai dampak pada arus kas operasi yang berkenaan pada harga pasar. Studi ini dipusatkan pada perusahaan yang disebut dengan "*suspect firm years*". Termasuk dalam kategori *suspect firm-years* yaitu perusahaan yang pada tahun tersebut melaporkan laba tahunan yang kecil dan perubahan laba tahunan yang kecil. *Suspect firm years* adalah perusahaan yang melaporkan laba sebelum *item* luar biasa per total asset awal tahun antara 0 hingga 0,005.

Data yang digunakan dalam studi ini merupakan data sekunder yang diambil dari laporan keuangan perusahaan manufaktur yang terdaftar di Bursa Efek Jakarta selama periode 2001-2004. Jumlah sampel perusahaan manufaktur yang digunakan dalam studi ini adalah 319 perusahaan. Jumlah *suspect firm year* adalah 15 perusahaan.

Selanjutnya data yang diperoleh dianalisis regressi berganda yang telah dikembangkan oleh Sugata Roychowdhury (2004) yang melibatkan empat varibel terikat dan sepuluh variabel bebas. Dalam studi ini penulis tidak berhasil mendapatkan bukti empiris adanya manajemen laba yang dilakukan oleh manajer perusahaan melalui manipulasi aktivitas riil yang mempunyai dampak pada arus kas operasi yang berkenaan pada harga pasar. Untuk membuat perbedaan dengan penelitian sebelumnya, penulis mengganti total asset awal tahun dengan harga pasar awal tahun. Tetapi hasilnya tidak sesuai dengan harapan penulis. Tidak ada satupun variable bebas yang mempunyai hubungan yang signifikan dengan variable terikat. Ini dapat menjelaskan bagaimana hasil dari analisa regresi penulis tidak konsisten dengan penelitian sebelumnya yang dilakukan oleh Sugata Roychowdhury (2004).

Kata Kunci: Laba. Menejemen Laba. Arus Kas Operasi.

STATEMENT OF FREE PLAGIARISM

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

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

Yogyakarta, December ,2006

Dini Mulya Asrina

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Financial Accounting Standard Board (FASB) Statement of Financial Accounting Concept No.1 stated that the primary focus of financial reporting is information about an enterprise's performance provided by measure of earnings that provide important information for investment decisions for investors.

Management has direct access to accounting information about the firm and has the ability to use their discretionary power in the financial reporting in an attempt to affect earnings, for his/her own and/or company's benefits. Management, which is monitored by investors, directors, customers, and suppliers-acting in self-interest and at times for shareholders, have strong incentives to manage earnings.

Earnings, synonymous with profit which is also called income, are perhaps the single most studied number in a company's financial statements because they show a company's profitability and also one of the most important measures of a company's performance.

Earnings Management is the choice by a manager of accounting policies so as to achieve some specific objective (Scott, 2000). Managers are engaged in earnings management these activities because they perceive private benefits to meet certain earnings target or reporting goals. Manipulation of real activities during the year is one way to meet certain earnings target. This real activities manipulation, such as price discounts and reduction of discretionary expenses, are possibly optimal action given the economic circumstances of the firm. This real activity manipulation affects cash flows from operations (CFO).

The information obtained in cash flows is intended to show all of the cash inflows and outflows of the firm during the period. The statement of cash flow is one of the financial reports which show the effect from operating activities, financing activities, and investing activities of the firms towards cash flows within certain period of accounting by reconcile beginning balance and ending balance of cash.

PSAK No.2 described cash flow from operating activities as amount which are collected from the operating activities that can be used as an indicator to determine whether the company can produce the sufficient cash flow to settle a debt, maintain the company ability in operations, pay dividend and to make a new investment. Cash flow from operation generally comes from other transactions and event, which is influence earning or net loss. Particularly, cash flow from operating activities resulted from the main activity which produces earning in the company. Such as, cash revenue from sales; cash revenue from royalty, fees; cash payment for supplier; salary or wages for the employees; payment for tax; etc.

Based on above explanation, the writer is interested to investigate the management of earning through the manipulation of real activities that affect cash flow from operation. According to the background, the writer entitled this thesis **"Management of Earning through the Manipulation of Real Activities That Affect Cash Flow from Operation"**

1.2 Problem Formulation

To elaborate the focus of this research thoroughly and deeply, the writer wants to formulate the following problem as "Whether there is any evidence of firm managers engaged in management of earning through the manipulation of real activities that affect cash flow from operation in reference to market value"

1.3 Problem Limitation

To avoid misunderstanding and misappropriates in this study, the writer will restrict the scope and size of proposed study as follows;

1. This study will obtain the data from the manufacturing companies, which are listed in Jakarta Stock Exchange (JSX) from 2001 until 2004.
2. The writer concentrates on firm called **"suspect firm-years"**. Suspect firm-years are firm-years reporting small annual earnings and small annual earnings changes. Suspect firm-years have net income scaled by market value that is greater than or equal to zero but less than 0.005.
3. In this study the writer does not investigate whether earnings management is considered as financial fraud or not.
4. In this study the writer does not explain detail about market value beside only wants to make different from the previous research done by Sugata Roychowdhury (2004).

1.4 Research Objectives

The objectives of this research is to give empirical evidence whether there is any evidence of firm managers engaged in management of earning through the manipulation of real activities that affect cash flow from operation in reference to market value"

1.5 Research Contributions

The benefit or advantage of the research is relevant for the management of the firm and financial statement users to determine whether it is appropriate or not to choose the nature and extent of real activities manipulation as a way of management of earning that could affect cash flow from operation.

1.6 Definition of Term

Definition of term given in order to make readers understand what they are going to read as the main term on this thesis:

Earning Management is a purposeful intervention by managers in the external financial reporting process for his/her own and/or company's benefit.

Cash flow is a cash or cash equivalent inflow and outflows.

Statement of Cash flow is a part of financial statement which provides relevant information about the cash receipts and cash payments of an enterprise during a period. Statement of cash flows classify cash receipt and cash payment into three different activities; operating, investing, and financing activities. *Operating activities* involve the cash effects of transactions that enter into the determination of net income. (Kieso&Weygandt; 10th Ed.).

CHAPTER II

REVIEW OF RELATED LITERATURE

This section is about the review of related literature that will give explanations about the relevant theories used in conducting this research and the previous studies. This chapter explains about financial statements, earnings, earnings management, statement of cash flow, cash flow from operations, and agency theory. This chapter also explains more about review of related research which explains about some previous studies, theoretical framework that covers the theoretical assumption used as basis for the research. The hypothesis will also be explained in this chapter.

2.1 Financial Statement

SAK year 2002 stated that the objective of financial statement is to provide the 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.

The financial statements which most frequently provided are:

(1) *The balance sheet*; shows the financial condition of the enterprise at the end of a period.

(2) *Income statement*; which measures the results of operations during the period.

(3) *Statement of cash flows*; which reports the cash provided and used by operating, investing and financing activities during the period.

(4) *The statement of retained earnings*; which reconciles the balance of retained earnings account from the beginning to the end of the period. (Kieso & Weygandt; 10^{th} Ed.).

2.2 Earnings

Earnings, synonymous with profit which is also called income, are perhaps the single most studied number in a company's financial statements because they show a company's profitability and also one of the most important measures of a company's performance.

Earning has two major components, cash and accounting adjustments called accruals. Since the determination of the signs and sizes of accruals requires managers' judgment and estimation, accruals are more vulnerable to manipulation. But not all accruals are the result of earnings manipulation (Yu, 2005).

Earnings are important since they are used as a summary measure of firm performance by a wide rage of users. Earnings typically refer to after-tax net income. Ultimately, a business's earnings are the main determinant of its share price, because earnings and the circumstances relating to them can indicate whether the business will be profitable and successful in the long run.

2.3 Earnings Management

Earnings management occurs when managers use their discretionary power in the financial reporting process and in structuring transactions. Earnings management is the choice by a manager of accounting policies so as to achieve some specific objective (Scott, 2000)

2.3.1 Definitions of Earnings Management

Healy and Wahlen (1999), define earnings management as the alteration of firms' reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes.

Schipper (1989) describes earnings management as "a purposeful intervention in the external financial reporting process, with the intention of obtaining some private gain…a minor extension of this definition would encompass "real" earnings management, accomplished by timing investment or financing decision to alter reported earnings or some subset of it."

According to academic literature the definition of earning management:

> *Schipper (1989) in Dechow and Skinner (2000): "...purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process) …." .*
> *Healy and Wahlen (1999): "Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers"*

Turning to the professional literature, clear definitions of "earnings management" are difficult to discern from pronouncements and/or and statements and speeches by regulators, although an extreme form of earnings management, financial fraud, is well-defined (again in terms of managerial intent) as:

> *...the deliberate misrepresentation of the financial condition of an enterprise accomplished through the intentional misstatement or omission of amounts or disclosures in the financial statements to deceive financial statement users. (Certified Fraud Examiners, 1993) in Dechow and Skinner (2000).*

Leuz et al. (2003), define earnings management as the alteration of firms' reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes. They argue that incentives to misrepresent firm performance through earnings management arise, in part, from a conflict of interest between firms' insiders and outsiders. Insiders, such as controlling owners or managers, can use their control over the firm to benefit themselves at the expense of other stakeholders. Managers and controlling owners have incentives to manage reported earnings in order to mask true firm performance and to conceal their private control benefits from outsiders. For example, insiders can use their financial reporting discretion to overstate earnings and conceal unfavorable earnings realizations (i.e., losses) that would prompt outsider interference. Insiders can also use their accounting discretion to create reserves for future periods by understating earnings in years of good performance, effectively making reported earnings less variable than the firm's true economic performance. In essence, insiders mask their private control benefits and hence reduce the likelihood of outside intervention by managing the level and variability of reported earnings.

According to Roychowdhury (2004) there is substantial evidence that executives engage in earnings management. One means of managing earnings is by manipulation of accruals with no direct cash flow consequences, hereafter referred to as accrual manipulation. Examples include under-provisioning for bad debt expenses and delaying of asset write-offs. Managers also have incentives to manipulate real activities during the year to meet certain earnings targets. Real activity manipulation affects cash flows and in some cases, accruals as well. Managers engage in these activities either because they perceive private benefits to meeting the reporting goals or because they are acting as agents in value-transfers amongst stakeholders. An example of the latter would be earnings management to avoid debt covenant violation or to avoid governmental intervention.

2.3.2 Classification of Earnings Management

Earnings management can be classified into three categories:

1. Fraudulent accounting.

   Fraudulent accounting involves accounting choices that violate GAAP.

2. Accruals management.

   Accruals management involves within-GAAP choices that try to "obscure" or "mask" true economic performance (Dechow and Skinner, 2000).

3. Real earnings management.

   Real earnings management (RM) occurs when managers undertake actions that deviate from the first best practice to increase reported earnings

2.3.3 Targets of Earnings Management

Magnan and Cormier (1997) in Gumanti (2000) stated that there are three targets that are reachable by manager related to earnings management practice:

1. Political cost minimization
2. Manager wealth maximization
3. Minimization of financing costs.

2.3.4 Motivations of Earnings Management

Manager may engage in earnings management for variety reasons, for example as stated by Scott (2000:352-364):

1. **Bonus Purpose**

Managers have inside information on the firm's net income before earnings management. Since outside parties, including the Board itself, may be unable to learn what this number is, Healy predicted that managers would opportunistically manage net income so as to maximize their bonuses under their firm's compensation plans.

2. **Other contractual motivations**

   There are other contractual motivations for earnings management. An important case arises from long-term lending contrast, which typically contains covenants to protect the lenders against actions by managers that are against the lenders' best interest, such as excessive dividends, additional borrowing, or letting working capital or shareholders' equity fall below specified levels, all of which dilute the security of existing lenders.

3. **Political motivations**

   Many firms are quite politically visible. Such firms may want to manage earnings to reduce their visibility. This would entail, for example, accounting practices and procedures to minimize reported net income, particularly during periods of high prosperity. Otherwise, public pressure may arise for the government to step in with increased regulation or other means to lower profitability.

4. **Taxation motivations**

   Income taxation is perhaps the most obvious motivation for earnings management. However, taxation authorities tend to impose their own accounting rulers for calculation of taxable income, thereby reducing firms' room to maneuver. Consequently, taxation should not play a major role in earnings management decisions in general.

5. **Changes of CEO**

   A variety of income management motivations exist around the time of a change of CEO. For example, the bonus plan hypothesis predicts that CEOs approaching retirement would be particularly likely to engage in a strategy of income maximization, to increase their bonuses. Similarly, CEOs of poorly performing firms may income-maximize to prevent, or postpone, being fired. This motivation also applies to new CEOs, especially if large write-offs can be blamed on the previous CEO.

6. **Initial public offerings**

   By definition, firms making initial public offerings (IPOs) do not have an established market price. This raises the question of how to value the shares of such firms. Presumably, financial accounting information included in the prospectus is a useful information source.

7. **To communicate information to investors**

   The use of earnings management to communicate information to investors may seem questionable in view of efficient securities market theory. Investors will look through firms' accounting policy choices when evaluating and comparing earnings performance. Recall, however, that we define market efficiency relative to publicly available information. If earnings management can reveal inside information, it can actually improve the informative ness of financial reporting.

Earnings management occurs when managers use their discretionary power in the financial reporting process and in structuring transactions. By smoothing earnings over time, managers convey private information to stakeholders about the underlying economic performance of the company or attempt to influence contractual outcomes that depend on the reported accounting numbers (Agarwal et al., 2003).

Petrovits (2004) reported evidence that manager manipulated earnings by strategically timing paying to their corporate foundations. Prior earnings management studies predict managers will, contingent on their position within bonus boundaries, increase earnings in order to: (a) increase their compensation via formal and informal compensation plans, (b) reduce the likelihood of debt covenant violation and (c) reduce the likelihood of job loss.

2.3.5 Patterns of Earnings Management

Scott (2000:365) tried to collect and briefly summarized some earnings management patterns:

1. **Taking a bath**

   This can take place during of organizational stress or reorganization, including the hiring of new CEO. If a firm must report a loss, management may feel compelled to report a large one; it has little to lose at this point. Consequently, it will write off assets, provides for excepted future costs, and generally "clear the decks". This will enhance the probability of future reported profits. Healy (1985), also mentions that managers whose net income is below the bogey of the bonus plan may also take a bath, for a similar reason-it will enhance the probability of future bonuses. In effect, the recording of large write offs puts future earnings "in the bank".

2. **Income minimization**

   This is similar to taking a bath, but less extreme. Such a pattern may be chosen by politically visible firm during periods of high profitability. Policies that suggest income minimization include rapid write offs of capital assets and intangibles, expensing of advertising and R&D expenditures, successful-efforts accounting for oil and gas exploration costs, and so on. Income taxation, such as for LIFO inventory, provides another set of motivations for this pattern, as does enhancement of arguments for relief from foreign competition.

3. **Income maximization**

   As seen in Healy's study, managers may engage in pattern of maximization of reported net income for bonus purpose, providing this does not put them above the cap. Firms that are close to debt covenant violations may also maximize income.

4. **Income smoothing**

   This is perhaps the most interesting earnings management pattern. Healy suggest that managers have an incentive to smooth income sufficiently that it remains between the bogey and cap. Otherwise, earnings may be temporally or permanently lost for bonus purpose. Furthermore, if managers are risk-averse, they will prefer a less variable bonus stream, and hence may want to smooth net income.

Arya et al. (1998) stated that two of the better known forms of earnings management are "smoothing" and "big bath." For example, in estimating their bad debt allowance, companies might be tempted to provide a generous allowance in good years and skimp in lean years in order to smooth the stream of reported earnings. In contrast, the big bath hypothesis suggests that managers undertake income decreasing discretionary accruals in lean years. Perhaps managers believe that one very poor performance report is not as harmful as several mediocre performance reports. It has been suggested that big baths often occur under the guise of restructuring charges and may coincide with top management transition.

2.4 Statement of Cash Flow

Cash flow statement is financial report which shows the effect from operating activities, financing activities; investing activities of the firms towards cash flows within certain period of accounting by reconcile beginning balance and ending balance of cash.

Based on PSAK No.2 year 2002 statement of cash flows must reported cash flow within certain period and classified based on the operating activities, investment activities, and funding activities.

The main purpose of the statement of cash flows is to provide information about cash receipts and cash payments from one entity in certain period of accounting. Besides explaining information about operating activities, investing, and financing from one entity in certain period of accounting, statement of cash flows can supply some information that may possible for the customer to evaluate changes in firm's net assets, financial structure and the ability to influence the amount and time of cash flows to adapt with the new or different situation and business opportunity.

Statement of cash flows is useful for both internal party (management) and external party (investor and creditor). Management use the statement of cash flows to appraise liquidity, determine the dividend policy, and evaluate the impact of the decision relate to the main policy in investing and financing activities. External parties use the statement of cash flows as the basic to evaluate the firm's ability in producing cash and cash equivalent.

There are eight advantages of cash flows that are set out below:

1. Cash-flow accounting would rely on the price/discounted flow ration as more reliable investment indicator than the present price/earning ratio, because of the

arbitrary allocations which are used to compute the present accrual earnings per share figure and the international differences in the computation of earning per share.

2. In contrast to accrual-based earnings, cash-flow accounting retains money as the unit of measurement, which is familiar and not confusing to people.
3. If the investor's interest is in the survival of the firm, together with their ability to provide a stream of dividend, then cash-flow accounting will prove more useful by providing accounting information about the current and anticipated cash positions of the firm. Liquidity assessment is a critical aspect of performance evaluation in the sense that cash flow and net profit are the end result of a firm's activities.
4. Cash flow does not require price-level adjustments (which can distort reported profit figures if inflation adjustments are not made), because cash transactions reflect prices of the period in which they occur. It is however; appropriate to the note that some general price level adjustment is needed for cash plans occurring in different periods.
5. Cash flow information fits as an important variable in the decision models of various users because of the concerns associated with the firm's ability to pay dividends to investors, interest and capital to lenders and bankers, amount due to suppliers, wages and other benefits to employees, rectification and maintenance services for customers, and taxation to the governments.
6. Cash flow information is argued to be more objective and relevant than the accrual-based information.

7. There is the suspicion that the popularity of the all-embracing measures of performance such as accrual-based profit may well have caused firms to underestimate the importance of performance measures such as market domination, productivity, and quality of products and services.
8. Cash flow accounting is the ideal system to correct the gaps in practice between the way in which an investment is made (generally based on cash flows) and the ways the results are evaluated (generally based on earnings).

2.5 Cash Flows from Operations

The reported number of cash flows from operations is an indicator to determine whether from their operating activities company can produce sufficient cash flows to settle a debt, maintain the firm's ability in company operations, pay dividend and make a new investment. The examples of cash flows from operations are:

1. Revenue from sales or services.
2. Revenue from royalty, fees, commissions and other revenue.
3. Cash Payment to the supplier.
4. Cash payment to the employee.
5. Revenue and payment by the insurance company in connecting with insurance premium, claim, annuity and other benefit of insurances.
6. Cash disbursement or cash receipt (restitution) of income tax except if it can be specifically identify as a part of financing activity and investing activity.
7. Cash receive and cash payment from contract which is held for business transaction and trading.

2.6. Agency Theory

Agency theory is a theory of the relationship between principals and an agent of the principals. Managers are empowered by the owners of the firm, the shareholders, to make decisions. However managers may have personal goals that compete with shareholders wealth maximization and such potential conflicts of interest are addressed by agency theory.

According to Brigham and Daves (2001) an agency relationship arises whenever one or more individuals, called principals, (1) hires another individual or organization, called an agent, to perform some service and (2) then delegates decision-making authority to that agent. Within the financial management context, the primary agency relationships are those (1) between stockholders and managers, (2) between managers and debt holders, and (3) between managers, stockholders and debt holders in times of financial distress.

The separation of ownership and management has clear advantages. It allows share ownership to change without interfering with the operation of the business. It allows the firm to hire professional managers. But it also brings problems if the managers' and owners' objectives differ. Rather than attending to the wishes of shareholders, managers may seek a more leisurely or luxurious working lifestyle. Such conflicts create principal-agent problems. The shareholders are the principals, the manager are their agents

According to Brealey and Myers (2002) agency costs are incurred when:

- Managers do not attempt to maximize firm value.

- Shareholders incur costs to monitor the managers and influence their actions.

2.7 Previous Study

A number of studies have discussed the possibility that managerial intervention in the reporting process can occur not only via accounting estimates and methods, but also operational decisions. Healy and Palepu (1990), Fudenberg and Tirole (1995) and Dechow and Skinner (2000) point to acceleration of sales, alterations in shipment schedules and delaying of R&D and maintenance expenditures as earnings management methods available to managers.

According to Roychowdhury (2004), certain real activities management methods, such as price discounts and reduction of discretionary expenses, are possibly optimal actions given the economic circumstances of the firm. Roychowdhury (2004) characterized real activities manipulation by two features: (a) departures from normal operational practices – these departures are, by themselves, potentially detrimental to firm value and (b) a desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations.

In consistent with Graham, Harvey and Rajgopal's (2004) survey of 401 financial executives' finds (a) respondents attach a high importance to meeting earnings targets such as zero and previous period's earnings and (b) they are willing to manipulate real activities to meet these targets, even though the manipulation potentially reduces firm value.

A number of papers have used the distribution of frequency of firm-years to argue that firm executives manage earnings to avoid reporting losses. Specifically, on grouping firm-years into earnings intervals, and plotting the frequency of firm years in each earnings interval, they find that the distribution shifts sharply upwards immediately to the right of zero. This is consistent with Roychowdhury (2004) firms managing earnings up to exceed the zero thresholds. Similar evidence exists with other earnings thresholds, for example, previous year's earnings and analyst forecasts.

The zero earnings threshold is particularly interesting because there is initial evidence that executives manage the cash flow component of earnings to meet the threshold. Burgstahler and Dichev (1997) plot the 25^{th}, 50^{th} and 75^{th} percentiles of unscaled CFO for each earnings interval and find that the distribution of CFO shifts upwards in the first interval to the right of zero. However, this preliminary evidence does not conclusively indicate real activities manipulation. Burgstahler and Dichev (1997) do not analyze the underlying activities behind the patterns in CFO and accruals, nor test whether the shifts are statistically significant. There no controls for the level of operations, or for firm performance.

2.7.1 Management of Earnings through the Real Activities Manipulation

Most of the evidence on real activities management centers on the opportunistic reduction of R&D expenses. Bens, Nagar and Wong (2002) and Bens, Nagar, Skinner and Wong (2002) report that managers repurchase stock to avoid EPS dilution from employee stock option exercises or grants. Managers partially finance these repurchases by reducing R&D. Dechow and Sloan (1991) find CEOs in their final years reduce spending on R&D to increase short-term earnings.

Baber,Fairfield&Hagard(1991)&Bushee(1998)also find evidence consistent with reduction of R&D expenses to meet earnings benchmarks. Anecdotal evidence exists on firms engaging in a whole range of activities in addition to just R&D expense reduction – for example, providing limited time discounts to increase sales towards the end of the year and building up excess inventory to lower reported cost of goods sold (overproduction). Revsine, Collins and Johnson (1998) report that, in 1992-93, Bausch and Lomb shipped finished products out to their dealers and booked sales. The dealers were left with large unsold inventories due to declining demand. In 1995, Duracraft suffered a stock price drop on reporting better-than-expected first quarter earnings, because financial analysts suspected managers of overproducing (Marcial 1995).

Systematic evidence on management of real activities other than R&D reduction is limited. In Graham, Harvey and Rajgopal's (2004) survey, a larger number of respondents admit to reducing discretionary expenses and/or capital investments than other manipulation methods to meet earnings targets. Barton (2001) and Pincus and Rajagopal (2002) provide evidence that managers smoothing earnings invest in derivatives to smooth the underlying cash flows, instead of relying solely on accrual manipulation. Bartov (1993) shows that firms with negative earnings changes report higher profits from asset sales. Thomas and Zhang (2002) report evidence consistent with overproduction, but are unable to rule out adverse economic conditions as alternative explanations for their results.

2.8 Hypotheses Formulation

2.8.1 Main Hypotheses

In this study, the writer develops stronger tests of real activities manipulation and applies them to firm-years reporting small annual earnings and small annual earnings changes called the "suspect firm-years".

To detect real activities manipulation, the writer focuses on the following three manipulation methods and their effects on abnormal CFO:

1. Sales manipulation, which is, accelerating the timing of sales and/or generating additional unsustainable sales through increased price discounts or more lenient credit terms.
2. Decreasing discretionary expenses
3. Reporting lower cost of goods sold by increasing production

2.8.1.1 Sales Manipulation

Sales manipulation define as managers' attempt to temporarily increase sales during the year by offering price discounts or more lenient credit terms. Managers probably undertake such actions even in the normal course of business. Whether such activities are more extensive than normal among firms trying to meet earnings targets is an empirical question.

One way managers can generate additional sales or accelerate sales from the next fiscal year into the current year is by offering 'limited-time' price discounts. The increased sales volumes generated are likely to disappear when the firm re-establishes the old prices. The cash inflow per sale net of discounts from these additional sales is now lower, though earnings in the current period increase as the sales are booked, assuming positive margins.

A firm may also offer more lenient terms of credit. For example, retailers and automobile manufacturers often offer lower interest rates (zero-percent financing) towards the end of their fiscal years. These are all essentially price discounts and lead to lower cash inflow over the life of the sales, as long as the suppliers do not offer matching discounts. In general, the writer expects sales management activities to lead to lower current-period CFO than what is normal given the sales level. If the firm generates additional credit sales with its modified terms *and* a higher amount than normal of these credit sales is outstanding at the end of the year, then the firm should also exhibit an abnormal growth in receivables for a given growth in sales.

2.8.1.2 Reduction of Discretionary Expenses

Firms can also increase earnings by reducing discretionary expenses. This research focus on advertising expenses, research and development expenses (R&D) and selling, general and administrative expenses (SG&A). The first two are largely discretionary items and managers can temporarily increase earnings by reducing outlays on advertising and R&D below what is normal given their sales levels. Some items usually classified as SG&A, for example, employee training expenses, maintenance and travel, are also likely to be discretionary. If these outlays are generally in the form of cash, the effect on abnormal operational cash flows in the current period is positive, possibly at the risk of lower cash flows in the future as long-term competitiveness and profitability are adversely affected. If some of these expenses are also incurred on account and are usually outstanding at the end of the year, then a decrease in these expenses towards the year-end should lower accounts payable below what is normal and lead to positive abnormal accruals.

2.8.1.3 Overproduction

Managers of manufacturing firms can also overproduce (produce more goods than necessary to meet expected demand) to manage earnings upwards. With higher production levels, fixed overhead costs are spread over a larger number of units. As long as the reduction in fixed costs per unit is not offset by any increase in marginal cost per unit, average unit cost declines. This implies that cost of goods sold (COGS) is lower and the firm reports better operating margins. Nevertheless, the firm incurs costs on the over-produced items that are not recovered in the same period through sales. As a result, cash flows from operations are lower than normal given sales levels.

Overproduction causes higher inventories than normal at the year-end. Presumably, managers indulge in overproduction only if the reduction in reported product costs offsets the inventory holding costs that the firm has to recognize in the current period. The higher inventories at year-end imply that the partial effect of overproduction on accruals is positive.

The partial effect on accruals of each real activities manipulation method is positive. However, positive abnormal accruals are not sufficient evidence of real activities manipulation, because they are also caused by accrual manipulation. Hence, to concentrate on the effects of real activities, this research focuses on abnormal CFO; instead of accruals. A problem with examining abnormal CFO is that managers probably undertake more than one kind of manipulation at the same time. Recall that offering price discounts and overproduction have a negative effect on abnormal CFO, while reduction of discretionary expenses has a positive effect. Consequently, if suspect firm-years engage in the above three kinds of real activities manipulation, they should exhibit at least one of the following: unusually low CFO or unusually low discretionary expenses.

The first hypothesis is formally presented below (in alternate form):

H1: After controlling for sales levels, suspect firm-years exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both.

Another way to detect price discounts or overproduction is to examine production costs relative to sales. Production costs are defined as the sum of COGS and change in inventory during the period. Overproduction leads to unusually high production costs for a given level of sales. If the firm gives discounts to increase sales, this also implies unusually high production costs relative to sales, as long as the firm is unable to procure corresponding discounts from its suppliers.

Therefore, the second hypothesis is:

H2: Suspect firm-years exhibit unusually high production costs, controlling for the level of sales.

Analyzing production costs relative to sales, instead of COGS, has an additional benefit. Any accrual manipulation to lower reported COGS, for instance, by postponing write-offs of obsolete inventory, should not affect production costs, because change in inventories is correspondingly higher.

2.8.2 Hypotheses on cross-sectional variation

This section develops hypotheses on cross-sectional variation in abnormal CFO, abnormal production costs, abnormal COGS and abnormal discretionary expenses among suspect firm-years. For the sources of cross-sectional variation, the writer focus on (a) flexibility to engage in accrual manipulation, (b) industry membership and (c) incentives to meet zero earnings, including the presence of debt and short-term creditors.

2.8.2.1 Accrual manipulation flexibility

> *Flexibility in accounting allows it to keep pace with busins innovation. Abuses such as earning management occur when people exploit this pliancy. Trickery is employed to obscure actual financial violatility. This in turn, masks the true consequences of management's decisions. (Chairman Levitt, 1998) in Dechow and Skinner (2000).*

How managers decide between alternate methods of managing earnings has been an important issue in earnings management. Real activities manipulation is costly. Cash flows in future periods are possibly affected negatively by the actions taken this period to increase earnings. For example, price discounts offered in any period to temporarily increase earnings can lead customers to expect such discounts in future periods as well. Another problem is uncertainty regarding the extent of manipulation required, as all real activities have to be undertaken prior to year-end, before managers observe the shortfall between pre-managed earnings and the earnings target.

Relying on accrual manipulation alone, on the other hand, entails the risk that the realized shortfall at year-end exceeds the amount by which earnings can be managed upwards. If that happens, reported income falls below zero, as real activities cannot be manipulated at year-end. Also, accrual manipulation is more likely to draw auditor or regulator scrutiny than real decisions. These problems with accrual manipulation are more severe when the flexibility to manage accruals (henceforth, accounting flexibility) is lower, either because of the inherent asset-liability structure of the firm or because of accrual management in prior years [see Barton and Simko (2002), Choy (2003)]. Interestingly, respondents to Graham, Harvey and Rajgopal's (2004) survey of financial executives indicate a higher willingness to manipulate earnings through real activities than accruals.

Accrual manipulation and real activities manipulation can be used as substitutes, to accomplish a given level of earnings management. It is also possible that they are used as complements. For example, managers offer price discounts during the year to increase earnings and also manage reported earnings more precisely through accruals at the year-end. It is expected that managers use accrual and real manipulation methods as complements when the firm's stock of current assets is high. Burgstahler and Dichev (1997) argue that firms with a high stock of current assets are expected to have high capacity to overstate working capital accruals and hence possess higher accounting flexibility. At the same time, these firms also have higher flexibility to manage earnings through real activities that affect working capital, for example, through overproduction.

Firms with a traditionally *low* stock of current assets are likely to manipulate specific real activities more aggressively to compensate for their inability to manage working capital accruals. For example, firms that have no credit sales (and hence, no accounts receivable outstanding at the year-end) cannot increase earnings by reducing provisions for bad debts. Similarly, firms that maintain low inventories have less discretion to manipulate inventory upwards, either through inventory-obsolescence write-offs or through overproduction, without attracting the attention of auditors or investors. If managers in low-current-asset firms manage earnings upwards, they can do so only by offering price discounts to increase sales or reducing discretionary expenses. Thus, it is expected that suspect firm-years with low current assets to be more aggressive at offering price discounts and reducing discretionary expenses.

The ability of low-current-asset firms to lower reported cost of goods sold via overproduction is limited. Thus, while abnormal production costs are not necessarily high for suspect firm-years with low current assets, their COGS relative to sales should be abnormally high.

H3: Suspect firm-years with a low level of current assets as a percentage of total assets, that is low accounting flexibility, have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years.

2.8.2.2 Presence of debt

In a preliminary investigation of why zero earnings are an important threshold, Roychowdury (2004) considered the possibility that debt contracts include covenants that become tighter when firms incur losses. There is no systematic evidence on the prevalence of debt covenants that explicitly mention zero earnings. But debt contracts routinely have minimum tangible net worth requirements that are ratcheted upwards every year when the firm makes profits, but not when it reports losses [see Dichev and Skinner (2002)]. At the very least, losses would make these covenants more binding.

The tests whether suspect firm-years that have debt outstanding engage in real activities management to a greater degree than suspect firm-years who do not. The existence of debt is a proxy for the presence of debt covenants that make zero earnings an important threshold.

H4: Suspect firm-years with debt outstanding have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

2.8.2.3 Short-term suppliers

Discussed by Graham, Harvey and Rajgopal (2004) and Burgstahler and Dichev (1997), a second possible reason for zero earnings being an important threshold is that there are stakeholders of the firm who use heuristic cut-offs at zero to evaluate the performance of a firm. Among the stakeholders that these studies identify are suppliers, lenders, employees and customers worried about future services. If the firm's earnings performance falls below a certain threshold like zero, the firm's ability to pay suppliers in time and its potential as a future buyer are in doubt. This leads suppliers to tighten terms of credit and other terms. Managers are more likely to worry about the negative reaction of suppliers if they have more trade credit and other short-term liabilities outstanding. Therefore, the extent of real activities manipulation should vary positively with current liabilities at the beginning of the year.

H5: Suspect firm-years with high current liabilities as a percentage of total assets have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

CHAPTER III

RESEARCH METHOD

3.1. Population and Sample

Population is a group of comprehensive elements that usually in the form of people, object, transaction or event where we are interest to learn or to become the research object (Kuncoro, 2001). The population used in this research is financial reports of the manufacture company that already go public within period from 2001 until 2004.

Sample is a part collection from unit population. The companies that are chosen as the sample of this research are Manufacture Company that listed at the Jakarta Stock Exchange in the period of 2001-2004. The method used in this research is purposive sampling. Purposive sampling method is a technique to collect the sample based on certain criteria that is in accordance with the purpose of research (Kuncoro; 2003). In this method, the samples are found based on the variables exist in this research.

This chapter will explain about the outlines procedures that are used to gather and analyze the data. The explanation will include the hypothesis formulation. The reason behind is that even though the hypotheses or research problems have been formulated in the form of question, they need to rewritten into statistical hypotheses. This chapter also determines the null and alternative hypotheses that are developed from the theoretical basis.

Companies, in which the financial report is chosen as sample, are companies that can fulfill the following criteria:

1. Manufacturing firms which are listed in Jakarta Stock Exchange (JSX) from 2001 until 2004.

2. The writer concentrates on firm called "suspect firm-years". Suspect firm-years are that firm-years reporting small annual earnings and small annual earnings changes. Suspect firm-years have net income scaled by market value that is greater than or equal to zero but less than 0.005.

3.2. Research Variables

The variables used in this research are as follows:

a. Dependent variables:

- Abnormal CFO

  Abnormal CFO measured as deviations from the predicted values from the regression:

$$CFO_t / Mv\ t\text{-}1 = \alpha^*(1/ Mv\ t\text{-}1) + \beta_1^*(S_t / Mv\ t\text{-}1) + \beta_2^*(\Delta S_t / Mv\ t\text{-}1) + \varepsilon_t, \qquad (3.1)$$

Where:

CFO = Cash flow from operations

Mv t-1 = Market value of Equity year t-1

= stock price x number of outstanding share at balance sheet date

S_t = sales during year t,

ΔSt = change in sales during year t.

- Abnormal discretionary expenses

  Abnormal discretionary expenses measured as deviations from the predicted values from the regression:

$$Disexp_t/Mv\ t\text{-}1 = \alpha\ ^*(1/Mv\ t\text{-}1) + \beta\ ^*(S_t / Mv\ t\text{-}1) + \varepsilon_t, \qquad (3.2)$$

Where:

Disexp = Discretionary expenses

= R&D + Advertising + Selling, General and Administrative expenses

Mv_{t-1} = stock price x number of outstanding share at balance sheet date year t-1
S_t = sales during year t,

- Abnormal Production Cost

Abnormal Production Cost measured as deviations from the predicted values from the regression:

$$PROD_t / Mv_{t-1} = \alpha*(1 / Mv_{t-1}) + \beta 1*(S_t / Mv_{t-1}) + \beta 2*(\Delta S_t / Mv_{t-1}) + \beta 3*(\Delta S_{t-1}/Mv_{t-1}) + \varepsilon t \qquad (3.3)$$

Where:
PROD = Production costs
= Cost of goods sold + Change in inventory
Mv_{t-1} = stock price x number of outstanding share at balance sheet date year t-1
S_t = sales during year t.
ΔS_t = change in sales during year t.

- Abnormal COGS

Abnormal COGS measured as deviations from the predicted values from the regression:

$$COGS_t/ Mv_{t-1} = \alpha *(1/ Mv_{t-1} 1) +\beta*(S_t/ Mv_{t-1}) +\varepsilon t \qquad (3.4)$$

Where:
$COGS_t$ = cost of goods sold in period t
Mv_{t-1} = stock price x number of outstanding share at balance sheet date year t-1
S_t = sales during year t.

b. Independent variable

- SIZE: measured as logarithm of the market value of equity, expressed as deviation from the corresponding industry-year mean.

- Market- to- book – ratio (MTB): The ratio of market value of equity to the book value of equity.
- Net income: income before extraordinary items scaled by lagged market value.
- SUSPECT_NI: An indicator variable that is set equal to one if change in income before extraordinary items, scaled by lagged market value is between 0 and 0.005, and is set equal to zero otherwise.
- LoCA: is an indicator variable that is set equal to one if the firm belongs to the lowest quartile of CA/A and is set equal to zero otherwise. LoCA: Firms are divided every year into quartiles based on the level of lagged current assets (CA) as a percentage of market value.
- DEBT: An indicator variable set equal to one if there is long-term or short-term debt outstanding at the beginning of the year or at the end of the year.
- CL, Current liabilities excluding short-term debt, scaled by market value.
- LoCA*SUSPECT_NI
- DEBT*SUSPECT_NI
- CL*SUSPECT_NI

3.3. Formulated Hypothesis

In this study, the writer develops stronger tests of real activities manipulation and applies them to firm-years reporting small annual earnings and small annual earnings changes called the "suspect firm-years".

Certain real activities management methods, such as price discounts and reduction of discretionary expenses, are possibly optimal actions given the economic circumstances of the firm. In this study, the writer interested in whether managers engage in these activities more extensively in the presence of an earnings target, even when compared to firms in similar economic circumstances. It is this behaviour that the writer refers to as real activities manipulation. Thus, real activities manipulation is characterized by two features: (a) departures from normal operational practices – these departures are, by themselves, potentially detrimental to firm value and (b) a desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations.

To detect real activities manipulation, the writer focuses on the following three manipulation methods and their effects on abnormal CFO:

1. Sales manipulation that is, accelerating the timing of sales and/or generating additional unsustainable sales through increased price discounts or more lenient credit terms.
2. Decreasing discretionary expenses
3. Reporting lower cost of goods sold by increasing production

3.4. Statistical Tool

Based on the problem statements and the review of the related literature, so that the alternative hypotheses that are proposed in this research are:

Ho_1 : After controlling for sales levels, suspect firm-years do not exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both

Ha_1 : After controlling for sales levels, suspect firm-years exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both

Ho_2 : Suspect firm-years do not exhibit unusually high production costs, controlling for the level of sales

Ha_2 : Suspect firm-years exhibit unusually high production costs, controlling for the level of sales

Ho_3 : Suspect firm-years with a low level of current assets as a percentage of total assets that is low accounting flexibility, do not have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years.

Ha_3 : Suspect firm-years with a low level of current assets as a percentage of total assets, that is low accounting flexibility, have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years.

Ho_4 : Suspect firm-years with debt outstanding do not have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years

Ha_4 : Suspect firm-years with debt outstanding have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

Ho_5 : Suspect firm-years with high current liabilities as a percentage of total assets do not have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years

Ha_5 : Suspect firm-years with high current liabilities as a percentage of total assets have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

3.5. Hypothesis Testing

The first hypothesis (H1) is use to detect whether after controlling for sales levels, suspect firm-years exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both.

Ho_1 : After controlling for sales levels, suspect firm-years do not exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both

Ha_1 : After controlling for sales levels, suspect firm-years exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both

To test the first hypothesis (H1) the writer uses multiple regression approach by the following equation:

$$Yt = \alpha + \beta1*(SIZE)t\text{-}1 + \beta2*(Market\text{-}to\text{-}book\text{-}ratio)t\text{-}1 + \beta3*(Net\ income) + \beta4*(SUSPECT\_NI)\ t + \varepsilon t \qquad (3.5)$$

Dependent variable (Yt) at the first hypothesis (H1) is abnormal CFO and abnormal discretionary expense, while the independent variable is SIZE, Market-to-book- ratio, Net income and SUSPECT_NI.

From the equation above, the writer estimate significant at the 5% level. And then determine the criterion of rejected Ho based on the level of significant and regression coefficient.

Ho is rejected when:

- Regression coefficient SUSPECT_NI (β4) is significantly negative, when the dependent variable is abnormal CFO, or

- Regression coefficient SUSPECT_NI (β4) is significantly negative, when the dependent variable is abnormal discretionary expense, or
- Regression coefficient SUSPECT_NI (β4) is significantly negative when the dependent variables are abnormal CFO and abnormal discretionary expense.

The second hypothesis (H2) is use to detect whether suspect firm-years exhibit unusually high production costs after controlling for the level of sales

Ho_2 : Suspect firm-years do not exhibit unusually high production costs, controlling for the level of sales

Ha_2 : Suspect firm-years exhibit unusually high production costs, controlling for the level of sales

To test the second hypothesis (H2) the researcher uses multiple regression approach by the following equation:

$$Yt = \alpha + \beta1*(SIZE)t\text{-}1 + \beta2*(\text{Market-to-book-ratio})t\text{-}1 + \beta3*(\text{Net income}) + \beta4*(SUSPECT\_NI)\, t + \varepsilon t \qquad (3.6)$$

Dependent variable (Yt) on second hypothesis (H2) is abnormal production cost, on the other hand, the independent variable is SIZE, Market-to- book- ratio, Net income and SUSPECT_NI.

From the equation above, the writer estimate significant at the 5 % level. And then determine the criterion of rejected Ho based on the level of significant and regression coefficient. Ho is rejected if regression coefficient SUSPECT_NI (β4) is significantly positive.

The third hypothesis (H3) is use to detect whether suspect firm-years with a low level of current assets as a percentage of total assets that is low accounting flexibility, have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years.

Ho_3 : Suspect firm-years with a low level of current assets as a percentage of total assets that is low accounting flexibility, do not have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years.

Ha_3 : Suspect firm-years with a low level of current assets as a percentage of total assets, that is low accounting flexibility, have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years.

To test the third hypothesis (H3) the writer uses multiple regression approach by the following equation:

$$Yt = \alpha + \beta1*(SIZE)t\text{-}1 + \beta2*(Market\text{-}to\text{-}book\text{-}ratio)t\text{-}1 + \beta3*(Net\ income) + \beta4*(SUSPECT\_NI)\ t + \beta5*(LoCA)t + \beta6*(DEBT) + \beta7*(CL) + \beta8(LoCA*SUSPECT\_NI) + \beta9(DEBT*SUSPECT\_NI) + \beta10(CL*SUSPECT\_NI)t+\varepsilon \quad (3.7)$$

Dependent variable on the third hypothesis (H3) is abnormal COGS and abnormal discretionary expense, on the other hand, independent variables are Size, Market-to-book-ratio, Net income, SUSPECT_NI, LoCA, DEBT, CL, LoCA*SUSPECT_NI, DEBT*SUSPECT_NI, CL*SUSPECT_NI.

From the equation above, the writer estimate significant at the 5 % level. And then determine the criterion of rejected Ho based on the level of significant and regression coefficient. Ho is rejected if regression coefficient LoCA*SUSPECT_NI (β8) is significantly positive when the dependent variable is abnormal COGS and significantly negative if the dependent variable is abnormal discretionary expense.

The fourth hypothesis (H4) is use to detect whether suspect firm-years with debt outstanding have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

Ho_4 : Suspect firm-years with debt outstanding do not have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

Ha_4 : Suspect firm-years with debt outstanding have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years

To test the fourth hypothesis (H4) the researcher uses multiple regression approach by the following equation:

$$Yt = \alpha + \beta 1*(SIZE)t\text{-}1 + \beta 2*(Market\text{-}to\text{-}book\text{-}ratio)t\text{-}1 + \beta 3*(Net\ income) + \beta 4*(SUSPECT\_NI)\ t + \beta 5*(LoCA)t + \beta 6*(DEBT) + \beta 7*(CL) + \beta 8(LoCA*SUSPECT\_NI) + \beta 9(DEBT*SUSPECT\_NI) + \beta 10(CL*SUSPECT\_NI)t + \varepsilon \quad (3.8)$$

Dependent variable on fourth hypothesis (H4) is abnormal CFO, abnormal production cost and abnormal discretionary, on the other hand, independent variable is Size, Market-to-book-ratio, Net income, SUSPECT_NI, LoCA, DEBT, CL, LoCA*SUSPECT_NI, DEBT*SUSPECT_NI, CL*SUSPECT_NI

From the equation above, the writer estimate significant at the 5 % level. And then determine the criterion of rejected Ho based on the level of significant and regression coefficient. Ho is rejected if regression coefficient DEBT*SUSPECT_NI (β9) is significantly negative when the dependent variable is abnormal CFO and significantly positive if the dependent variable is abnormal production cost and significantly negative if the dependent variable is abnormal discretionary expense.

The fifth hypothesis (H5) is use to detect whether suspect firm-years with high current liabilities as a percentage of total assets have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

Ho_5: Suspect firm-years with high current liabilities as a percentage of total assets do not have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years

Ha_5: Suspect firm-years with high current liabilities as a percentage of total assets have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

To test the fifth hypothesis (H5) the writer uses multiple regression approach by the following equation:

$$Yt = \alpha + \beta1*(SIZE)t\text{-}1 + \beta2*(Market\text{-}to\text{-}book\text{-}ratio)t\text{-}1 + \beta3*(Net\ income) + \beta4*(SUSPECT\_NI)\ t + \beta5*(LoCA)t + \beta6*(DEBT) + \beta7*(CL) + \beta8(LoCA*SUSPECT\_NI) + \beta9(DEBT*SUSPECT\_NI) + \beta10(CL*SUSPECT\_NI)t + \varepsilon \quad (3.9)$$

The dependent variable on fifth hypothesis (H5) is abnormal CFO, abnormal production cost and abnormal discretionary, on the other hand independent variable is Size, Market-to-book-ratio, Net income, SUSPECT_NI, LoCADEBT, CL, LoCA*SUSPECT_NI, DEBT*SUSPECT_NI, CL*SUSPECT_NI.

From the equation above, the writer estimate significant at the 5 % level. And then determine the criterion of rejected Ho based on the level of significant and regression coefficient. Ho is rejected if regression coefficient CL*SUSPECT_NI ($\beta 10$) is significantly negative when the dependent variable is abnormal CFO and significantly positive if the dependent variable is abnormal production cost and significantly negative if the dependent variable is abnormal discretionary expense.

CHAPTER IV

REASEARCH FINDINGS, DISCUSSION, AND IMPLICATIONS

4.1 Research Description

The sample selection in this research is based on company consistency in publishing the annual financial statement and data completion by manufacturing companies listed on Jakarta Stock Exchange during 2001-2004. The data used are secondary data taken from the Jakarta Stock Exchange (JSX) corner in the Economic Faculty of Islamic University of Indonesia, libraries and internet.

Samples are collected from secondary data and further analysis by using multiple regressions which was developed by Sugata Roychowdhury (2004). As explained before, this research involved four dependent variables and ten independent variables. The dependent variables are abnormal CFO, abnormal production costs, abnormal COGS and abnormal discretionary expenses. While the independent variables are SIZE, Market- to-book – ratio (MTB), Net income, SUSPECT_NI, LoCA, DEBT, CL, CL*SUSPECT_NI, DEBT*SUSPECT_NI, LoCA*SUSPECT_NI.

Based on the criteria explained in the previous chapter, the observation and the selection to the manufacture companies listed on Jakarta Stock Exchange during 2001-2004 are 319 samples, including suspect firm years, namely firm-years reporting small annual earnings and small annual earnings changes. Suspect firm-years have net income scaled by market value that is greater than or equal to zero but less than 0.005. The amounts of suspect firm years are 15 companies.

The hypothesis testing is done by statistical testing method, for the measurement of variable. Microsoft Excel is used and the data are processed by using SPSS 13.0 for the statistical calculation.

4.2 Descriptive Statistics

The objective of the descriptive statistics is to observe the sample characteristics used in this research. In detail, the characteristics of sample are shown in table 4.1. From the table we find the amount of sample, minimum and maximum value, mean and the standard deviation of each variable that are used.

As we can see from table 4.1, the amount of sample, which is used in this research, is 319.

Table 4.1
Descriptive Statistics for Independent Variables and Dependent Variables

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Abcfo	319	-1.39399	.03016	.0000003	.07834183
Abdisexp	319	-.02651	.00846	.0000001	.00206400
Abprod	319	-.02139	.02362	-.0000003	.00282395
Abcogs	319	-.01002	.04004	.0000000	.00320230
size	319	7.37034	11.71875	8.7182568	.67311895
mtb	319	.00094	193.30558	2.8226499	11.60521227
ni	319	-.77238	.72990	.0556797	.12752350
cl	319	.00000	.05806	.0027156	.00690843
locasus	319	.00000	1.00000	.0282132	.16584149
debtsus	319	.00000	1.00000	.0282132	.16584149
clsus	319	.00000	.04067	.0002364	.00248612
Valid N (listwise)	319				

Table 4.1 reports descriptive statistics for the independent variables. N = 319, this number represents the amount of valid data to be process is 319 samples.

- The minimum value of Abnormal CFO is -1.39399, while the maximum is 0.03016. The mean level or the average of Abnormal CFO is 0.0000003. The standard deviation of Abnormal CFO is 0.07834183. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of abnormal discretionary expense is -0.02651, while the maximum is 0.00846. The mean level or the average is 0.0000001. The standard deviation is 0.00206400. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of abnormal production costs is -0.02139, while the maximum is 0.02362. The mean level or the average is -0.0000003. The standard deviation is 0.00282395. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of Abnormal COGS is -0.01002, while the maximum is 0.04004. The mean level or the average is 0.0000000. The standard deviation is used to estimate the dispersion of sample's average. The standard deviation is 0.00320230.
- The minimum value of SIZE is 7.37034, while the maximum is 11.71875. The mean level or the average is 8.7182568. The standard deviation is 0.67311895. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of Market- to- book – ratio (mtb) is 0.00094, while the maximum is 193.30558. The mean level or the average is 2.8226499.

The standard deviation is 11.60521227. The standard deviation is used to estimate the dispersion of sample's average.

- The minimum value of net income (ni) is -0.77238, while the maximum is -0.72990. The mean level or the average is 0.0556797. The standard deviation is 0.12752350. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of current liability (cl) is -0.00000, while the maximum is 0.05806. The mean level or the average is 0.0027156. The standard deviation is 0.00690843. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of LoCA*SUSPECT_NI (locasus) is -0.00000, while the maximum is 1.00000. The mean level or the average is 0.0282132. The standard deviation is 0.16584149. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of DEBT*SUSPECT_NI (debtsus) is -0.00000, while the maximum is 1.00000. The mean level or the average is 0.0282132. The standard deviation is 0.16584149. The standard deviation is used to estimate the dispersion of sample's average.
- The minimum value of CL*SUSPECT_NI (clsus) is -0.00000, while the maximum is 0.04067. The mean level or the average is 0.0002364. The standard deviation is 0.00248612. The standard deviation is used to estimate the dispersion of sample's average.

4.3 Hypothesis Testing

4.3.1 Suspect firm-years exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both.

The first hypothesis is uses multiple regressions as in equation 3.5. In this case α is the constant, meanwhile β is coefficient regression. Dependent variables (Yt) in the first hypothesis (HI) are abnormal CFO (table 4.2 and table 4.3) and abnormal discretionary expense (table 4.4 and table 4.5), meanwhile the independent variables are SIZE, Market-to-book-ratio, Net income, SUSPECT_NI and the rest, εt is error. From data analyses by using spss 13.0 by multiple regressions, the findings are:

Table 4.2 result of multiple regression test equation 3.5

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,076	,058		-1,314	,190		
	size	,009	,007	,073	1,283	,200	,974	1,027
	mtb	3,79E-005	,000	,006	,100	,921	,996	1,004
	ni	,022	,035	,036	,626	,532	,968	1,033
	sus	,005	,021	,014	,251	,802	,987	1,013

a. Dependent Variable: abcfo

Table 4.3 result of multiple regression test equation 3.5

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,087[a]	,008	-,005	,07853686	2,007

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: abcfo

Based on the table 4.2, with abnormal CFO as the dependent variable:

- Regression coefficient SIZE is 0.009, with standard error 0.007 and sig 0.200.

- Regression coefficient Market-to-book-ratio is 3.79E-0.005, with standard error 0.000 and sig 0.921.
- Regression coefficient Net income is 0.022 with standard error 0.035 and sig 0.532.
- Regression coefficient SUSPECT_NI is 0.005, with standard error 0.021 and sig 0.802.

Table 4.4 result of the multiple regression test equation 3.5

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,001	,002		,546	,585		
	size	,000	,000	-,034	-,588	,557	,974	1,027
	mtb	-8.7E-007	,000	-,005	-,087	,931	,996	1,004
	ni	,001	,001	,064	1,122	,263	,968	1,033
	sus	,000	,001	,024	,429	,668	,987	1,013

a. Dependent Variable: abdiexp

Table 4.5 result of the multiple regression test equation 3.5

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,070[a]	,005	-,008	,00207203	1,967

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: abdiexp

Based on the table 4.4 and table 4.5 above, with abnormal discretionary expense as the dependent variable:

- Regression coefficient SIZE is 0.000, with standard error 0.000 and sig 0.557.
- Regression coefficient Market-to-book-ratio is -8.7E-007, with standard error 0.000 and sig 0.931.

- Regression coefficient Net income is 0.001 with standard error 0.001 and sig 0.263.
- Regression coefficient SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.668.

The result of the regression indicates that suspect firm-years do not exhibit as the writer expected. Suspect firm-years do not exhibit neither unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both. Based on the table 4.2, when the dependent variable is abnormal CFO, the coefficient on SUSPECT_NI as an indicator variable is positive (0.005) is not significant at the 5% level (see Sig 0.802 > 0.05). The indicator variable did not indicate negative as the writer expected. The coefficient indicates positive correlation between dependent variable abnormal CFO and independent variable SUSPECT_NI, this means that an increase of SUSPECT_NI followed by an increase of abnormal CFO, while the rest of the independent variables remain the same.

When the dependent variable is abnormal discretionary expenses the coefficient on SUSPECT_NI as an indicator variable is positive (0.000) and not significant at the 5% level (see Sig 0.668 > 0.05). The indicator variable did not indicate negative as the writer expected. The coefficient indicates positive correlation between dependent variable abnormal discretionary expenses and independent variable SUSPECT_NI, this means that an increase of SUSPECT_NI followed by an increase of abnormal discretionary expenses, while the rest of the independent variables remain the same.

From the regression analysis above indicates that H0 is failed to reject, and does not proved the first hypothesis. This is not consistent with the previous research done by

Roychowdhury (2004) indicated that suspect firm-years who engage in real activities manipulation would lead to lower current-period CFO than what is normal given the sales level to meet zero earnings and Firms can also increase earnings by reducing discretionary expenses.

4.3.2 Suspect firm-years exhibit unusually high production costs, controlling for the level of sales.

The second hypothesis is uses multiple regressions as in equation 3.6. In this case α is the constant, meanwhile β is coefficient regression. Dependent variable (Yt) in the first hypothesis (HI) is abnormal production cost (table 4.6 and table 4.7), meanwhile the independent variables are SIZE, Market-to-book-ratio, Net income, SUSPECT_NI and the rest, εt is error. From data analyses by using spss 13.0 by multiple regressions, the findings are:

Table 4.6 result of the multiple regression test equation 3.6

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,003	,002		-1,546	,123		
	size	,000	,000	,093	1,651	,100	,974	1,027
	mtb	8,56E-006	,000	,035	,635	,526	,996	1,004
	ni	-,004	,001	-,189	-3,360	,001	,968	1,033
	sus	,000	,001	-,025	-,448	,654	,987	1,013

a. Dependent Variable: Abprod

Table 4.7 result of the multiple regression test equation 3.6

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,200[a]	,040	,028	,00278463	1,957

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: Abprod

Based on the table 4.6, with abnormal production cost as the dependent variable:

- Regression coefficient SIZE is 0.000, with standard error 0.000 and sig 0.100.
- Regression coefficient Market-to-book-ratio is 8.56E-0.006, with standard error 0.000 and sig 0.526.
- Regression coefficient Net income is -0.004 with standard error 0.001 and sig 0.001.
- Regression coefficient SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.654.

The result of the regression indicates that suspect firm-years do not exhibit as what the writer expected. Suspect firm-years do not exhibit unusually high production costs as percentage of sales level. When the dependent variable is abnormal production cost (table 4.6), the coefficient on SUSPECT_NI as an indicator variable is positive (0.000). The indicator variable indeed indicate positive, but it is not significant at the 5% level (see Sig 0.654> 0.05). The coefficient indicates positive correlation between dependent variable abnormal production cost and independent variable SUSPECT_NI, this means that an increase of SUSPECT_NI followed by an increase of abnormal production cost, while the rest of the independent variables remain the same. Based on table 4.7, the coefficient determination (Adjusted R^2) is 0.028 which means that around 2.8% of the variation on abnormal production variable can be explained by 4 independent variables in the model, where as the residual of 97.2% is explained by other factors outside the model.

From the regression analysis above indicates that H0 is failed to reject, and it does not prove the first hypothesis. This is consistent with the previous research done by

Roychowdhury (2004) indicated that suspect firm-years who engage in real activities manipulation pass through overproduction leads to unusually high production costs for a given level of sales.

4.3.3 Suspect firm-years with a low level of current assets as a percentage of total assets, that is low accounting flexibility, have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years

The third hypothesis is uses multiple regressions as in equation 3.7 In this case α is the constant, meanwhile β is coefficient regression. Dependent variables (Yt) in the first hypothesis (HI) are abnormal COGS (table 4.8 and table 4.9) and abnormal discretionary expense (table 4.10 and table 4.11) , meanwhile the independent variables are SIZE, Market-to-book-ratio, Net income, SUSPECT_NI, LoCA, DEBT, CL, LoCA*SUSPECT_NI, DEBT*SUSPECT_NI, CL*SUSPECT_NI and the rest, εt is error. From data analyses by using spss 13.0 by multiple regressions, the findings are:

Table 4.8 result of the multiple regression test equation 3.7

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.002	.002		-.698	.486		
	size	.000	.000	.029	.519	.604	.859	1.164
	mtb	1.55E-005	.000	.056	1.082	.280	.989	1.011
	ni	-.003	.001	-.120	-2.115	.035	.830	1.205
	Sus	-.001	.002	-.034	-.321	.749	.235	4.247
	loca	.000	.000	-.062	-1.051	.294	.776	1.289
	Debt	.000	.000	.048	.853	.394	.845	1.184
	cl	.190	.026	.410	7.393	.000	.872	1.146
	locasus	.001	.002	.035	.359	.719	.276	3.625
	debtsus	-.001	.002	-.028	-.306	.760	.331	3.018
	clsus	-.089	.093	-.069	-.960	.338	.514	1.945

a. Dependent Variable: Abcogs

Table 4.9 result of the multiple regression test equation 3.7

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.419[a]	.175	.148	.00295505	1.995

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcogs

Based on the table 4.8, with abnormal COGS as the dependent variable:

- Regression coefficient SIZE is 0.000, with standard error 0.000 and sig 0.604.
- Regression coefficient Market-to-book-ratio is 1.55E-005, with standard error 0.000 and sig 0.280.
- Regression coefficient Net income is -0.003 with standard error 0.001 and sig 0.035.
- Regression coefficient SUSPECT_NI is -0.001, with standard error 0.002 and sig 0.749.
- Regression coefficient LoCA is 0.000, with standard error 0.000 and sig 0.294.
- Regression coefficient DEBT is 0.000, with standard error 0.000 and sig 0.394.
- Regression coefficient CL is 0.190 with standard error 0.026 and sig 0.000.
- Regression coefficient LoCA*SUSPECT_NI is 0.001, with standard error 0.002 and sig 0.719.
- Regression coefficient DEBT*SUSPECT_NI is -0.001, with standard error 0.002 and sig 0.760.
- Regression coefficient CL*SUSPECT_NI is -0.089, with standard error 0.093 and sig 0.338.

Table 4.10 result of the multiple regression test equation 3.7

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.001	.002		.640	.523		
	size	-7.6E-005	.000	-.025	-.428	.669	.859	1.164
	mtb	-3.3E-006	.000	-.018	-.340	.734	.989	1.011
	ni	.001	.001	.043	.735	.463	.830	1.205
	Sus	.000	.001	.012	.108	.914	.235	4.247
	loca	.000	.000	.055	.894	.372	.776	1.289
	Debt	.000	.000	-.074	-1.264	.207	.845	1.184
	cl	-.102	.017	-.342	-5.948	.000	.872	1.146
	locasus	.000	.001	-.028	-.274	.784	.276	3.625
	debtsus	.000	.001	.027	.287	.774	.331	3.018
	clsus	.062	.062	.075	.998	.319	.514	1.945

a. Dependent Variable: Abdisexp

Table 4.11 result of the multiple regression test equation 3.7

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335[a]	.112	.084	.00197590	2.034

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

Based on the table 4.10, with abnormal discretionary expense as the dependent variable:

- Regression coefficient SIZE is -7.6E-005, with standard error 0.000 and sig 0.669.
- Regression coefficient Market-to-book-ratio is -3.3E-006, with standard error 0.000 and sig 0.734.
- Regression coefficient Net income is 0.001 with standard error 0.001 and sig 0.463.
- Regression coefficient SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.914.
- Regression coefficient LoCA is 0.000, with standard error 0.000 and sig 0.372.

- Regression coefficient DEBT is 0.000, with standard error 0.000 and sig 0.207.
- Regression coefficient CL is -0.102 with standard error 0.017 and sig 0.000.
- Regression coefficient LoCA*SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.784.
- Regression coefficient DEBT*SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.774.
- Regression coefficient CL*SUSPECT_NI is 0.062, with standard error 0.062 and sig 0.319.

The result of the regression indicates that suspect firm-years do not exhibit as what the writer expected. The result of regressions do not indicate that suspect firm-years with a low level of current assets as a percentage of total assets, that is low accounting flexibility, have abnormally high cost of goods sold (COGS) abnormally low discretionary expenses. Based on the table 4.8, when the dependent variable is abnormal COGS, the coefficient on LoCA*SUSPECT_NI as an indicator variable is positive (0.001). The indicator variable indeed indicate positive, but it is not significant at the 5% level (see Sig 0.719 > 0.05). The coefficient indicates positive correlation between dependent variable abnormal COGS and independent variable LoCA*SUSPECT_NI, this means that an increase of LoCA*SUSPECT_NI followed by an increase of abnormal COGS, while the rest of the independent variables remain the same. Based on table 4.10, the coefficient determination (Adjusted R^2) is 0.148 which means that around 14.8 % of the variation on abnormal COGS variable can be explained by 10 independent variables in the model, where as the residual of 85.2 % is explained by other factors outside the model.

When the dependent variable is abnormal discretionary expenses (see table 4.11) the coefficient on LoCA*SUSPECT_NI as an indicator variable is positive (0.000) and not significant at the 5% level (see Sig 0.784 > 0.05). The indicator variable did not indicate negative as the writer expected. The coefficient indicates positive correlation between dependent variable abnormal discretionary expenses and independent variable LoCA*SUSPECT_NI, this means that an increase of LoCA*SUSPECT_NI followed by an increase of abnormal discretionary expenses, while the rest of the independent variables remain the same. Table 4.12 shows the coefficient determination (Adjusted R^2) is 0.084 which means that around 8.4 % of the variation on abnormal discretionary expense variable can be explained by 10 independent variables in the model, where as the residual of 91.6 % is explained by other factors outside the model.

From the regression analysis above indicates that H0 failed to reject, and does not proved the first hypothesis. This is not consistent with the previous research done by Roychowdhury (2004) indicated how managers choose between manipulation methods and how suspect-firms years with low levels of current assets, or low accounting flexibility are most likely to offer price discounts and reduce discretionary expenses.

4.3.4 Suspect firm-years with debt outstanding have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

The fourth hypothesis is uses multiple regressions as in equation 3.8 In this case α is the constant, meanwhile β is coefficient regression. Dependent variables on first hypothesis (HI) are abnormal CFO (table 4.12 and table 4.13), abnormal production cost (table 4.14 and table 4.15) and abnormal discretionary expenses (table 4.16 and table

4.17), on the other hand, independent variables are Size, Market-to-book-ratio, Net income, SUSPECT_NI, LoCA, DEBT, CL, LoCA*SUSPECT_NI, DEBT*SUSPECT_NI, CL*SUSPECT_NI, and the rest, εt is error. From data analyses by using spss 13.0 by multiple regressions, the findings are:

Table 4.12 result of the multiple regression test equation 3.8

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.004	.002		-2.047	.042		
	size	.000	.000	.117	2.034	.043	.859	1.164
	mtb	1.25E-005	.000	.051	.964	.336	.989	1.011
	ni	-.004	.001	-.187	-3.211	.001	.830	1.205
	Sus	-.001	.001	-.048	-.443	.658	.235	4.247
	loca	.000	.000	-.077	-1.283	.200	.776	1.289
	Debt	.000	.000	-.020	-.348	.728	.845	1.184
	cl	.117	.023	.287	5.051	.000	.872	1.146
	locasus	.000	.002	.020	.194	.846	.276	3.625
	debtsus	.000	.002	-.015	-.162	.871	.331	3.018
	clsus	.029	.084	.025	.340	.734	.514	1.945

a. Dependent Variable: Abprod

Table 4.13 result of the multiple regression test equation 3.8

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.362[a]	.131	.103	.00267474	1.949

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abprod

Based on the table 4.12, with abnormal production as the dependent variable:

- Regression coefficient SIZE is 0.000, with standard error 0.000 and sig 0.043.
- Regression coefficient Market-to-book-ratio is 1.25E-005, with standard error 0.000 and sig 0.336.
- Regression coefficient Net income is -0.004 with standard error 0.001 and sig 0.001.

- Regression coefficient SUSPECT_NI is -0.001, with standard error 0.001 and sig 0.658.
- Regression coefficient LoCA is 0.000, with standard error 0.000 and sig 0.200.
- Regression coefficient DEBT is 0.000, with standard error 0.000 and sig 0.728.
- Regression coefficient CL is 0.117 with standard error 0.023 and sig 0.000.
- Regression coefficient LoCA*SUSPECT_NI is 0.000, with standard error 0.002 and sig 0.846
- Regression coefficient DEBT*SUSPECT_NI is 0.000, with standard error 0.002 and sig 0.871.
- Regression coefficient CL*SUSPECT_NI is 0.029, with standard error 0.084 and sig 0.734.

Table 4.14 result of the multiple regression test equation 3.8

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.065	.060		-1.071	.285		
	size	.007	.007	.057	.933	.351	.859	1.164
	mtb	1.33E-005	.000	.002	.035	.972	.989	1.011
	ni	.033	.038	.054	.864	.388	.830	1.205
	Sus	.014	.043	.037	.317	.751	.235	4.247
	loca	.008	.011	.046	.709	.479	.776	1.289
	Debt	.005	.010	.030	.490	.625	.845	1.184
	cl	.028	.688	.002	.041	.968	.872	1.146
	locasus	-.013	.051	-.027	-.250	.803	.276	3.625
	debtsus	-.004	.047	-.008	-.085	.933	.331	3.018
	clsus	-.159	2.491	-.005	-.064	.949	.514	1.945

a. Dependent Variable: Abcfo

Table 4.15 result of the multiple regression test equation 3.8

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.102[a]	.010	-.022	.07918824	2.002

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcfo

Based on the table 4.14, with abnormal CFO as the dependent variable:

- Regression coefficient SIZE is 0.007 with standard error 0.007 and sig 0.351.
- Regression coefficient Market-to-book-ratio is 1.33E-005, with standard error 0.000 and sig 0.972.
- Regression coefficient Net income is 0.033 with standard error 0.038 and sig 0.388.
- Regression coefficient SUSPECT_NI is 0.014, with standard error 0.043 and sig 0.751.
- Regression coefficient LoCA is 0.008, with standard error 0.011 and sig 0.479.
- Regression coefficient DEBT is 0.005, with standard error 0.010 and sig 0.625.
- Regression coefficient CL is 0.028 with standard error 0.688 and sig 0.968.
- Regression coefficient LoCA*SUSPECT_NI is -0.013, with standard error 0.051 and sig 0.803
- Regression coefficient DEBT*SUSPECT_NI is -0.004, with standard error 0.047 and sig 0.933.
- Regression coefficient CL*SUSPECT_NI is -0.159, with standard error 2.491 and sig 0.949.

Table 4.16 result of the multiple regression test equation 3.8

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.001	.002		.640	.523		
	size	-7.6E-005	.000	-.025	-.428	.669	.859	1.164
	mtb	-3.3E-006	.000	-.018	-.340	.734	.989	1.011
	ni	.001	.001	.043	.735	.463	.830	1.205
	Sus	.000	.001	.012	.108	.914	.235	4.247
	loca	.000	.000	.055	.894	.372	.776	1.289
	Debt	.000	.000	-.074	-1.264	.207	.845	1.184
	cl	-.102	.017	-.342	-5.948	.000	.872	1.146
	locasus	.000	.001	-.028	-.274	.784	.276	3.625
	debtsus	.000	.001	.027	.287	.774	.331	3.018
	clsus	.062	.062	.075	.998	.319	.514	1.945

a. Dependent Variable: Abdisexp

Table 4.17 result of the multiple regression test equation 3.8

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335[a]	.112	.084	.00197590	2.034

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

Based on the table 4.16, with abnormal discretionary expense as the dependent variable:

- Regression coefficient SIZE is -7.6E-005, with standard error 0.000 and sig 0.669.
- Regression coefficient Market-to-book-ratio is -3.3E-006, with standard error 0.000 and sig 0.734.
- Regression coefficient Net income is 0.001 with standard error 0.001 and sig 0.463.
- Regression coefficient SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.914.

- Regression coefficient LoCA is 0.000, with standard error 0.000 and sig 0.372.
- Regression coefficient DEBT is 0.000, with standard error 0.000 and sig 0.207.
- Regression coefficient CL is -0.102 with standard error 0.017 and sig 0.000.
- Regression coefficient LoCA*SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.784
- Regression coefficient DEBT*SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.784.
- Regression coefficient CL*SUSPECT_NI is 0.062, with standard error 0.062 and sig 0.319

The result of the regression indicates that suspect firm-years do not exhibit as what the writer expected. The result of regressions do not indicate that suspect firm-years with debt outstanding have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years. Based on the table 4.13, when the dependent variable is abnormal production, the coefficient on DEBT*SUSPECT_NI as an indicator variable is positive (0.000). The indicator variable indeed indicate positive, but it is not significant at the 5% level (see Sig 0.871 > 0.05). The coefficient indicates positive correlation between dependent variable abnormal production and independent variable DEBT*SUSPECT_NI, this means that an increase of DEBT*SUSPECT_NI followed by an increase of abnormal production, while the rest of the independent variables remain the same. Table 4.14 shows the coefficient determination (Adjusted R^2) is 0.103 which means that around 10.3 % of the variation on abnormal production variable can be explained by 10 independent variables in the model, where as the residual of 89.7 % is explained by other factors outside the model.

When the dependent variable is abnormal CFO (see table 4.15), the coefficient on DEBT*SUSPECT_NI as an indicator variable is negative (-0.004). As the writer expected, the indicator variable indeed indicate negative, but it is not significant at the 5% level (see Sig 0.933 > 0.05). The coefficient indicates negative correlation between dependent variable abnormal CFO and independent variable DEBT*SUSPECT_NI, this means that an increase of DEBT*SUSPECT_NI followed by a decrease of abnormal CFO, while the rest of the independent variables remain the same.

When the dependent variable is abnormal discretionary expenses (see table 4.17) the coefficient on DEBT*SUSPECT_NI as an indicator variable is positive (0.000) and not significant at the 5% level (see Sig 0.774 > 0.05). The indicator variable did not indicate negative as the writer expected. The coefficient indicates positive correlation between dependent variable abnormal discretionary expenses and independent variable DEBT*SUSPECT_NI, this means that an increase of DEBT*SUSPECT_NI followed by an increase of abnormal discretionary expenses, while the rest of the independent variables remain the same. Table 4.18 shows the coefficient determination (Adjusted R^2) is 0.084 which means that around 8.4 % of the variation on abnormal discretionary expense variable can be explained by 10 independent variables in the model, where as the residual of 91.6 % is explained by other factors outside the model.

From the regression analysis above indicates that H0 failed to reject and does not prove the first hypothesis. This is consistent with the previous research done by Roychowdhury (2004) indicated suspect firm-years with debt outstanding have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

4.3.5 Suspect firm-years with high current liabilities as a percentage of total assets have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

The fifth hypothesis is uses multiple regressions as in equation 3.9 In this case α is the constant, meanwhile β is coefficient regression. The dependent variables on first hypothesis (HI) are abnormal CFO (table 4.18 and table 4.19), abnormal production cost (table 4.20 and table 4.21) and abnormal discretionary expenses (table 4.22 and table 4.23), while the independent variables are Size, Market-to-book-ratio, Net income, SUSPECT_NI, LoCADEBT, CL, LoCA*SUSPECT_NI, DEBT*SUSPECT_NI, CL*SUSPECT_NI, and the rest, εt is error. From data analyses by using spss 13.0 by multiple regressions, the findings are:

Table 4.18 result of the multiple regression test equation 3.9

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.065	.060		-1.071	.285		
	size	.007	.007	.057	.933	.351	.859	1.164
	mtb	1.33E-005	.000	.002	.035	.972	.989	1.011
	ni	.033	.038	.054	.864	.388	.830	1.205
	Sus	.014	.043	.037	.317	.751	.235	4.247
	loca	.008	.011	.046	.709	.479	.776	1.289
	Debt	.005	.010	.030	.490	.625	.845	1.184
	cl	.028	.688	.002	.041	.968	.872	1.146
	locasus	-.013	.051	-.027	-.250	.803	.276	3.625
	debtsus	-.004	.047	-.008	-.085	.933	.331	3.018
	clsus	-.159	2.491	-.005	-.064	.949	.514	1.945

a. Dependent Variable: Abcfo

Table 4.19 result of the multiple regression test equation 3.9

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.102[a]	.010	-.022	.07918824	2.002

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcfo

Based on the table 4.18, with abnormal CFO as the dependent variable:

- Regression coefficient SIZE is 0.007 with standard error 0.007 and sig 0.351.
- Regression coefficient Market-to-book-ratio is 1.33E-005, with standard error 0.000 and sig 0.972.
- Regression coefficient Net income is 0.033 with standard error 0.038 and sig 0.388.
- Regression coefficient SUSPECT_NI is 0.014, with standard error 0.043 and sig 0.751.
- Regression coefficient LoCA is 0.008, with standard error 0.011 and sig 0.479.
- Regression coefficient DEBT is 0.005, with standard error 0.010 and sig 0.625.
- Regression coefficient CL is 0.028 with standard error 0.688 and sig 0.968.
- Regression coefficient LoCA*SUSPECT_NI is -0.013, with standard error 0.051 and sig 0.803
- Regression coefficient DEBT*SUSPECT_NI is -0.004, with standard error 0.047 and sig 0.933.
- Regression coefficient CL*SUSPECT_NI is -0.159, with standard error 2.491 and sig 0.949.

Table 4.20 result of the multiple regression test equation 3.9

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-.004	.002		-2.047	.042		
	size	.000	.000	.117	2.034	.043	.859	1.164
	mtb	1.25E-005	.000	.051	.964	.336	.989	1.011
	ni	-.004	.001	-.187	-3.211	.001	.830	1.205
	Sus	-.001	.001	-.048	-.443	.658	.235	4.247
	loca	.000	.000	-.077	-1.283	.200	.776	1.289
	Debt	.000	.000	-.020	-.348	.728	.845	1.184
	cl	.117	.023	.287	5.051	.000	.872	1.146
	locasus	.000	.002	.020	.194	.846	.276	3.625
	debtsus	.000	.002	-.015	-.162	.871	.331	3.018
	clsus	.029	.084	.025	.340	.734	.514	1.945

a. Dependent Variable: Abprod

Table 4.21 result of the multiple regression test equation 3.9

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.362[a]	.131	.103	.00267474	1.949

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abprod

Based on the table 4.20, with abnormal production as the dependent variable:

- Regression coefficient SIZE is 0.000, with standard error 0.000 and sig 0.043.
- Regression coefficient Market-to-book-ratio is 1.25E-005, with standard error 0.000 and sig 0.336.
- Regression coefficient Net income is -0.004 with standard error 0.001 and sig 0.001.
- Regression coefficient SUSPECT_NI is -0.001, with standard error 0.001 and sig 0.658.
- Regression coefficient LoCA is 0.000, with standard error 0.000 and sig 0.200.

- Regression coefficient DEBT is 0.000, with standard error 0.000 and sig 0.728.
- Regression coefficient CL is 0.117 with standard error 0.023 and sig 0.000.
- Regression coefficient LoCA*SUSPECT_NI is 0.000, with standard error 0.002 and sig 0.846
- Regression coefficient DEBT*SUSPECT_NI is 0.000, with standard error 0.002 and sig 0.871.
- Regression coefficient CL*SUSPECT_NI is 0.029, with standard error 0.084 and sig 0.734.

Table 4.22 result of the multiple regression test equation 3.9

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.001	.002		.640	.523		
	size	-7.6E-005	.000	-.025	-.428	.669	.859	1.164
	mtb	-3.3E-006	.000	-.018	-.340	.734	.989	1.011
	ni	.001	.001	.043	.735	.463	.830	1.205
	Sus	.000	.001	.012	.108	.914	.235	4.247
	loca	.000	.000	.055	.894	.372	.776	1.289
	Debt	.000	.000	-.074	-1.264	.207	.845	1.184
	cl	-.102	.017	-.342	-5.948	.000	.872	1.146
	locasus	.000	.001	-.028	-.274	.784	.276	3.625
	debtsus	.000	.001	.027	.287	.774	.331	3.018
	clsus	.062	.062	.075	.998	.319	.514	1.945

a. Dependent Variable: Abdisexp

Table 4.23 result of the multiple regression test equation 3.9

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335[a]	.112	.084	.00197590	2.034

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

Based on the table 4.22, with abnormal discretionary expense as the dependent variable:

- Regression coefficient SIZE is -7.6E-005, with standard error 0.000 and sig 0.669.
- Regression coefficient Market-to-book-ratio is -3.3E-006, with standard error 0.000 and sig 0.734.
- Regression coefficient Net income is 0.001 with standard error 0.001 and sig 0.463.
- Regression coefficient SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.914.
- Regression coefficient LoCA is 0.000, with standard error 0.000 and sig 0.372.
- Regression coefficient DEBT is 0.000, with standard error 0.000 and sig 0.207.
- Regression coefficient CL is -0.102 with standard error 0.017 and sig 0.000.
- Regression coefficient LoCA*SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.784
- Regression coefficient DEBT*SUSPECT_NI is 0.000, with standard error 0.001 and sig 0.784.
- Regression coefficient CL*SUSPECT_NI is 0.062, with standard error 0.062 and sig 0.319

The result of the regression indicates that suspect firm-years do not exhibit as what the writer expected. The result of regressions do not indicate that suspect firm-years with high current liabilities as a percentage of total assets have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years. Based on the table 4.18, when the dependent variable is abnormal CFO, the coefficient on CL*SUSPECT_NI as an indicator variable is negative

(-0.159). The indicator variable indeed indicate negative, but it is not significant at the 5% level (see Sig 0.949 > 0.05). The coefficient indicates negative correlation between dependent variable abnormal CFO and independent variable CL*SUSPECT_NI, this means that an increase of CL*SUSPECT_NI followed by a decrease of abnormal CFO, while the rest of the independent variables remain the same.

When the dependent variable is abnormal production (see table 4.20), the coefficient on CL*SUSPECT_NI as an indicator variable is positive (0.029). The indicator variable indeed indicate positive, but it is not significant at the 5% level (see Sig 0.734 > 0.05). The coefficient indicates positive correlation between dependent variable abnormal production and independent variable CL*SUSPECT_NI, this means that an increase of CL*SUSPECT_NI followed by an increase of abnormal production, while the rest of the independent variables remain the same. Based on table 4.21 the coefficient determination (Adjusted R^2) is 0.103 which means that around 10.3 % of the variation on abnormal production variable can be explained by 10 independent variables in the model, where as the residual of 89.7 % is explained by other factors outside the model.

When the dependent variable is abnormal discretionary expenses (see table 4.22) the coefficient on CL*SUSPECT_NI as an indicator variable is positive (0.062) and not significant at the 5% level (see Sig 0.319 > 0.05). The indicator variable did not indicate negative as the writer expected. The coefficient indicates positive correlation between dependent variable abnormal discretionary expenses and independent variable CL*SUSPECT_NI, this means that an increase of CL*SUSPECT_NI followed by an increase of abnormal discretionary expenses, while the rest of the independent variables remain the same. Table 4.23 shows the coefficient determination (Adjusted R^2) is 0.084

which means that around 8.4 % of the variation on abnormal discretionary expense variable can be explained by 10 independent variables in the model, where as the residual of 91.6 % is explained by other factors outside the model.

From the regression analysis above indicates that H0 failed to reject and it does not prove the first hypothesis. This is not consistent with the previous research done by Roychowdhury (2004) indicated suspect firm-years with high current liabilities as a percentage of total assets have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years.

4.4 Classical Assumption Tests

4.4.1 Multicollinearity Test

The term multicollinearity means the existence of a "perfect" or exact, linear relationship among some or all explanatory variables of a regression model. The existence of multicollinearity causes in appropriate estimation result (Gujarati, 1995). According to Gujarati (1995), as a rule of thumb, if the VIF (Variance Inflation Factor) of variable exceeds 10 and value of tolerance is closed to 0, variable is said to be highly collinear.

Multicollinearity happens when variance inflation factor (VIF) is more than 10 or tolerance less than 0.1. From the table 4.3 until table 4.23 shows that there is no multicollinearity among independent variables in this research. Because VIF is less than 10 and tolerance value of each variable is more than 0.1.

4.4.2 Autocorrelation Test

To test whether there is autocorrelation, the Durbin Watson (D-W) table statistics is used. In the table of Durbin Watson the number must be closed to 2 or approximately around 2 at the level of significance 5%. From the table 4.3 until table 4.23 the numbers in the table of Durbin Watson are closed to 2 or approximately around 2, it shows that there is no autocorrelation among independent variables in this research.

4.4.3 Heteroscedasticity Test

The heteroscedasticity symptom will appear when the residual has the difference variance from one observation to another. The existence of heteroscedasticity causes the regression coefficient estimation becomes inefficient.

The detection of the presence of heteroscedasticity in this research is conducted by analyzing Scatterplot graphic from the regression analysis. As it can be seen in Scatter plot graphic on each regression result per hyphoteses, dots spread randomly and do not form any clear patterns. It can be concluded that the result of this test shows that heterocedasticity does not exist. This result proves that the data was valid and it will give a reliable estimated model parameter.

4.5 Research Implications

In this study, formely, the writer wants to give empirical evidence whether there is any evidence of firm managers that engaged in management of earning through the manipulation of real activities that affect cash flow from operation. In order to make a different, the writer is replacing total asset at the beginning of year, the denominator for dependent variables, with market value at the beginning of year. But the results do not appear as the writer expected. None of independent variables are related significant to dependent variables. This is also explaining why the results of regression analysis are not consistent with the previous research done by Roychowdhury (2004).

Although the results do not appear as what the writer expected, still the writer suggest the management of the firm to be wise in determining whether it is appropriate or not to choose the nature and extent of real activities manipulation as a way of management of earning that could affect cash flow from operation. For the financial statement users, they should look for more details about the company, and not just judge a book (a company) by its cover (the number of reported earnings).

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In this study the writer failed to give empirical evidence whether there is any evidence of firm managers that engaged in management of earning through the manipulation of real activities that affect cash flow from operation in reference to market value. In order to make a different, the writer is replacing total asset at the beginning of year, the denominator for dependent variables, with market value at the beginning of year. But the results do not appear as the writer expected. None of independent variables are related significant to dependent variables. It also explains why the results of regression analysis are not consistent with the previous research done by Roychowdhury (2004).

The other reasons why the results of regression analysis are not consistent with the previous research done by Roychowdhury (2004) possibly caused by the period of sample which are only four years (2001-2004), and the type of industry that is only restricted to manufacturing firms.

It is concluded that Suspect firm-years is not proved engage in management of earning through the manipulation of real activities that affect cash flow from operation. Suspect firm-years are firm-years reporting small annual earnings and small annual earnings changes. Suspect firm-years have net income scaled by market value that is greater than or equal to zero but less than 0.005.

Based on the results of regression analysis in chapter IV, it can be conclude as follow:

1. Suspect firm-years do not significantly exhibit either unusually low cash flow from operations (CFO) or unusually low discretionary expenses or both. The first hypotheses analysis indicates that suspect firm-years do not proved engage in real activities manipulation that would lead to lower current-period CFO than what is normal given the sales level to meet zero earnings. This is possibly because firms do not engage either in sales manipulation or in decreasing discretionary expenses that would lead to decreasing of cash flow. For example if a firm engage in sales manipulation by offering price discount, this would lead to decreasing of cash flow yet increasing the earnings in appropriate with sales order. Decreasing discretionary expenses also lead to decreasing of cash flow yet increasing earnings.
2. Suspect firm-years do not significantly exhibit unusually high production costs, controlling for the level of sales. The first hypotheses analysis indicates that suspect firm-years do not proved engage in real activities manipulation pass through overproduction leads to unusually high production costs for a given level of sales. This is possibly because firms do not engage in overproduction Overproduction would lead to unusually high production cost for the level of sales. Overproduce (produce more goods than necessary to meet expected demand) to manage earnings upwards. With higher production levels, fixed overhead costs are spread over a larger number of units. As long as the reduction in fixed costs per unit is not offset by any increase in marginal cost per unit, average unit cost declines. This implies that cost of goods sold (COGS) is lower

and the firm reports better operating margins. Nevertheless, the firm incurs costs on the over-produced items that are not recovered in the same period through sales. As a result, cash flows from operations are lower than normal given sales levels.

3. Suspect firm-years with a low level of current assets as a percentage of total assets, that is low accounting flexibility, do not significantly have abnormally high cost of goods sold (COGS) and abnormally low discretionary expenses, when compared to other suspect firm-years. The first hypotheses analysis do not proved suspect firm-years with low levels of current assets manage earnings upwards, they can do so only by offering price discounts to increase sales or reducing discretionary expenses. Offering price discount would lead to would lead to unusually high production cost for the level of sales. With higher sales levels, cash flow from operation would manage upwards. Increasing earnings also can be done by decreasing discretionary expenses that would decline the cash flow from operation.
4. Suspect firm-years with debt outstanding do not significantly have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years. The first hypotheses analysis do not proved suspect firm-years with debt outstanding engage in earnings management through real activities manipulation, such as sales manipulation, overproduction, decreasing discretionary expenses that affect cash flow from operation. Sales manipulation attempt to increase sales in order to increase earnings. Overproduction would lead to unusually high production cost for the

level of sales. Overproduce (produce more goods than necessary to meet expected demand) to manage earnings upwards. Decreasing discretionary expenses would lead to low discretionary expenses to manage earnings upward.

5. Suspect firm-years with high current liabilities as a percentage of total assets do not significantly have abnormally low CFO, abnormally high production costs and abnormally low discretionary expenses compared to other suspect firm-years. This is possibly because suspect firm-years with high current liabilities do not engage in activities that would lead to high production costs and low discretionary expenses. Manager my concern about the high current liabilities would lead the firm to lose its ability to do overproduction that has effect on high production cost which managers are more likely to worry about the firm's ability to pay the outstanding debt or probably it would lead to a greater number of outstanding debts.

In this study the writer failed to give empirical evidence whether there is any evidence of firm managers that engaged in management of earning through the manipulation of real activities that affect cash flow from operation in refers to market value. In order to make a different, the writer is replacing total asset at the beginning of year, the denominator for dependent variables, with market value at the beginning of year. But the results do not appear as the writer expected. None of independent variables are related significant to dependent variables. This is also explaining why the results of regression analysis are not consistent with the previous research done by Roychowdhury (2004).

The other reasons why the results of regression analysis are not consistent with the previous research done by Roychowdhury (2004) possibly caused by the period of sample which are only four years (2001-2004), and the type of industry that is only restricted to manufacturing firms.

5.2 Limitations

The limitations that may influence this study are:

1. The samples are only restricted to manufacturing firms.
2. The period of study is only four years (2001-2004).
3. In this study the writer only focus management of earnings through real activities.

5.3 Recommendations

From the limitation that may influence this research, the researcher suggests:

4. Hopefully the companies used as samples for future study can be added by other types of industry, not only restricted to manufacturing firms. So the result may be significant.
5. The period of study consideration for the same study hopefully can be conducted over a longer period, in this study it is only four years (2001-2004). The longer period hopefully may lead to significant result.
6. For further study may analyze the different between management of earnings through real activities and accrual manipulation. This is because, in this study the writer only focus management of earnings through real activities.

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Appendix 1
Manufacturing firms Year 2001

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1
PT Ades Alfindo Putrasetia Tbk	0.000275545	85,500,000,000	0.001441	0.000166188	0.000381017
PT Aqua Golden Mississippi Tbk	0.000173047	460,686,555,000	0.001723	0.001500668	-0.000669606
PT Cahaya Kalbar Tbk	0.000274871	47,600,000,000	0.003133	-0.000434634	-0.001193872
PT Delta Djakarta Tbk	0.002048883	121,700,175,600	0.002515	-0.000957903	0.000526867
PT Fast Food Indonesia	0.000174506	345,843,750,000	0.001717	0.000495039	0.000211795
PT Indofood Sukses Makmur Tbk	0.000208748	5,722,500,000,000	0.002559	0.000339425	0.000201597
PT Mayora Indah Tbk	0.000246194	245,306,880,000	0.0034	0.000611103	0.000570546
PT Multi Bintang Indonesia Tbk	0.000663346	119,680,408,000	0.004762	0.001621296	-0.000262068
PT Sari Husada Tbk	0.000137663	1,697,589,341,000	0.00055	0.000322538	-2.55457E-05
PT Siantar TOP Tbk	0.000187368	358,150,000,000	0.001448	0.000398381	0.000389744
PT Sinar Mas Agro Resources and Technology CorporationTbk	0.000138873	705,600,000,000	0.003252	-0.000168784	-0.00076638
PT Suba Indah Tbk	0.000180882	129,600,000,000	0.001073	0.000345641	0.0002112
PT Tunas Baru Lampung Tbk	0.000135006	629,712,250,000	0.000977	-8.23829E-05	-4.67427E-05
PT Ultra Jaya Milk Industry and Trading Company Tbk	0.000224441	46,200,000,000	0.010355	0.003352296	0.001482579
PT BAT Indonesia Tbk	0.000701008	415,800,000,000	0.001717	-0.00038532	-0.000339471
PT Gudang Garam Tbk	3.31149E-05	16,643,361,200,000	0.00108	0.001078838	-0.000761844
PT Hanjaya Mandala Sampoerna Tbk	3.58789E-05	13,827,200,000,000	0.001017	0.001007108	-0.000525848
PT Ever Shine Textile Industry Tbk	0.000107834	644,866,790,400	0.000822	-9.27507E-06	6.02414E-05
PT Fortune Mate Indonesia Tbk	0.000253951	248,000,000,000	0.001558	0.000257007	0.000237971
PT Great River International Tbk	4.83282E-06	213,444,000,000	0.003029	0.000109743	0.000686066
PT Hanson Industri Utama Tbk	-0.000182702	63,063,000,000	0.00499	0.00013816	-0.000727135
PT Indorama Syntetics Tbk	0.000155453	278,099,475,475	0.011939	0.011938236	1.9159E-07
PT Karwell Indonesia Tbk	0.000393011	234,861,080,000	0.003612	-0.000281277	0.000565453
PT Pan Brothers Tex Tbk	0.000222568	72,960,000,000	0.003947	0.000633341	0.00101525
PT Ricky Putra Globalindo Tbk	-0.000785714	48,960,000,000	0.005598	9.96981E-05	0.000343264
PT Ryane Adibusana Tbk	9.06736E-06	385,000,000,000	0.000111	3.58324E-05	2.47615E-05
PT Sarasa Nugraha Tbk	0.000159428	187,000,000,000	0.001711	0.001709279	4.67187E-07
PT Sepatu Bata Tbk	0.000543719	158,600,000,000	0.002568	0.0002471	0.000512736
PT Surya Intrindo Makmur Tbk	3.00727E-05	450,000,000,000	0.000478	0.000137779	3.70614E-05
PT Asahimas Flat Glass Co Ltd Tbk	0.003658041	112,840,000,000	0.010872	0.001752637	0.00214973
PT Asiaplast Industries Tbk	0.000178085	58,500,000,000	0.002682	0.000295341	0.001065591
PT Berlina Co Ltd Tbk	0.000764745	67,275,000,000	0.003146	0.000815063	0.000601405

Manufacturing firms Year 2001

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1
PT Dynaplast Tbk	0.00048842	146,862,525,600	0.002612	0.000515849	0.000756282
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.000185105	94,500,000,000	0.003486	0.000423623	0.000636863
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.000115674	54,238,464,000	0.003925	0.000503804	0.000964524
PT Siwani Makmur Tbk	3.53388E-06	78,000,000,000	0.000984	0.000124208	0.000378963
PT Summitplast Interbenua Tbk	0.000341476	34,235,000,000	0.004366	-0.000609753	0.001171586
PT Trias Sentosa Tbk	0.00132636	162,000,000,000	0.004716	0.001215279	0.000924109
PT Indocement Tunggal Perkasa Tbk	0.000155587	3,974,906,315,200	0.000869	0.000252946	0.000173339
PT Semen Gresik (Persero) Tbk	0.000247707	3,262,336,000,000	0.001428	0.000325776	0.000154721
PT Alumindo Light Metal Industry Tbk	0.000970755	152,460,000,000	0.00754	0.000152167	0.002963089
PT Betonjaya Manunggal Tbk	0.00019177	21,600,000,000	0.000846	8.28575E-05	0.000165238
PT Citra Tubindo Tbk	1.30585E-05	632,000,000,000	0.000644	0.000609387	2.54445E-06
PT Indal Aluminium Industry Tbk	0.001200604	44,352,000,000	0.007863	0.002284167	0.000851053
PT Jaya Pari Steel Tbk	-0.002161489	13,500,000,000	0.007029	-0.002358136	0.002877176
PT Lion Mesh Prima Tbk	0.000193959	8,160,000,000	0.006204	0.000907722	0.001880759
PT Lion Metal Works Tbk	0.000108954	31,209,600,000	0.002141	0.000248026	0.000567524
PT Tembaga Mulia Semanan Tbk	0.000247388	9,090,900,000	0.114391	0.030400379	0.026885345
PT Tira Austenite Tbk	0.000620257	23,800,000,000	0.004358	0.000848923	0.000449356
PT Adhi Chandra Automotive Product Tbk	0.000200822	157,450,000,000	0.000976	0.000243884	0.000322397
PT Astra International Tbk	0.00064464	5,013,284,792,000	0.006009	0.00034288	0.002703045
PT Branta Mulia Tbk	0.000939016	236,250,000,000	0.00565	0.000506054	0.001980496
PT Goodyear Indonesia Tbk	0.001456454	36,900,000,000	0.016072	0.002097085	-0.000527125
PT Hexindo Adiperkasa Tbk	0.00027674	58,800,000,000	0.008319	0.00171349	0.000653845
PT Indospring Tbk	0.00118003	14,062,500,000	0.01365	0.003296137	0.00485313
PT Intraco Penta Tbk	5.28901E-05	43,500,000,000	0.012565	0.005243962	0.001372864
PT Multi Prima Sejatera Tbk	0.000262102	15,937,500,000	0.002394	0.000120255	0.001017904
PT Nipress Tbk	0.000702791	10,500,000,000	0.009579	0.001209985	0.001054999
PT Prima Alloy Steel Tbk	0.002395791	20,520,000,000	0.008764	0.000235917	0.000975232
PT Selamat Sempurna Tbk	0.000223476	467,520,768,000	0.001209	0.000133132	0.000306909
PT Tunas Ridean Tbk	0.000691495	313,875,000,000	0.007489	0.000916132	0.004233988
PT United Tractors Tbk	0.001452381	556,416,000,000	0.012685	0.003351564	0.00245407
PT Perdana Bangun Pusaka Tbk	0.000516875	6,460,000,000	0.007762	-0.000516819	0.000925233
PT Dankos Laboratories Tbk	0.000125695	410,791,500,000	0.001859	0.000564226	0.000379304

Manufacturing firms Year 2001

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1
PT Darya-Varia Laboratoria Tbk	0.000161686	243,600,000,000	0.002102	0.000333722	0.000309268
PT Kalbe Farma Tbk	0.000184908	913,680,000,000	0.00224	0.000530448	0.000484415
PT Merck Tbk	0.000167706	235,200,000,000	0.000953	0.000171191	0.000246511
PT Pyridam Farma Tbk	2.23862E-05	171,600,000,000	0.00017	4.82562E-05	4.76379E-05
PT Schering Plough Indonesia Tbk	0.000141633	90,000,000,000	0.001128	0.000139488	8.03546E-05
PT Tempo Scan Pasific Tbk	3.34019E-06	1,462,500,000,000	0.001221	0.000228092	8.21452E-05
PT Mandom Indonesia Tbk	0.000933962	71,760,000,000	0.007353	0.000865185	0.001300292
PT Mustika Ratu Tbk	0.000128451	133,750,000,000	0.001706	0.000253801	0.000323908
PT Unilever Indonesia Tbk	8.99517E-05	12,475,050,000,000	0.000482	9.15138E-05	5.63989E-05

Manufacturing firms Year 2001

Manufacturing Firms	ΔDiexp t	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t
PT Ades Alfindo Putrasetia Tbk	0.000574456	0.000936456	0.000915348	0.944895	0.00497	0.04659546	0
PT Aqua Golden Mississippi Tbk	6.92987E-05	0.001507852	0.001518292	3.319997	0.00442	0.13683974	0
PT Cahaya Kalbar Tbk	0.000204664	0.002802437	0.003096479	0.229127	0.00491	-0.01726314	0
PT Delta Djakarta Tbk	0.000651626	0.001285783	0.001387942	0.560812	0.00693	0.1155118	0
PT Fast Food Indonesia	0.000828692	0.000805502	0.000821975	4.166442	0.00473	0.13865287	0
PT Indofood Sukses Makmur Tbk	0.0003205	0.001883106	0.001912203	1.549771	0.00469	0.05944657	0
PT Mayora Indah Tbk	0.000365868	0.002623375	0.002586953	0.40599	0.00453	0.02373115	0
PT Multi Bintang Indonesia Tbk	0.000902754	0.002635344	0.00265469	1.020955	0.00445	0.00026253	1
PT Sari Husada Tbk	5.1883E-05	0.000340079	0.000334518	3.709853	0.00491	0.41419585	0
PT Siantar TOP Tbk	0.00013575	0.001198436	0.001223778	0.396274	0.00481	0.07373801	0
PT Sinar Mas Agro Resources and Technology CorporationTbk	0.000308058	0.002638146	0.002626761	17.66823	0.00468	-0.15323681	0
PT Suba Indah Tbk	0.000352045	0.000796466	0.00078274	0.184761	0.00487	0.00662984	0
PT Tunas Baru Lampung Tbk	4.69992E-05	0.00085705	0.000806797	1.102302	0.00497	-0.00773442	0
PT Ultra Jaya Milk Industry and Trading Company Tbk	0.000909892	0.008229113	0.008185528	0.096971	0.0027	0.04299174	0
PT BAT Indonesia Tbk	0.000476465	0.000804305	0.000612557	1.081565	0.00552	0.13959969	0
PT Gudang Garam Tbk	6.37504E-05	0.000812303	0.00092684	2.723458	0.0045	0.19250424	0
PT Hanjaya Mandala Sampoerna Tbk	0.000102687	0.000722766	0.000807292	3.571805	0.00453	0.11207434	0
PT Ever Shine Textile Industry Tbk	4.47193E-05	0.000660271	0.000746767	1.78247	0.00494	0.03747222	0
PT Fortune Mate Indonesia Tbk	1.92379E-05	0.001554552	0.001650295	1.217348	0.0049	0.02937116	0
PT Great River International Tbk	0.000763919	0.002507974	0.002428901	0.602902	0.00449	0.00610149	0
PT Hanson Industri Utama Tbk	0.000461126	0.005601811	0.005074386	2.581062	0.00402	-0.13830084	0
PT Indorama Syntetics Tbk	0.001123771	0.009627965	0.011292753	1.0777	-0.0002	-0.06100161	0
PT Karwell Indonesia Tbk	0.000389601	0.003212848	0.003023677	1.365344	0.00492	-0.09128544	0
PT Pan Brothers Tex Tbk	0.000417215	0.003280126	0.003231446	1.554008	0.00442	0.1562847	0
PT Ricky Putra Globalindo Tbk	0.000697059	0.00505627	0.004966149	0.796857	0.00334	-0.12582283	0
PT Ryane Adibusana Tbk	3.14675E-05	5.21325E-05	8.08857E-05	9.362297	0.00493	0.12787504	0
PT Sarasa Nugraha Tbk	0.000155096	0.001436118	0.001511219	2.335542	0.00434	0.0838353	0
PT Sepatu Bata Tbk	0.000585618	0.001380025	0.001381053	0.006791	0.00505	0.3053636	0
PT Surya Intrindo Makmur Tbk	0.00003022	0.000438142	0.000603454	36.55085	0.00486	0.02258361	0
PT Asahimas Flat Glass Co Ltd Tbk	0.001800691	0.006487141	0.006147875	0.272398	0.00655	0.07476709	0
PT Asiaplast Industries Tbk	0.000111145	0.002483744	0.002714248	0.382159	0.00466	0.02251284	0
PT Berlina Co Ltd Tbk	0.000221494	0.002050078	0.002051021	0.618402	0.00502	0.22059952	0

Manufacturing firms Year 2001

Manufacturing Firms	ΔDiexp t	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t
PT Dynaplast Tbk	0.000235247	0.00189834	0.001892473	0.625726	0.00491	0.08232767	0
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.000210995	0.002987344	0.002925679	4.178954	0.00451	0.03512156	0
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.000496013	0.003213255	0.0031838	2.791946	0.00436	-0.01387749	0
PT Siwani Makmur Tbk	0.000108244	0.000741397	0.000745488	0.531219	0.00477	0.03813603	0
PT Summitplast Interbenua Tbk	0.000315116	0.003527647	0.003129099	1.541915	0.00486	0.04326662	0
PT Trias Sentosa Tbk	0.000284617	0.003360667	0.003349014	1.56853	0.00524	0.18354543	0
PT Indocement Tunggal Perkasa Tbk	0.000103299	0.000596427	0.000663336	2.296124	0.0049	-0.00541925	0
PT Semen Gresik (Persero) Tbk	0.000250304	0.000876943	0.000909848	1.060236	0.00489	0.04210849	0
PT Alumindo Light Metal Industry Tbk	0.000461334	0.006424151	0.006707227	0.465616	0.00481	0.03377724	0
PT Betonjaya Manunggal Tbk	5.16667E-05	0.000744954	0.000780966	1.86225	0.00499	0.04845442	0
PT Citra Tubindo Tbk	8.04351E-05	0.000540278	0.000636256	1.070229	0.00468	0.02434805	0
PT Indal Aluminium Industry Tbk	0.000867266	0.00662969	0.005875515	0.457858	0.00435	0.00522286	0
PT Jaya Pari Steel Tbk	0.000815333	0.005820222	0.0064598	0.322888	0.00252	0.14846058	0
PT Lion Mesh Prima Tbk	0.000273039	0.005395833	0.005671928	0.926291	0.00399	0.02513081	0
PT Lion Metal Works Tbk	0.000415129	0.001353398	0.001697055	0.372428	0.00468	0.11200411	0
PT Tembaga Mulia Semanan Tbk	0.003125983	0.105353265	0.109911598	1.015038	-0.02002	0.03805007	0
PT Tira Austenite Tbk	0.001447395	0.002524328	-0.000130165	1.87313	0.0047	0.06558635	0
PT Adhi Chandra Automotive Product Tbk	5.8444E-05	0.000792086	0.000738404	12.86881	0.00493	0.12309648	0
PT Astra International Tbk	0.000605065	0.004880204	0.004878321	1.233903	0.00464	0.03079601	0
PT Branta Mulia Tbk	0.000557951	0.003997621	0.003566974	0.510253	0.00494	0.03718634	0
PT Goodyear Indonesia Tbk	0.001090136	0.014786721	0.014292275	0.800081	0.00352	0.02887005	0
PT Hexindo Adiperkasa Tbk	0.001507687	0.005887279	0.006257512	0.515726	0.00354	0.10751842	0
PT Indospring Tbk	0.000962844	0.01030784	0.010626651	0.459044	0.00321	0.0260415	0
PT Intraco Penta Tbk	0.001887862	0.009469885	0.011945965	0.433087	0.00165	0.02938778	0
PT Multi Prima Sejatera Tbk	0.000428988	0.002071467	0.002418158	0.592983	0.00483	-0.17796677	0
PT Nipress Tbk	0.000785905	0.007728571	0.007910789	1.428048	0.00394	-0.03293928	0
PT Prima Alloy Steel Tbk	0.000564084	0.007122027	0.007184516	0.7791	0.00604	0.00255735	1
PT Selamat Sempurna Tbk	0.000113473	0.000864447	0.000842011	1.605036	0.00496	0.10313558	0
PT Tunas Ridean Tbk	0.000282867	0.006897389	0.007030939	1.108042	0.00431	0.09922664	0
PT United Tractors Tbk	0.000873593	0.01013356	0.010331029	0.978082	0.0036	0.04367102	0
PT Perdana Bangun Pusaka Tbk	0.001767647	0.005575387	0.005542792	0.200421	0.00453	0.00198123	1
PT Dankos Laboratories Tbk	0.000549843	0.001023342	0.001061063	1.517193	0.00464	0.12250845	0

Manufacturing firms Year 2001

Manufacturing Firms	ΔDiexp t	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t
PT Darya-Varia Laboratoria Tbk	0.000714684	0.001139384	0.001160016	5.247033	0.00471	-0.0048714	0
PT Kalbe Farma Tbk	0.000712562	0.001159073	0.00123023	6.335004	0.00465	0.01858245	0
PT Merck Tbk	0.000278699	0.00037523	0.000390892	2.428354	0.00493	0.43488545	0
PT Pyridam Farma Tbk	6.31993E-05	5.66084E-05	6.41934E-05	3.668155	0.00493	0.06894423	0
PT Schering Plough Indonesia Tbk	0.000364167	0.000813522	0.000839935	6.485777	0.00488	-0.18789272	0
PT Tempo Scan Pasific Tbk	0.000327342	0.000661342	0.000690354	1.388505	0.00471	0.22188886	0
PT Mandom Indonesia Tbk	0.00143325	0.004929459	0.005231504	0.297275	0.00459	0.14031678	0
PT Mustika Ratu Tbk	0.00068631	0.000727798	0.000801256	0.587811	0.00476	0.13070468	0
PT Unilever Indonesia Tbk	0.000129291	0.000258213	0.000249287	8.750988	0.00494	0.39356116	0

Manufacturing firms Year 2001

Manufacturing Firms	Abdisexp	Abprod	Abcogs	SIZE t-1	loCA t	DEBT t	locasus	debtsus
PT Ades Alfindo Putrasetia Tbk	0.00087	-0.00112	-0.0011	8.34195	1	1	0	0
PT Aqua Golden Mississippi Tbk	0.00029	-0.00133	-0.00069	8.545158	0	1	0	0
PT Cahaya Kalbar Tbk	0.00005	0.00104	-0.00018	8.444348	0	0	0	0
PT Delta Djakarta Tbk	0.00066	-0.00043	-0.00136	8.586658	0	0	0	0
PT Fast Food Indonesia	0.00105	-0.00154	-0.00139	8.271316	0	1	0	0
PT Indofood Sukses Makmur Tbk	0.00032	-0.00076	-0.00078	10.0988	0	1	0	0
PT Mayora Indah Tbk	0.00014	-0.00079	-0.00051	9.117947	0	1	0	0
PT Multi Bintang Indonesia Tbk	0.00031	-0.00189	-0.00126	8.637096	1	1	1	1
PT Sari Husada Tbk	0.00058	-0.00127	-0.0012	8.734525	0	0	0	0
PT Siantar TOP Tbk	0.00043	-0.00098	-0.00084	8.479987	0	0	0	0
PT Sinar Mas Agro Resources and Technology CorporationTbk	0.00012	0.00022	-0.00042	9.593271	1	0	0	0
PT Suba Indah Tbk	0.00074	-0.00116	-0.00104	8.777157	1	0	0	0
PT Tunas Baru Lampung Tbk	0.00046	-0.00072	-0.00092	8.970825	1	1	0	0
PT Ultra Jaya Milk Industry and Trading Company Tbk	-0.00116	-0.00081	0.0012	8.849433	1	0	0	0
PT BAT Indonesia Tbk	0.0007	-0.00099	-0.00139	8.909805	0	1	0	0
PT Gudang Garam Tbk	0.00045	-0.00128	-0.00103	10.03516	0	1	0	0
PT Hanjaya Mandala Sampoerna Tbk	0.00051	-0.00138	-0.00108	9.930685	0	1	0	0
PT Ever Shine Textile Industry Tbk	0.0005	-0.00078	-0.00103	8.904668	0	1	0	0
PT Fortune Mate Indonesia Tbk	0.00028	-0.00047	-0.00055	8.398644	0	0	0	0
PT Great River International Tbk	0.00064	-0.00044	-0.00042	9.223941	1	1	0	0
PT Hanson Industri Utama Tbk	-0.00019	0.00158	0.00157	8.872095	1	0	0	0
PT Indorama Syntetics Tbk	-0.00137	-0.00413	0.00171	8.761575	1	0	0	0
PT Karwell Indonesia Tbk	0.00011	0.00017	-0.00004	8.860712	1	0	0	0
PT Pan Brothers Tex Tbk	0.00005	-0.00055	-0.00016	8.063649	0	0	0	0
PT Ricky Putra Globalindo Tbk	-0.00011	0.00092	0.00069	8.53098	0	0	0	0
PT Ryane Adibusana Tbk	0.00068	-0.00111	-0.00124	7.659009	0	1	0	0
PT Sarasa Nugraha Tbk	0.00038	-0.00165	-0.00075	8.244745	0	0	0	0
PT Sepatu Bata Tbk	0.00058	-0.00131	-0.00129	8.317738	0	1	0	0
PT Surya Intrindo Makmur Tbk	0.00058	-0.00085	-0.00106	8.318492	0	1	0	0
PT Asahimas Flat Glass Co Ltd Tbk	-0.00041	-0.00215	-0.00084	9.227671	0	1	0	0
PT Asiaplast Industries Tbk	0.00007	-0.00021	-0.00025	8.343167	1	1	0	0
PT Berlina Co Ltd Tbk	0.00006	-0.00135	-0.00094	8.215878	0	1	0	0

Manufacturing firms Year 2001

Manufacturing Firms	Abdisexp	Abprod	Abcogs	SIZE t-1	loCA t	DEBT t	locasus	debtsus
PT Dynaplast Tbk	0.00022	-0.00107	-0.0008	8.605071	1	1	0	0
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	-0.00004	-0.00038	-0.0002	8.359161	1	1	0	0
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.00013	-0.00048	-0.00022	8.702793	1	0	0	0
PT Siwani Makmur Tbk	0.00052	-0.00104	-0.00104	7.906549	1	0	0	0
PT Summitplast Interbenua Tbk	-0.00017	-0.00002	-0.00015	8.31072	1	0	0	0
PT Trias Sentosa Tbk	-0.00029	-0.0012	-0.00051	9.209836	1	1	0	0
PT Indocement Tunggal Perkasa Tbk	0.00055	-0.0011	-0.00112	10.06629	1	1	0	0
PT Semen Gresik (Persero) Tbk	0.00055	-0.00118	-0.00116	9.877329	0	1	0	0
PT Alumindo Light Metal Industry Tbk	-0.00086	0.00098	0.00097	8.997275	0	0	0	0
PT Betonjaya Manunggal Tbk	0.0005	-0.00085	-0.00096	7.406334	0	0	0	0
PT Citra Tubindo Tbk	0.00058	-0.00122	-0.00105	8.820308	0	1	0	0
PT Indal Aluminium Industry Tbk	-0.00054	-0.00097	0.00099	8.414031	1	0	0	0
PT Jaya Pari Steel Tbk	-0.00037	0.00277	0.00065	7.826037	0	0	0	0
PT Lion Mesh Prima Tbk	-0.0007	0.00036	0.00069	7.581612	0	0	0	0
PT Lion Metal Works Tbk	0.00052	-0.0008	-0.00108	8.020027	0	0	0	0
PT Tembaga Mulia Semanan Tbk	-0.02651	0.02362	0.04004	8.707446	0	1	0	0
PT Tira Austenite Tbk	0.00097	-0.00412	-0.00115	8.008807	0	1	0	0
PT Adhi Chandra Automotive Product Tbk	0.00047	-0.00111	-0.00099	8.102976	0	0	0	0
PT Astra International Tbk	-0.00031	-0.00016	0.00028	10.43811	1	1	0	0
PT Branta Mulia Tbk	-0.00027	-0.00122	-0.0004	9.282032	0	1	0	0
PT Goodyear Indonesia Tbk	-0.00249	0.00385	0.00455	8.608688	0	0	0	0
PT Hexindo Adiperkasa Tbk	-0.00002	-0.00036	-0.00001	8.604211	0	1	0	0
PT Indospring Tbk	-0.00198	-0.00084	0.00143	8.385541	0	0	0	0
PT Intraco Penta Tbk	-0.00077	0.00055	0.0012	8.714505	0	0	0	0
PT Multi Prima Sejatera Tbk	0.00047	-0.00023	-0.0005	7.882944	0	0	0	0
PT Nipress Tbk	-0.00108	0.00092	0.00113	7.990546	0	0	0	0
PT Prima Alloy Steel Tbk	-0.00108	0.0013	0.00098	8.586527	0	1	0	1
PT Selamat Sempurna Tbk	0.00047	-0.00104	-0.00105	8.724142	0	0	0	0
PT Tunas Ridean Tbk	-0.00103	0.00046	0.00147	8.903236	0	1	0	0
PT United Tractors Tbk	-0.00181	-0.00007	0.0018	9.7364	0	1	0	0
PT Perdana Bangun Pusaka Tbk	0.00038	0.0007	-0.00001	7.823638	0	0	0	0
PT Dankos Laboratories Tbk	0.00073	-0.00146	-0.00125	8.682877	0	1	0	0

Manufacturing firms Year 2001

Manufacturing Firms	Abdisexp	Abprod	Abcogs	SIZE t-1	loCA t	DEBT t	locasus	debtsus
PT Darya-Varia Laboratoria Tbk	0.00083	-0.00131	-0.00127	8.575508	0	0	0	0
PT Kalbe Farma Tbk	0.00079	-0.00149	-0.00133	9.24498	0	1	0	0
PT Merck Tbk	0.0007	-0.00137	-0.00139	8.112889	0	0	0	0
PT Pyridam Farma Tbk	0.00069	-0.00117	-0.00127	7.833045	1	0	0	0
PT Schering Plough Indonesia Tbk	0.00074	-0.00095	-0.00105	7.710257	0	0	0	0
PT Tempo Scan Pasific Tbk	0.00068	-0.00121	-0.00125	9.154824	0	0	0	0
PT Mandom Indonesia Tbk	0.00016	-0.00048	-0.00042	8.523108	0	0	0	0
PT Mustika Ratu Tbk	0.00091	-0.00142	-0.00146	8.444381	0	1	0	0
PT Unilever Indonesia Tbk	0.00068	-0.00118	-0.00124	9.352884	0	0	0	0

Manufacturing firms Year 2001

Manufacturing Firms	CL t	clsus
PT Ades Alfindo Putrasetia Tbk	0.0008575	0
PT Aqua Golden Mississippi Tbk	0.0006077	0
PT Cahaya Kalbar Tbk	0.0014059	0
PT Delta Djakarta Tbk	0.0005761	0
PT Fast Food Indonesia	0.0002525	0
PT Indofood Sukses Makmur Tbk	0.0010582	0
PT Mayora Indah Tbk	0.0005365	0
PT Multi Bintang Indonesia Tbk	0.0017524	0.001752
PT Sari Husada Tbk	0.0000615	0
PT Siantar TOP Tbk	0.0003847	0
PT Sinar Mas Agro Resources and Technology CorporationTbk	0.0033689	0
PT Suba Indah Tbk	0.0003611	0
PT Tunas Baru Lampung Tbk	0.0002540	0
PT Ultra Jaya Milk Industry and Trading Company Tbk	0.0031522	0
PT BAT Indonesia Tbk	0.0006077	0
PT Gudang Garam Tbk	0.0001199	0
PT Hanjaya Mandala Sampoerna Tbk	0.0001359	0
PT Ever Shine Textile Industry Tbk	0.0001914	0
PT Fortune Mate Indonesia Tbk	0.0000948	0
PT Great River International Tbk	0.0000050	0
PT Hanson Industri Utama Tbk	0.0109478	0
PT Indorama Syntetics Tbk	0.0059734	0
PT Karwell Indonesia Tbk	0.0017552	0
PT Pan Brothers Tex Tbk	0.0009878	0
PT Ricky Putra Globalindo Tbk	0.0021206	0
PT Ryane Adibusana Tbk	0.0000201	0
PT Sarasa Nugraha Tbk	0.0001523	0
PT Sepatu Bata Tbk	0.0003399	0
PT Surya Intrindo Makmur Tbk	0.0001956	0
PT Asahimas Flat Glass Co Ltd Tbk	0.0027829	0
PT Asiaplast Industries Tbk	0.0004560	0
PT Berlina Co Ltd Tbk	0.0009784	0

Manufacturing firms Year 2001

Manufacturing Firms	CL t	clsus
PT Dynaplast Tbk	0.0011608	0
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.0005080	0
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.0083756	0
PT Siwani Makmur Tbk	0.0001284	0
PT Summitplast Interbenua Tbk	0.0002370	0
PT Trias Sentosa Tbk	0.0004944	0
PT Indocement Tunggal Perkasa Tbk	0.0001832	0
PT Semen Gresik (Persero) Tbk	0.0009764	0
PT Alumindo Light Metal Industry Tbk	0.0023921	0
PT Betonjaya Manunggal Tbk	0.0006012	0
PT Citra Tubindo Tbk	0.0001007	0
PT Indal Aluminium Industry Tbk	0.0024710	0
PT Jaya Pari Steel Tbk	0.0030040	0
PT Lion Mesh Prima Tbk	0.0034282	0
PT Lion Metal Works Tbk	0.0004597	0
PT Tembaga Mulia Semanan Tbk	0.0580612	0
PT Tira Austenite Tbk	0.0006834	0
PT Adhi Chandra Automotive Product Tbk	0.0000661	0
PT Astra International Tbk	0.0017074	0
PT Branta Mulia Tbk	0.0011451	0
PT Goodyear Indonesia Tbk	0.0020870	0
PT Hexindo Adiperkasa Tbk	0.0050671	0
PT Indospring Tbk	0.0071090	0
PT Intraco Penta Tbk	0.0061901	0
PT Multi Prima Sejatera Tbk	0.0033296	0
PT Nipress Tbk	0.0030083	0
PT Prima Alloy Steel Tbk	0.0165191	0.016519
PT Selamat Sempurna Tbk	0.0001336	0
PT Tunas Ridean Tbk	0.0010472	0
PT United Tractors Tbk	0.0053205	0
PT Perdana Bangun Pusaka Tbk	0.0052703	0.00527
PT Dankos Laboratories Tbk	0.0002759	0

Manufacturing firms Year 2001

Manufacturing Firms	CL t	clsus
PT Darya-Varia Laboratoria Tbk	0.0008503	0
PT Kalbe Farma Tbk	0.0004455	0
PT Merck Tbk	0.0001498	0
PT Pyridam Farma Tbk	0.0000440	0
PT Schering Plough Indonesia Tbk	0.0006449	0
PT Tempo Scan Pasific Tbk	0.0002162	0
PT Mandom Indonesia Tbk	0.0011920	0
PT Mustika Ratu Tbk	0.0003408	0
PT Unilever Indonesia Tbk	0.0000652	0

Appendix 2
Manufacturing firms Year 2002

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1	ΔDiexp t
PT Ades Alfindo Putrasetia Tbk	0.000363983	85,500,000,000	0.001736	0.000295322	0.000166	0.000712702
PT Aqua Golden Mississippi Tbk	0.000145644	460,686,555,000	0.002218	0.00049545	0.001501	8.51512E-05
PT Cahaya Kalbar Tbk	0.000312285	47,600,000,000	0.003634	0.000501261	-0.000435	0.000208046
PT Davomas Abadi Tbk	0.001756682	89,449,841,250	0.006713	0.001036089	0.000528	7.0397E-05
PT Delta Djakarta Tbk	0.002349373	121,700,175,600	0.002281	-0.000233656	-0.000958	0.000647887
PT Fast Food Indonesia	0.00022264	345,843,750,000	0.002068	0.000350812	0.000495	0.001092271
PT Indofood Sukses Makmur Tbk	-4.3999E-05	5,722,500,000,000	0.002877	0.000318338	0.000339	0.000382248
PT Mayora Indah Tbk	0.000472966	245,306,880,000	0.004071	0.000670915	0.000611	0.000498596
PT Multi Bintang Indonesia Tbk	0.000234061	442,470,000,000	0.001226	-6.22121E-05	0.000439	0.000304938
PT Pioneerindo Gourmet International Tbk	0.00404901	39,745,440,000	0.004049	0.000170988	0.000426	0.002138686
PT Sari Husada Tbk	8.91228E-05	1,697,589,341,000	0.000602	5.23737E-05	0.000323	7.41298E-05
PT Siantar TOP Tbk	0.000311227	70,740,000,000	0.008874	0.00154525	0.002017	0.00107423
PT Sierad Produce Tbk	2.4668E-05	398,082,579,565	0.003305	1.96793E-05	0.000671	0.000267296
PT Suba Indah Tbk	0.000858781	64,800,000,000	0.001738	-0.000408657	0.000691	0.000566019
PT Tunas Baru Lampung Tbk	6.84291E-06	492,144,480,000	0.001273	2.36739E-05	-0.000105	0.000131419
PT Ultra Jaya Milk Industry and Trading Company Tbk	0.000685295	46,200,000,000	0.008848	-0.001506688	0.003352	0.001434372
PT BAT Indonesia Tbk	-0.000102434	415,800,000,000	0.001789	7.1835E-05	-0.000385	0.000569081
PT Gudang Garam Tbk	0.000133138	16,643,361,200,000	0.001258	0.000178367	0.001079	8.26784E-05
PT Hanjaya Mandala Sampoerna Tbk	0.000126845	14,400,000,000,000	0.001051	7.37603E-05	0.000967	0.000129188
PT Daeyu Orchid Indonesia Tbk	0.000117692	84,366,081,300	0.000851	-0.000211163	0.00037	0.000111324
PT Ever Shine Textile Industry Tbk	9.77265E-05	644,866,790,400	0.000648	-0.00017354	-9.28E-06	4.2325E-05
PT Fortune Mate Indonesia Tbk	2.67367E-05	248,000,000,000	0.001486	-7.15081E-05	0.000257	2.3379E-05
PT Indorama Syntetics Tbk	5.32915E-05	278,099,475,475	0.010194	-0.001745882	0.011938	0.000852461
PT Karwell Indonesia Tbk	-5.5437E-05	234,861,080,000	0.002302	-0.001310004	-0.000281	0.000201736
PT Pan Brothers Tex Tbk	-8.04547E-05	72,960,000,000	0.004113	0.000166393	0.000633	0.00045074
PT Ricky Putra Globalindo Tbk	0.000223596	48,960,000,000	0.004798	-0.000800572	9.97E-05	0.00070002
PT Ryane Adibusana Tbk	6.43431E-06	385,000,000,000	0.000105	-6.34545E-06	3.58E-05	3.10312E-05
PT Sarasa Nugraha Tbk	0.00010143	187,000,000,000	0.001438	-0.000272845	0.001709	0.000162824
PT Sepatu Bata Tbk	0.060662857	845,000,000	0.486424	0.004492308	0.046379	0.131036686
PT Surya Intrindo Makmur Tbk	6.93811E-06	5,000,000,000,000	2.73E-05	-1.57132E-05	1.24E-05	0.000001522
PT Asahimas Flat Glass Co Ltd Tbk	0.00177215	112,840,000,000	0.01147	0.000597864	0.001753	0.001861503
PT Asiaplast Industries Tbk	0.000156245	58,500,000,000	0.003041	0.000359573	0.000295	0.000154239

Manufacturing firms Year 2002

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1	ΔDiexp t
PT Berlina Co Ltd Tbk	0.000585984	67,275,000,000	0.003358	0.000211683	0.000815	0.000286734
PT Dynaplast Tbk	0.000668355	146,862,525,600	0.003038	0.000426072	0.000516	0.000310998
PT Fatrapolindo Nusa Industri Tbk	9.18018E-05	502,495,000,000	0.00043	1.08538E-05	3.4E-05	2.76062E-05
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.000471819	94,500,000,000	0.004133	0.000647365	0.000424	0.000317841
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.000222241	34,634,489,500	0.00646	0.000313762	0.000789	0.000889951
PT Summitplast Interbenua Tbk	1.38602E-05	171,175,000,000	0.000719	-0.000154117	-0.000122	5.75843E-05
PT Trias Sentosa Tbk	0.001333277	162,000,000,000	0.004825	0.000108438	0.001215	0.000322846
PT Wahana Jaya Perkasa Tbk	0.000147311	149,990,400,000	0.001278	-2.21414E-05	0.000691	0.000104387
PT Indocement Tunggal Perkasa Tbk	0.000487984	2,576,856,463,300	0.001532	0.000192045	0.00039	0.000143575
PT Semen Cibinong Tbk	0.000817188	167,090,000,000	0.011844	0.001043533	0.001868	0.001272129
PT Semen Gresik (Persero) Tbk	0.000255803	3,262,336,000,000	0.001587	0.000158886	0.000326	0.000270097
PT Alumindo Light Metal Industry Tbk	0.000331233	152,460,000,000	0.006319	-0.001221409	0.000152	0.000462771
PT Betonjaya Manunggal Tbk	-0.000348596	21,600,000,000	0.000946	9.99537E-05	8.29E-05	7.29167E-05
PT Citra Tubindo Tbk	6.61696E-06	632,000,000,000	0.000595	-4.87199E-05	0.000609	7.64415E-05
PT Jaya Pari Steel Tbk	0.00101477	13,500,000,000	0.018743	0.011714815	-0.002358	0.000989926
PT Lion Mesh Prima Tbk	1.01085E-05	8,160,000,000	0.007042	0.000837623	0.000908	0.000408088
PT Lion Metal Works Tbk	0.000410106	31,209,600,000	0.002677	0.000535124	0.000248	0.000553227
PT Tira Austenite Tbk	3.05636E-05	100,800,000,000	0.000361	-0.000668185	0.0002	0.000341478
PT Adhi Chandra Automotive Product Tbk	2.14475E-05	1,406,119,275,000	9.13E-05	-1.79096E-05	2.73E-05	6.99372E-06
PT Astra International Tbk	0.00083631	4,953,569,747,100	0.006195	0.000113516	0.000347	0.000770081
PT Astra Otoparts Tbk	7.73405E-05	918,664,593,000	0.002246	-3.69678E-05	-4.05E-06	0.000245403
PT Branta Mulia Tbk	0.000749489	236,250,000,000	0.005521	-0.000129168	0.000506	0.000781655
PT Goodyear Indonesia Tbk	0.000197057	200,900,000,000	0.002804	-0.000148328	0.000385	0.000186854
PT Hexindo Adiperkasa Tbk	-2.88376E-05	58,800,000,000	0.008637	0.00031881	0.001713	0.001347857
PT Indospring Tbk	-0.00013738	14,062,500,000	0.015189	0.001539058	0.003296	0.001233707
PT Intraco Penta Tbk	-5.64414E-06	43,500,000,000	0.011482	-0.001083954	0.005244	0.002434368
PT Multi Prima Sejatera Tbk	0.000473799	15,937,500,000	0.002178	-0.000216031	0.00012	0.000393976
PT Nipress Tbk	0.002537526	10,500,000,000	0.011724	0.002144286	0.00121	0.000981333
PT Prima Alloy Steel Tbk	0.00033267	20,520,000,000	0.00938	0.000615253	0.000236	0.000613402
PT Selamat Sempurna Tbk	0.000257962	467,520,768,000	0.001291	8.18466E-05	0.000133	0.000123473
PT Tunas Ridean Tbk	-0.000523849	313,875,000,000	0.007789	0.000299893	0.000916	0.000316804
PT United Tractors Tbk	0.001393952	556,416,000,000	0.012368	-0.000317225	0.003352	0.000817775

Manufacturing firms Year 2002

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1	ΔDiexp t
PT Modern Photo Film Company Tbk	0.000165765	126,715,702,500	0.014654	-0.000442423	0.001415	0.002068915
PT Perdana Bangun Pusaka Tbk	-0.000869559	6,460,000,000	0.007902	0.000139474	-0.000504	0.002082198
PT Dankos Laboratories Tbk	0.000320239	410,791,500,000	0.002594	0.000734674	0.000564	0.000783582
PT Darya-Varia Laboratoria Tbk	0.000252458	243,600,000,000	0.002254	0.000151987	0.000334	0.000809618
PT Kalbe Farma Tbk	0.000436835	913,680,000,000	0.002804	0.000563986	0.00053	0.000924197
PT Kimia Farma (Persero) Tbk	5.95117E-05	1,194,110,000,000	0.001289	0.000108152	-9.01E-05	0.000321818
PT Merck Tbk	0.000120265	235,200,000,000	0.000939	-1.34184E-05	0.000171	0.000345319
PT Pyridam Farma Tbk	2.61947E-05	171,600,000,000	0.000144	-2.67949E-05	4.83E-05	7.94639E-05
PT Schering Plough Indonesia Tbk	4.40373E-05	90,000,000,000	0.001221	9.29667E-05	0.000139	0.000390822
PT Tempo Scan Pasific Tbk	3.25015E-06	1,462,500,000,000	0.00134	0.000119115	0.000228	0.000330689
PT Mandom Indonesia Tbk	0.001165925	71,760,000,000	0.008121	0.000768046	0.000865	0.001920847
PT Mustika Ratu Tbk	7.09543E-05	133,750,000,000	0.001891	0.000185054	0.000254	0.000769047
PT Unilever Indonesia Tbk	9.16155E-05	12,475,050,000,000	0.000562	8.0366E-05	9.15E-05	0.000164219

Manufacturing firms Year 2002

Manufacturing Firms	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Ades Alfindo Putrasetia Tbk	8.316721	1	1	0	0	0.0007182	0
PT Aqua Golden Mississippi Tbk	8.710622	1	0	0	0	0.0003256	0
PT Cahaya Kalbar Tbk	8.483289	1	0	0	0	0.0012727	0
PT Davomas Abadi Tbk	8.883448	0	0	0	0	0.0000042	0
PT Delta Djakarta Tbk	8.539583	0	0	0	0	0.0004345	0
PT Fast Food Indonesia	8.322759	0	0	0	0	0.0002402	0
PT Indofood Sukses Makmur Tbk	10.11324	0	0	0	0	0.0007586	0
PT Mayora Indah Tbk	9.122213	0	1	0	0	0.0004648	0
PT Multi Bintang Indonesia Tbk	8.714141	0	0	0	0	0.0003902	0
PT Pioneerindo Gourmet International Tbk	8.129661	1	0	0	0	0.0006707	0
PT Sari Husada Tbk	8.901203	0	0	0	0	0.0000479	0
PT Siantar TOP Tbk	8.606446	0	0	0	0	0.0023970	0
PT Sierad Produce Tbk	9.118754	1	1	0	0	0.0003270	0
PT Suba Indah Tbk	8.869794	1	1	0	0	0.0017892	0
PT Tunas Baru Lampung Tbk	8.971571	1	1	0	0	0.0003922	0
PT Ultra Jaya Milk Industry and Trading Company Tbk	8.987041	1	1	0	0	0.0038153	0
PT BAT Indonesia Tbk	8.86385	0	1	0	0	0.0001899	0
PT Gudang Garam Tbk	10.12866	0	1	0	0	0.0001631	0
PT Hanjaya Mandala Sampoerna Tbk	9.976375	0	0	0	0	0.0001447	0
PT Daeyu Orchid Indonesia Tbk	7.598024	0	1	0	0	0.0001583	0
PT Ever Shine Textile Industry Tbk	8.869911	0	1	0	1	0.0003126	0.000313
PT Fortune Mate Indonesia Tbk	8.36472	0	0	0	0	0.0001012	0
PT Indorama Syntetics Tbk	9.75549	1	0	0	0	0.0046732	0
PT Karwell Indonesia Tbk	8.699151	0	0	0	0	0.0017826	0
PT Pan Brothers Tex Tbk	8.200106	0	0	0	0	0.0005444	0
PT Ricky Putra Globalindo Tbk	8.466905	0	0	0	0	0.0039533	0
PT Ryane Adibusana Tbk	7.844763	0	1	0	0	0.0000346	0
PT Sarasa Nugraha Tbk	8.2584	0	0	0	0	0.0002082	0
PT Sepatu Bata Tbk	8.348135	0	1	0	0	0.0427444	0
PT Surya Intrindo Makmur Tbk	8.413055	0	0	0	0	0.0000216	0
PT Asahimas Flat Glass Co Ltd Tbk	9.257185	0	1	0	0	0.0030283	0
PT Asiaplast Industries Tbk	8.368473	0	1	0	0	0.0011302	0

Manufacturing firms Year 2002

Manufacturing Firms	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Berlina Co Ltd Tbk	8.325643	0	1	0	0	0.0007691	0
PT Dynaplast Tbk	8.681873	1	1	0	0	0.0008770	0
PT Fatrapolindo Nusa Industri Tbk	8.363541	1	1	0	0	0.0000914	0
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	8.398775	0	1	0	0	0.0004417	0
PT Langgeng Makmur Plastik Industry Ltd Tbk	8.720919	1	0	0	0	0.0129856	0
PT Summitplast Interbenua Tbk	8.313576	1	1	0	0	0.0002763	0
PT Trias Sentosa Tbk	9.186074	1	1	0	0	0.0027758	0
PT Wahana Jaya Perkasa Tbk	9.266883	1	1	1	1	0.0009777	0.000978
PT Indocement Tunggal Perkasa Tbk	10.07664	1	1	0	0	0.0002375	0
PT Semen Cibinong Tbk	9.776124	1	1	0	0	0.0016111	0
PT Semen Gresik (Persero) Tbk	9.942657	1	1	0	0	0.0005324	0
PT Alumindo Light Metal Industry Tbk	9.020799	1	0	0	0	0.0026523	0
PT Betonjaya Manunggal Tbk	7.517526	1	0	0	0	0.0001504	0
PT Citra Tubindo Tbk	8.854315	0	1	0	0	0.0001745	0
PT Jaya Pari Steel Tbk	7.973031	0	1	0	0	0.0039732	0
PT Lion Mesh Prima Tbk	7.593972	0	0	0	0	0.0026924	0
PT Lion Metal Works Tbk	8.00043	0	1	0	0	0.0003699	0
PT Tira Austenite Tbk	7.827628	0	1	0	0	0.0003309	0
PT Adhi Chandra Automotive Product Tbk	8.137243	0	0	0	0	0.0000093	0
PT Astra International Tbk	10.42445	1	1	0	0	0.0013644	0
PT Astra Otoparts Tbk	9.24745	0	1	0	0	0.0004567	0
PT Branta Mulia Tbk	9.257576	1	1	0	0	0.0012913	0
PT Goodyear Indonesia Tbk	8.591147	0	0	0	0	0.0004318	0
PT Hexindo Adiperkasa Tbk	8.755419	0	0	0	0	0.0051996	0
PT Indospring Tbk	8.443413	0	0	0	0	0.0035169	0
PT Intraco Penta Tbk	8.853424	0	1	0	0	0.0056636	0
PT Multi Prima Sejatera Tbk	7.821841	0	0	0	0	0.0028922	0
PT Nipress Tbk	8.041586	0	0	0	0	0.0033365	0
PT Prima Alloy Steel Tbk	8.723006	1	1	0	0	0.0032435	0
PT Selamat Sempurna Tbk	8.753624	0	0	0	0	0.0001206	0
PT Tunas Ridean Tbk	9.046498	0	1	0	0	0.0010703	0
PT United Tractors Tbk	9.810514	0	1	0	0	0.0069037	0

Manufacturing firms Year 2002

Manufacturing Firms	SIZE t-1	loCA t	DEBT t	locasus	debtsus	C_t	clsus
PT Modern Photo Film Company Tbk	8.981658	0	1	0	0	0.0027023	0
PT Perdana Bangun Pusaka Tbk	7.827957	0	0	0	0	0.0055930	0
PT Dankos Laboratories Tbk	8.754739	0	1	0	0	0.0003779	0
PT Darya-Varia Laboratoria Tbk	8.477758	0	0	0	0	0.0003332	0
PT Kalbe Farma Tbk	9.273537	0	1	0	0	0.0011813	0
PT Kimia Farma (Persero) Tbk	9.061171	0	1	0	0	0.0002637	0
PT Merck Tbk	8.211441	0	0	0	0	0.0000968	0
PT Pyridam Farma Tbk	7.884614	0	0	0	0	0.0000431	0
PT Schering Plough Indonesia Tbk	7.794349	0	0	0	0	0.0006452	0
PT Tempo Scan Pasific Tbk	9.221134	0	0	0	0	0.0002105	0
PT Mandom Indonesia Tbk	8.553367	0	0	0	0	0.0006204	0
PT Mustika Ratu Tbk	8.469868	0	0	0	0	0.0003694	0
PT Unilever Indonesia Tbk	9.428463	0	0	0	0	0.0000753	0

Manufacturing firms Year 2002

Manufacturing Firms	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp	Abprod	Abcogs
PT Ades Alfindo Putrasetia Tbk	0.001125	0.001115	0.6932	0.00497	0.03564849	0	0.00093	-0.00111	-0.00108
PT Aqua Golden Mississippi Tbk	0.001949	0.001946	2.99343	0.00463	0.1287196	0	0.00017	-0.001	-0.00053
PT Cahaya Kalbar Tbk	0.003266	0.003256	0.32179	0.00459	0.03204498	0	-0.00008	0.0001	0
PT Davomas Abadi Tbk	0.006263	0.00583	0.239992	0.00545	0.02892533	0	-0.00103	0.00052	0.00127
PT Delta Djakarta Tbk	0.001157	0.00115	0.035626	0.00704	0.12944135	0	0.00072	-0.00068	-0.00135
PT Fast Food Indonesia	0.000845	0.000855	3.831965	0.00477	0.17906316	0	0.00122	-0.00166	-0.00155
PT Indofood Sukses Makmur Tbk	0.002167	0.002273	1.581023	0.0044	0.06184041	0	0.00029	-0.00058	-0.00068
PT Mayora Indah Tbk	0.002953	0.002887	0.46421	0.00464	0.09018181	0	0.00009	-0.00087	-0.00056
PT Multi Bintang Indonesia Tbk	0.000646	0.00064	7.048794	0.00502	0.16426054	0	0.00065	-0.00115	-0.00127
PT Pioneerindo Gourmet International Tbk	0.001494	0.001489	6.794092	0.00837	0.07721584	0	0.00174	-0.00186	-0.00201
PT Sari Husada Tbk	0.000344	0.000346	2.7703	0.00493	0.22258993	0	0.00059	-0.00118	-0.00123
PT Siantar TOP Tbk	0.007244	0.008025	1.424801	0.00354	0.07490224	0	-0.0006	0.0009	0.00104
PT Sierad Produce Tbk	0.002972	0.002844	3.734612	0.0045	-0.0565767	0	0.00007	-0.00009	-0.00011
PT Suba Indah Tbk	0.001238	0.001412	0.123265	0.00568	-0.0301097	0	0.00078	-0.00045	-0.00097
PT Tunas Baru Lampung Tbk	0.001039	0.001044	0.574531	0.00476	0.04442062	0	0.00047	-0.00069	-0.00091
PT Ultra Jaya Milk Industry and Trading Company Tbk	0.006021	0.006067	2.279571	0.00485	0.01947865	0	-0.00024	0.00075	-0.00017
PT BAT Indonesia Tbk	0.000813	0.000813	1.46499	0.00457	0.16169416	0	0.00077	-0.00113	-0.00142
PT Gudang Garam Tbk	0.000968	0.000985	1.947982	0.00485	0.15518098	0	0.00042	-0.00115	-0.00097
PT Hanjaya Mandala Sampoerna Tbk	0.000732	0.000735	4.000897	0.0049	0.17645076	0	0.00052	-0.0012	-0.00109
PT Daeyu Orchid Indonesia Tbk	0.00075	0.000782	58.59081	0.00501	-0.0264951	0	0.00056	-0.0007	-0.00096
PT Ever Shine Textile Industry Tbk	0.000616	0.000579	1.543996	0.005	0.00201306	1	0.00054	-0.00073	-0.00098
PT Fortune Mate Indonesia Tbk	0.001462	0.001502	1.407102	0.00478	-0.0455892	0	0.0003	-0.00036	-0.0006
PT Indorama Syntetics Tbk	0.008813	0.003528	0.127101	0.0041	0.00585904	0	-0.00117	0.0005	0.00187
PT Karwell Indonesia Tbk	0.002152	0.002198	2.745024	0.00496	-0.0041[illegible]03	0	0.00027	0.00094	-0.00037
PT Pan Brothers Tex Tbk	0.0033	0.003494	2.514323	0.00424	0.10178044	0	0.00003	0.00006	-0.00024
PT Ricky Putra Globalindo Tbk	0.004416	0.00404	0.794812	0.00474	-0.0163316	0	0.0001	0.00108	0.0005
PT Ryane Adibusana Tbk	6.84E-05	0.000106	0.044393	0.00494	0.03537014	0	0.00068	-0.00106	-0.00122
PT Sarasa Nugraha Tbk	0.001348	0.001339	1.044965	0.00493	-0.0909313	0	0.00046	-0.00073	-0.00069
PT Sepatu Bata Tbk	0.263689	0.255156	1.375778	-0.00368	0.2169546	0	0.0028	-0.00205	-0.01002
PT Surya Intrindo Makmur Tbk	2.71E-05	2.56E-05	4.082266	0.00495	-0.0280312	0	0.00067	-0.00109	-0.00122
PT Asahimas Flat Glass Co Ltd Tbk	0.007457	0.007545	0.819558	0.00493	0.11431979	0	-0.0005	-0.00014	-0.0002
PT Asiaplast Industries Tbk	0.003002	0.002911	0.205645	0.00456	-0.0502098	0	0.00002	-0.00004	0.00007

Manufacturing firms Year 2002

Manufacturing Firms	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp	Abprod	Abcogs
PT Berlina Co Ltd Tbk	0.002242	0.002298	0.840755	0.005	0.14142359	0	0.00007	-0.00084	-0.00087
PT Dynaplast Tbk	0.002129	0.002139	1.023894	0.00506	0.1016915	0	0.00018	-0.00091	-0.00081
PT Fatrapolindo Nusa Industri Tbk	0.000311	0.000315	1.01059	0.00497	0.12488634	0	0.00059	-0.00102	-0.00116
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.003268	0.003282	0.849822	0.00464	0.07392177	0	-0.0001	-0.00044	-0.00028
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.005352	0.006005	0.219886	0.00417	-0.1268731	0	-0.00015	0.00126	0.00[illegible]5
PT Summitplast Interbenua Tbk	0.000673	0.000683	1.428064	0.0049	-0.0100699	0	0.00054	-0.00064	-0.00096
PT Trias Sentosa Tbk	0.003523	0.00344	0.919775	0.00557	0.14343755	0	-0.00028	-0.00046	-0.00041
PT Wahana Jaya Perkasa Tbk	0.001484	0.001559	0.682076	0.00492	0.0010395	1	0.00044	-0.00035	-0.00046
PT Indocement Tunggal Perkasa Tbk	0.001028	0.001046	0.899293	0.00516	0.08726281	0	0.00041	-0.00106	-0.00106
PT Semen Cibinong Tbk	0.011833	0.011778	193.3056	0.00379	0.08413427	0	-0.00119	0.00357	0.00397
PT Semen Gresik (Persero) Tbk	0.001084	0.00111	1.529026	0.00493	0.02239[illegible]48	0	0.00052	-0.00098	-0.00104
PT Alumindo Light Metal Industry Tbk	0.005924	0.005397	0.132246	0.00476	-0.0138[illegible]48	0	-0.00054	0.00196	0.00115
PT Betonjaya Manunggal Tbk	0.000946	0.000941	1.359243	0.00443	0.07210[illegible]26	0	0.0005	-0.00073	-0.00082
PT Citra Tubindo Tbk	0.000518	0.000553	1.021072	0.00488	0.01764[illegible]58	0	0.00059	-0.00097	-0.00105
PT Jaya Pari Steel Tbk	0.01622	0.017279	0.376768	-0.00022	0.16879[illegible]03	0	-0.0033	-0.00077	0.00449
PT Lion Mesh Prima Tbk	0.006537	0.006456	0.343945	0.00371	0.03767[illegible]01	0	-0.00078	0.00102	0.00136
PT Lion Metal Works Tbk	0.001564	0.001664	0.454945	0.00482	0.11864[illegible]54	0	0.00052	-0.00121	-0.00117
PT Tira Austenite Tbk	0.000561	0.001303	5.591333	0.00513	0.05285[illegible]44	0	0.00092	0.00043	-0.00087
PT Adhi Chandra Automotive Product Tbk	7.59E-05	7.61E-05	2.974033	0.00496	0.08460[illegible]13	0	0.00066	-0.00107	-0.00121
PT Astra International Tbk	0.004857	0.004769	3.200613	0.00488	0.13685[illegible]69	0	-0.0002	0.00041	0.00015
PT Astra Otoparts Tbk	0.001811	0.00186	1.265842	0.00472	0.14558[illegible]23	0	0.00032	-0.00034	-0.00068
PT Branta Mulia Tbk	0.004173	0.004055	0.425037	0.00496	0.06058[illegible]88	0	-0.00001	0.00016	-0.00015
PT Goodyear Indonesia Tbk	0.002488	0.002519	0.689342	0.00479	0.0421[illegible]43	0	0.00012	0.00002	-0.00032
PT Hexindo Adiperkasa Tbk	0.00642	0.006806	0.431259	0.00361	0.06846[illegible]05	0	-0.00027	0.00074	0.00035
PT Indospring Tbk	0.012304	0.011955	0.649948	0.00222	0.11129[illegible]23	0	-0.00212	0.00136	0.00256
PT Intraco Penta Tbk	0.008985	0.008485	0.367887	0.00366	0.0220[illegible]63	0	0.00007	0.00107	0.00132
PT Multi Prima Sejatera Tbk	0.001872	0.001794	0.959729	0.00518	0.30268[illegible]74	0	0.00049	-0.00028	-0.00058
PT Nipress Tbk	0.009776	0.009923	3.874092	0.00519	0.07244[illegible]46	0	-0.00145	0.00117	0.00198
PT Prima Alloy Steel Tbk	0.008712	0.00858	0.653614	0.00378	0.04330[illegible]86	0	-0.0012	0.00231	0.00223
PT Selamat Sempurna Tbk	0.001291	0.001303	1.137346	0.005	0.07093[illegible]64	0	0.00046	-0.00054	-0.00066
PT Tunas Ridean Tbk	0.007147	0.007123	1.09622	0.00324	0.0660[illegible]08	0	-0.00107	0.00169	0.00155
PT United Tractors Tbk	0.010321	0.010088	0.578433	0.00471	0.04650[illegible]85	0	-0.00179	0.00219	0.00216

Manufacturing firms Year 2002

Manufacturing Firms	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp	Abprod	Abcogs
PT Modern Photo Film Company Tbk	0.012784	0.013161	0.543382	0.0032	0.02395673	0	-0.00114	0.00471	0.00334
PT Perdana Bangun Pusaka Tbk	0.006702	0.006846	0.622277	0.00293	-0.0918548	0	0.00066	0.00184	0.00104
PT Dankos Laboratories Tbk	0.001333	0.001366	1.77308	0.00468	0.16389129	0	0.00077	-0.00169	-0.00135
PT Darya-Varia Laboratoria Tbk	0.001154	0.000932	3.083036	0.00483	0.21145986	0	0.00089	-0.00149	-0.00134
PT Kalbe Farma Tbk	0.001317	0.001305	5.058204	0.00482	0.14218864	0	0.00086	-0.00173	-0.00149
PT Kimia Farma (Persero) Tbk	0.000916	0.000904	1.465077	0.00479	0.03075583	0	0.00065	-0.0009	-0.00104
PT Merck Tbk	0.000376	0.000415	1.756945	0.00494	0.23002089	0	0.00077	-0.00119	-0.00138
PT Pyridam Farma Tbk	5.54E-05	5.17E-05	2.363063	0.00496	0.01987792	0	0.00072	-0.00112	-0.00126
PT Schering Plough Indonesia Tbk	0.000774	0.000719	6.800472	0.00479	-0.0168272	0	0.00074	-0.0011	-0.00114
PT Tempo Scan Pasific Tbk	0.000746	0.000731	1.460945	0.00472	0.19009691	0	0.00065	-0.00118	-0.00124
PT Mandom Indonesia Tbk	0.005005	0.004956	0.883479	0.00474	0.16250856	0	0.00044	-0.00095	-0.00078
PT Mustika Ratu Tbk	0.000809	0.000836	0.154668	0.00469	0.06932153	0	0.00094	-0.00141	-0.00148
PT Unilever Indonesia Tbk	0.000292	0.000299	8.032536	0.00493	0.36474269	0	0.00069	-0.00117	-0.00126

Appendix 3
Manufacturing firms Year 2003

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1
PT Ades Alfindo Putrasetia Tbk	0.000172976	55,100,000,000	0.003066	0.000371688	0.000458258
PT Aqua Golden Mississippi Tbk	0.000118053	493,592,737,500	0.002182	0.000112082	0.00046242
PT Cahaya Kalbar Tbk	0.000240918	69,912,500,000	0.002582	0.000107706	0.000341284
PT Davomas Abadi Tbk	0.001189646	111,633,401,880	0.007659	0.002279479	0.0008302
PT Delta Djakarta Tbk	0.011631111	1,441,186,290	0.209998	0.017353065	-0.019730968
PT Fast Food Indonesia	0.000183024	401,625,000,000	0.00198	0.00019934	0.000302088
PT Indofood Sukses Makmur Tbk	0.000276552	5,630,940,000,000	0.003174	0.000249539	0.000323514
PT Mayora Indah Tbk	0.000839102	291,301,920,000	0.00379	0.000361604	0.000564981
PT Multi Bintang Indonesia Tbk	0.000189203	579,425,000,000	0.000971	3.53074E-05	-4.75074E-05
PT Pioneerindo Gourmet International Tbk	0.000157473	110,404,000,000	0.001389	-6.90645E-05	6.15557E-05
PT Sari Husada Tbk	0.000168108	1,883,524,330,000	0.000584	4.15604E-05	4.72035E-05
PT Siantar TOP Tbk	-7.98337E-05	340,600,000,000	0.002058	0.000215217	0.000320937
PT Sierad Produce Tbk	-8.10048E-06	144,757,301,660	0.007783	-0.001305592	5.41182E-05
PT Suba Indah Tbk	0.002230226	64,800,000,000	0.006838	0.0051	-0.000408657
PT Ultra Jaya Milk Industry and Trading Company Tbk	3.49244E-09	1,155,352,800,000	0.000425	7.08338E-05	-6.02491E-05
PT BAT Indonesia Tbk	0.000295974	590,700,000,000	0.001001	-0.000258451	5.05654E-05
PT Gudang Garam Tbk	0.000132282	15,969,930,400,000	0.001449	0.000137652	0.000185889
PT Hanjaya Mandala Sampoerna Tbk	0.000121602	16,650,000,000,000	0.000881	-2.72396E-05	6.37927E-05
PT APAC Citra Centertex Tbk	0.000320691	58,813,323,470	0.032518	-0.000723697	-0.003563937
PT Ever Shine Textile Industry Tbk	7.13178E-05	604,562,616,000	0.000623	1.55038E-05	-2.94676E-05
PT Fortune Mate Indonesia Tbk	4.1564E-05	288,000,000,000	0.001034	-0.00014301	-0.000388576
PT Great River International Tbk	-4.22471E-07	213,444,000,000	0.002386	0.000400981	-0.001043997
PT Hanson Industri Utama Tbk	8.49774E-05	260,720,258,200	0.001143	0.000195627	-0.000259562
PT Indorama Syntetics Tbk	1.77485E-06	294,458,268,150	0.010218	0.000590725	-0.001648889
PT Karwell Indonesia Tbk	-7.06509E-05	205,503,445,000	0.002555	-7.60571E-05	-0.001497148
PT Pan Brothers Tex Tbk	0.000108147	153,600,000,000	0.00172	-0.000233678	7.90365E-05
PT Ricky Putra Globalindo Tbk	0.001295884	11,520,000,000	0.018024	-0.002367014	-0.003402431
PT Ryane Adibusana Tbk	0.00367246	2,750,300,000	0.0097	-0.004944188	-0.000888267
PT Sarasa Nugraha Tbk	0.000129775	99,000,000,000	0.002233	-0.000483788	-0.000515374
PT Sepatu Bata Tbk	0.000259434	195,000,000,000	0.002091	-1.65282E-05	1.94667E-05
PT Surya Intrindo Makmur Tbk	-2.14354E-05	500,000,000,000	0.000216	-0.000057418	-0.000157132
PT Asahimas Flat Glass Co Ltd Tbk	0.000293567	575,050,000,000	0.00236	0.000109719	0.000117317

Manufacturing firms Year 2003

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1
PT Asiaplast Industries Tbk	1.93846E-07	32,500,000,000	0.005202	-0.000272277	0.000647231
PT Berlina Co Ltd Tbk	0.00050031	94,875,000,000	0.002261	-0.000120316	0.000150103
PT Dynaplast Tbk	0.000330445	257,205,274,000	0.002291	0.000556415	0.000243284
PT Fatrapolindo Nusa Industri Tbk	0.000158373	129,213,000,000	0.001165	-0.000508602	4.22094E-05
PT Inti Indah Karya Plasindo Tbk	1.91244E-05	224,000,000,000	8.22E-05	-4.71384E-05	7.16295E-05
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.000488746	89,250,000,000	0.004097	-0.000279518	0.000685445
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.001272925	15,585,520,275	0.015683	0.00132822	0.00069725
PT Lapindo International Tbk	5.2312E-06	124,103,641,000	0.000472	0.000274158	2.79122E-05
PT Palm Asia Corpora Tbk (PT Plaspack Prima Industri	0.000593299	15,000,000,000	0.003571	-0.0012948	0.000664933
PT Siwani Makmur Tbk	0.000730951	18,037,500,000	0.003708	-0.000129342	-0.000416188
PT Summitplast Interbenua Tbk	1.98987E-08	162,825,000,000	0.000954	0.000198544	-0.000162021
PT Trias Sentosa Tbk	0.000370306	367,200,000,000	0.002161	3.20234E-05	4.78404E-05
PT Indocement Tunggal Perkasa Tbk	0.000558357	2,484,825,875,325	0.001673	8.42715E-05	0.000199158
PT Semen Cibinong Tbk	0.000279943	1,111,120,500,000	0.002016	0.000235226	0.000156926
PT Semen Gresik (Persero) Tbk	0.000229066	4,834,188,800,000	0.001126	5.53944E-05	0.000107224
PT Alumindo Light Metal Industry Tbk	2.70214E-07	47,740,000,000	0.022324	0.002144219	-0.003900628
PT Betonjaya Manunggal Tbk	8.40741E-09	27,000,000,000	0.000687	-7.03704E-05	7.9963E-05
PT Citra Tubindo Tbk	8.8468E-06	640,000,000,000	0.000963	0.000375102	-4.81109E-05
PT Indal Aluminium Industry Tbk	-0.000326495	22,176,000,000	0.014153	0.001198187	-0.002771104
PT Jaya Pari Steel Tbk	0.000130369	19,500,000,000	0.012712	-0.000264154	0.008110256
PT Lion Mesh Prima Tbk	0.001114993	3,360,000,000	0.019377	0.002275	0.002034226
PT Lion Metal Works Tbk	0.000297525	39,012,000,000	0.002256	0.000114375	0.000428099
PT Tembaga Mulia Semanan Tbk	-0.00197619	33,060,600,000	0.030864	0.002034809	-0.002625875
PT Tira Austenite Tbk	0.00086389	112,000,000,000	0.002006	0.001681795	-0.000601286
PT Adhi Chandra Automotive Product Tbk	4.6653E-05	361,800,000,000	0.000394	3.94859E-05	-6.96048E-05
PT Astra International Tbk	0.000270091	8,215,417,066,500	0.003836	0.000100777	6.84457E-05
PT Astra Otoparts Tbk	8.65128E-05	1,049,902,392,000	0.002049	8.38287E-05	-3.23468E-05
PT Branta Mulia Tbk	0.000639561	202,500,000,000	0.006101	-0.000340672	-0.000150696
PT Gajah Tunggal Tbk	0.000773406	728,640,000,000	0.007863	0.000231395	-0.000248707
PT Goodyear Indonesia Tbk	0.000231779	178,350,000,000	0.003301	0.000143157	-0.000167082
PT Hexindo Adiperkasa Tbk	0.001794055	66,360,000,000	0.009975	0.002321203	0.000282489
PT Indomobil Sukses International Tbk	-0.00095204	647,726,742,000	0.004182	-0.010013524	0.00266417

Manufacturing firms Year 2003

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1
PT Indospring Tbk	0.000238582	24,375,000,000	0.008869	0.0001056	0.000887918
PT Intraco Penta Tbk	7.4135E-05	41,760,000,000	0.011299	-0.00066056	-0.001129119
PT Multi Prima Sejatera Tbk	2.87686E-07	12,750,000,000	0.002264	-0.000458118	-0.000270039
PT Nipress Tbk	0.001318306	16,000,000,000	0.007615	-7.86875E-05	0.001407188
PT Prima Alloy Steel Tbk	0.001150535	17,860,000,000	0.021917	0.01114009	0.000706887
PT Selamat Sempurna Tbk	0.000154746	376,613,952,000	0.001693	9.08994E-05	0.000101603
PT Sugi Samapersada Tbk	1.50524E-05	114,000,000,000	0.000588	1.82895E-05	1.44035E-05
PT Tunas Ridean Tbk	-0.000413565	397,575,000,000	0.006792	0.000642654	0.000236758
PT United Tractors Tbk	0.00164532	471,408,000,000	0.014579	-1.92593E-05	-0.000374429
PT Modern Photo Film Company Tbk	-1.73183E-07	108,041,809,500	0.015681	-0.001505815	-0.000518892
PT Perdana Bangun Pusaka Tbk	-3.48217E-05	70,694,023,500	0.000815	9.31762E-05	1.27451E-05
PT Bristol-Myers Squibb Indonesia Tbk	0.002016273	10,206,000,000	0.019351	-0.00079659	0.002983539
PT Dankos Laboratories Tbk	0.000459718	357,210,000,000	0.003335	0.000352317	0.000844876
PT Darya-Varia Laboratoria Tbk	0.000263692	257,600,000,000	0.001515	-0.00061597	0.000143727
PT Kalbe Farma Tbk	0.000454159	1,116,720,000,000	0.002587	-0.000169942	0.000461443
PT Kimia Farma (Persero) Tbk	0.00030621	1,027,490,000,000	0.001768	0.000318647	-3.07156E-06
PT Merck Tbk	0.000287844	224,000,000,000	0.001323	0.000336616	-1.40893E-05
PT Pyridam Farma Tbk	2.29965E-08	143,022,000,000	0.000191	1.83678E-05	-3.21489E-05
PT Schering Plough Indonesia Tbk	0.000302875	28,800,000,000	0.004078	0.000260764	0.000290521
PT Tempo Scan Pasific Tbk	4.13555E-06	1,856,250,000,000	0.001144	8.87418E-05	9.38478E-05
PT Mandom Indonesia Tbk	0.000286045	234,000,000,000	0.002723	0.000232513	0.000235534
PT Mustika Ratu Tbk	0.000394953	38,520,000,000	0.005965	-0.000602233	0.000642549
PT Unilever Indonesia Tbk	9.0796E-05	13,886,600,000,000	0.000585	7.98211E-05	7.21969E-05

Manufacturing firms Year 2003

Manufacturing Firms	ΔDiexp t	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp
PT Ades Alfindo Putrasetia Tbk	0.001488875	0.00194	0.001954	0.634219	0.00457	0.017006819	0	0.00135
PT Aqua Golden Mississippi Tbk	5.78493E-05	0.001965	0.001966	2.326534	0.00472	0.117823271	0	0.00015
PT Cahaya Kalbar Tbk	0.000157969	0.00241	0.002583	0.307968	0.00479	0.010567763	0	0.00015
PT Davomas Abadi Tbk	7.41803E-05	0.006616	0.006912	0.22388	0.00437	0.116211605	0	-0.00128
PT Delta Djakarta Tbk	0.062914837	0.111009	0.117597	0.005086	-0.01802	0.102399648	0	0.00794
PT Fast Food Indonesia	0.001080603	0.000796	0.000798	2.937208	0.00479	0.148456713	0	0.00123
PT Indofood Sukses Makmur Tbk	0.000436386	0.002381	0.002287	1.537375	0.0047	0.039568591	0	0.00027
PT Mayora Indah Tbk	0.000511191	0.002763	0.002882	0.391967	0.00514	0.063508397	0	0.00018
PT Multi Bintang Indonesia Tbk	0.000287853	0.000501	0.000503	2.047865	0.00499	0.189925459	0	0.0007
PT Pioneerindo Gourmet International Tbk	0.000806882	0.000518	0.000511	4.141341	0.00493	-0.06618606	0	0.00111
PT Sari Husada Tbk	0.000100674	0.000305	0.000289	2.24888	0.00502	0.235822858	0	0.00062
PT Siantar TOP Tbk	0.000226958	0.001686	0.001685	1.264681	0.00451	0.066280938	0	0.00036
PT Sierad Produce Tbk	0.000787649	0.007283	0.00685	1.935724	0.00424	-0.091980114	0	-0.0006
PT Suba Indah Tbk	0.000719213	0.006382	0.006809	0.128729	0.00467	-0.154538007	0	-0.00042
PT Ultra Jaya Milk Industry and Trading Company Tbk	6.37295E-05	0.000287	0.000322	2.197595	0.00486	0.007352125	0	0.00063
PT BAT Indonesia Tbk	0.000381779	0.000491	0.000446	1.321517	0.00518	0.070856068	0	0.00079
PT Gudang Garam Tbk	9.96309E-05	0.001166	0.001175	2.694993	0.00483	0.118987144	0	0.00039
PT Hanjaya Mandala Sampoerna Tbk	0.000127915	0.00061	0.000569	3.732572	0.00495	0.143305836	0	0.00057
PT APAC Citra Centertex Tbk	0.00280093	0.030777	0.03049	0.121163	0.00094	-0.034213707	0	-0.00514
PT Ever Shine Textile Industry Tbk	4.16136E-05	0.000647	0.000643	0.647947	0.00492	-0.044641957	0	0.00055
PT Fortune Mate Indonesia Tbk	2.00313E-05	0.001191	0.001148	0.741817	0.00488	-0.167327917	0	0.00042
PT Great River International Tbk	0.000561829	0.001457	0.00144	0.372092	0.00449	0.01457915	0	0.0006
PT Hanson Industri Utama Tbk	9.73419E-05	0.001027	0.001098	0.224614	0.00481	-0.027232018	0	0.00047
PT Indorama Syntetics Tbk	0.000830994	0.009043	0.009218	0.170264	0.00334	0.008449179	0	-0.0012
PT Karwell Indonesia Tbk	0.000278516	0.002332	0.002203	3.469219	0.00454	-0.049072432	0	0.00028
PT Pan Brothers Tex Tbk	0.000204388	0.001468	0.001466	1.999216	0.00488	0.041336514	0	0.00042
PT Ricky Putra Globalindo Tbk	0.002961979	0.015013	0.014935	2.221911	0.00444	0.013851499	0	-0.00114
PT Ryane Adibusana Tbk	0.003573065	0.008346	0.004073	0.220285	0.00876	-0.265036482	0	0.00168
PT Sarasa Nugraha Tbk	0.000316424	0.002285	0.002026	2.671131	0.00491	-0.246542778	0	0.0004
PT Sepatu Bata Tbk	0.000619733	0.001176	0.001295	1.228956	0.00491	0.171033216	0	0.00074
PT Surya Intrindo Makmur Tbk	0.000015454	0.000266	0.000203	1.855104	0.00491	-0.154889871	0	0.00063
PT Asahimas Flat Glass Co Ltd Tbk	0.000373202	0.001573	0.001601	1.403976	0.00487	0.117723772	0	0.00042

Manufacturing firms Year 2003

Manufacturing Firms	ΔDiexp t	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp
PT Asiaplast Industries Tbk	0.000245169	0.004451	0.004685	0.309986	0.0043	0.000970884	1	-0.00046
PT Berlina Co Ltd Tbk	0.000239821	0.001684	0.001647	0.683557	0.00516	0.031795797	0	0.00031
PT Dynaplast Tbk	0.000266845	0.001671	0.001747	1.250561	0.00478	0.103975413	0	0.00033
PT Fatrapolindo Nusa Industri Tbk	0.000119206	0.001095	0.001102	0.744456	0.00509	-0.014552945	0	0.00048
PT Inti Indah Karya Plasindo Tbk	3.83929E-06	7.69E-05	6.94E-05	0.66894	0.00496	0.018759108	0	0.00066
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.000317703	0.003204	0.002978	1.016464	0.00494	0.067796967	0	-0.00009
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.002177919	0.013365	0.013392	0.41989	0.00362	-0.079619363	0	-0.0013
PT Lapindo International Tbk	2.82425E-05	0.000434	0.000481	5.408345	0.0048	0.01169541	0	0.00058
PT Palm Asia Corpora Tbk (PT Plaspack Prima Industri	0.000192333	0.003394	0.002997	0.268601	0.00543	-0.018798443	0	-0.00008
PT Siwani Makmur Tbk	0.00040632	0.002989	0.003055	0.289748	0.00519	-0.366962709	0	0.0001
PT Summitplast Interbenua Tbk	6.19684E-05	0.000879	0.000893	1.27521	0.00475	0.008978826	0	0.00048
PT Trias Sentosa Tbk	0.000156865	0.001684	0.001778	0.908629	0.005	0.111665077	0	0.00026
PT Indocement Tunggal Perkasa Tbk	0.000234039	0.001111	0.001044	2.054046	0.00524	0.058604472	0	0.00046
PT Semen Cibinong Tbk	0.000214524	0.001814	0.001825	1.237186	0.00487	0.02257217	0	0.00035
PT Semen Gresik (Persero) Tbk	0.0002054	0.000725	0.000708	1.440452	0.005	0.054204052	0	0.00058
PT Alumindo Light Metal Industry Tbk	0.001269606	0.020933	0.020962	0.182767	0.00117	-0.037278388	0	-0.00397
PT Betonjaya Manunggal Tbk	5.45185E-05	0.000639	0.000608	1.569743	0.00487	0.002069817	1	0.00055
PT Citra Tubindo Tbk	9.25656E-05	0.000859	0.000836	1.189279	0.0047	0.021509108	0	0.00051
PT Indal Aluminium Industry Tbk	0.001480023	0.013225	0.012795	0.232941	0.00228	-0.132055697	0	-0.0016
PT Jaya Pari Steel Tbk	0.000613795	0.010983	0.011175	0.87622	0.00338	0.094364793	0	-0.00208
PT Lion Mesh Prima Tbk	0.000986607	0.017682	0.017601	0.469417	0.00266	0.046222707	0	-0.00347
PT Lion Metal Works Tbk	0.000524172	0.001285	0.001175	0.495246	0.00489	0.113270462	0	0.0006
PT Tembaga Mulia Semanan Tbk	0.001042843	0.029718	0.028379	0.371542	-0.00196	0.013982796	0	-0.00646
PT Tira Austenite Tbk	0.000670589	0.001157	0.001183	0.109382	0.00501	0.00366386	1	0.00081
PT Adhi Chandra Automotive Product Tbk	3.06108E-05	0.000321	0.000338	3.242644	0.00492	0.101167821	0	0.0006
PT Astra International Tbk	0.000521168	0.002901	0.0028	2.267937	0.00465	0.168855484	0	0.00018
PT Astra Otoparts Tbk	0.000246692	0.001661	0.001656	1.005332	0.00472	0.112692867	0	0.00038
PT Branta Mulia Tbk	0.000797279	0.004871	0.004977	0.649794	0.00483	0.04506819	0	-0.00015
PT Gajah Tunggal Tbk	0.000889485	0.006667	0.006718	9.363664	0.00455	0.070003176	0	-0.00052
PT Goodyear Indonesia Tbk	0.000221542	0.002944	0.002925	0.572922	0.00467	0.042705107	0	0.00002
PT Hexindo Adiperkasa Tbk	0.001489738	0.007726	0.007699	0.874321	0.00464	0.066554579	0	-0.00048
PT Indomobil Sukses International Tbk	0.00050422	0.00364	0.003688	2.50523	0.00645	0.027113542	0	0.00007

Manufacturing firms Year 2003

Manufacturing Firms	ΔDiexp t	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp
PT Indospring Tbk	0.000946256	0.007785	0.008537	0.382625	0.00391	0.015844011	0	-0.00073
PT Intraco Penta Tbk	0.002188865	0.008853	0.008493	0.422119	0.00364	0.006475224	0	-0.00013
PT Multi Prima Sejatera Tbk	0.000671608	0.001868	0.001631	0.176495	0.00477	-0.004784497	0	0.00075
PT Nipress Tbk	0.000676875	0.00641	0.006053	0.603206	0.00522	0.022695265	0	-0.00067
PT Prima Alloy Steel Tbk	0.001083203	0.019182	0.019163	0.702677	-0.00035	0.039379483	0	-0.00405
PT Selamat Sempurna Tbk	0.000170711	0.001284	0.001392	0.841965	0.00483	0.082069541	0	0.0004
PT Sugi Samapersada Tbk	5.29386E-05	0.000513	0.000551	3.52104	0.00487	0.022353698	0	0.00057
PT Tunas Ridean Tbk	0.000277236	0.00622	0.006137	0.994421	0.00339	0.729899052	0	-0.00085
PT United Tractors Tbk	0.000974213	0.012248	0.0119	1.657647	0.00456	0.057678976	0	-0.00222
PT Modern Photo Film Company Tbk	0.002684118	0.012722	0.012706	0.751725	0.00321	0.003761651	1	-0.0008
PT Perdana Bangun Pusaka Tbk	0.000171401	0.000674	0.000703	0.769143	0.00477	-0.015209306	0	0.00063
PT Bristol-Myers Squibb Indonesia Tbk	0.005941407	0.008543	0.007337	0.987287	0.0045	0.21177989	0	0.00149
PT Dankos Laboratories Tbk	0.001106803	0.001614	0.001604	3.857376	0.00483	0.189949603	0	0.0009
PT Darya-Varia Laboratoria Tbk	0.00071087	0.000499	0.000522	1.911179	0.00518	0.150667963	0	0.00098
PT Kalbe Farma Tbk	0.000947017	0.001133	0.001006	12.46767	0.00509	0.160198418	0	0.00094
PT Kimia Farma (Persero) Tbk	0.000441882	0.00124	0.001216	1.722051	0.0049	0.041335464	0	0.00065
PT Merck Tbk	0.000501554	0.000517	0.000529	2.401404	0.00494	0.293496426	0	0.00083
PT Pyridam Farma Tbk	0.000105865	7.18E-05	7.38E-05	0.712336	0.00491	0.008874425	0	0.00073
PT Schering Plough Indonesia Tbk	0.001268368	0.002527	0.002564	9.601506	0.0046	0.039049236	0	0.00086
PT Tempo Scan Pasific Tbk	0.000316091	0.000623	0.00063	1.773375	0.00476	0.177644704	0	0.00069
PT Mandom Indonesia Tbk	0.000681017	0.001651	0.001626	1.208023	0.00478	0.173740966	0	0.00063
PT Mustika Ratu Tbk	0.002682399	0.002565	0.002395	0.775201	0.00469	0.037314482	0	0.00178
PT Unilever Indonesia Tbk	0.000177722	0.000281	0.000291	13.56187	0.00493	0.419396071	0	0.0007

Manufacturing firms Year 2003

Manufacturing Firms	Abprod	Abcogs	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Ades Alfindo Putrasetia Tbk	-0.00106	-0.00101	8.315796	1	1	0	0	0.0014697	0
PT Aqua Golden Mississippi Tbk	-0.00043	-0.00049	8.729802	1	0	0	0	0.0000841	0
PT Cahaya Kalbar Tbk	0.00003	-0.00027	8.477761	0	0	0	0	0.0007753	0
PT Davomas Abadi Tbk	0.00018	0.00109	8.898614	1	0	0	0	0.0000039	0
PT Delta Djakarta Tbk	0.00493	-0.00786	8.565616	0	0	0	0	0.0348289	0
PT Fast Food Indonesia	-0.00151	-0.00155	8.388067	0	0	0	0	0.0002160	0
PT Indofood Sukses Makmur Tbk	-0.00066	-0.00063	10.18331	0	0	0	0	0.0006507	0
PT Mayora Indah Tbk	-0.00051	-0.00059	9.124626	0	0	0	0	0.0002377	0
PT Multi Bintang Indonesia Tbk	-0.0011	-0.00128	8.676729	0	0	0	0	0.0003355	0
PT Pioneerindo Gourmet International Tbk	-0.00125	-0.00149	8.096844	1	0	0	0	0.0002488	0
PT Sari Husada Tbk	-0.00115	-0.00125	8.971053	0	0	0	0	0.0000680	0
PT Siantar TOP Tbk	-0.00068	-0.0007	8.672515	0	0	0	0	0.0004827	0
PT Sierad Produce Tbk	0.00277	0.00169	9.060459	1	1	0	0	0.0008608	0
PT Suba Indah Tbk	-0.00117	0.00132	8.9481	1	1	0	0	0.0076726	0
PT Ultra Jaya Milk Industry and Trading Company Tbk	-0.00103	-0.00118	9.007779	1	1	0	0	0.0002442	0
PT BAT Indonesia Tbk	-0.00099	-0.0013	8.842884	0	1	0	0	0.0002614	0
PT Gudang Garam Tbk	-0.0008	-0.00088	10.189	0	1	0	0	0.0001542	0
PT Hanjaya Mandala Sampoerna Tbk	-0.00097	-0.00112	9.991982	0	0	0	0	0.0001251	0
PT APAC Citra Centertex Tbk	0.01463	0.01133	9.429323	1	0	0	0	0.0122586	0
PT Ever Shine Textile Industry Tbk	-0.00078	-0.00093	8.822779	1	1	0	0	0.0001533	0
PT Fortune Mate Indonesia Tbk	-0.00027	-0.00062	8.343987	0	0	0	0	0.0000834	0
PT Great River International Tbk	-0.00087	-0.00111	8.994329	0	1	0	0	0.0013165	0
PT Hanson Industri Utama Tbk	-0.00065	-0.00085	8.817118	0	0	0	0	0.0007747	0
PT Indorama Syntetics Tbk	0.00304	0.00209	9.684643	0	0	0	0	0.0052731	0
PT Karwell Indonesia Tbk	0.00027	-0.00033	8.69181	0	0	0	0	0.0016675	0
PT Pan Brothers Tex Tbk	-0.00035	-0.00073	8.148738	0	0	0	0	0.0002295	0
PT Ricky Putra Globalindo Tbk	0.0074	0.00368	8.416251	0	0	0	0	0.0167742	0
PT Ryane Adibusana Tbk	0.00184	0.00168	7.881185	0	1	0	0	0.0044377	0
PT Sarasa Nugraha Tbk	0.00028	-0.0002	8.219427	0	0	0	0	0.0003150	0
PT Sepatu Bata Tbk	-0.00085	-0.00123	8.322389	0	1	0	0	0.0003381	0
PT Surya Intrindo Makmur Tbk	-0.00093	-0.00109	8.364127	0	1	0	0	0.0001761	0
PT Asahimas Flat Glass Co Ltd Tbk	-0.00079	-0.00098	9.142119	0	1	0	0	0.0005918	0

Manufacturing firms Year 2003

Manufacturing Firms	Abprod	Abcogs	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Asiaplast Industries Tbk	0.00101	0.0003	8.450583	1	1	1	1	0.0023975	0.002398
PT Berlina Co Ltd Tbk	-0.00054	-0.00082	8.413821	1	1	0	0	0.0008032	0
PT Dynaplast Tbk	-0.00095	-0.00084	8.721636	1	1	0	0	0.0009165	0
PT Fatrapolindo Nusa Industri Tbk	-0.00024	-0.00079	8.380745	1	1	0	0	0.0009254	0
PT Inti Indah Karya Plasindo Tbk	-0.00106	-0.0012	7.775756	0	1	0	0	0.0000525	0
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	-0.00015	-0.00032	8.375804	0	1	0	0	0.0004715	0
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.00337	0.00335	8.702699	1	0	0	0	0.0312147	0
PT Lapindo International Tbk	-0.00106	-0.00106	7.547935	0	0	0	0	0.0001102	0
PT Palm Asia Corpora Tbk (PT Plaspack Prima Industri	0.00085	0.00016	7.918942	0	0	0	0	0.0013939	0
PT Siwani Makmur Tbk	0.0003	-0.00032	7.902172	1	1	0	0	0.0006243	0
PT Summitplast Interbenua Tbk	-0.00079	-0.00089	8.215278	1	1	0	0	0.0004116	0
PT Trias Sentosa Tbk	-0.00044	-0.00076	9.182516	1	1	0	0	0.0010805	0
PT Indocement Tunggal Perkasa Tbk	-0.00101	-0.00106	10.05833	1	1	0	0	0.0003159	0
PT Semen Cibinong Tbk	-0.00049	-0.00055	9.887268	1	1	0	0	0.0002162	0
PT Semen Gresik (Persero) Tbk	-0.00103	-0.00114	9.837105	1	1	0	0	0.0003880	0
PT Alumindo Light Metal Industry Tbk	0.00825	0.0072	8.989513	0	0	0	0	0.0083451	0
PT Betonjaya Manunggal Tbk	-0.00081	-0.00098	7.400071	1	0	1	0	0.0000484	4.84E-05
PT Citra Tubindo Tbk	-0.001	-0.00091	8.825136	0	1	0	0	0.0002056	0
PT Indal Aluminium Industry Tbk	0.00452	0.00406	8.477924	1	0	0	0	0.0394019	0
PT Jaya Pari Steel Tbk	0.00184	0.00263	8.105275	1	1	0	0	0.0014568	0
PT Lion Mesh Prima Tbk	0.00473	0.00559	7.54224	0	0	0	0	0.0038405	0
PT Lion Metal Works Tbk	-0.00125	-0.00121	8.03448	0	1	0	0	0.0003471	0
PT Tembaga Mulia Semanan Tbk	0.01117	0.0112	8.755319	0	1	0	0	0.0132911	0
PT Tira Austenite Tbk	-0.00195	-0.0012	8.86662	1	1	1	1	0.0004897	0.00049
PT Adhi Chandra Automotive Product Tbk	-0.00097	-0.00113	8.141334	0	0	0	0	0.0000453	0
PT Astra International Tbk	-0.0003	-0.00048	10.41806	1	1	0	0	0.0009411	0
PT Astra Otoparts Tbk	-0.00052	-0.00072	9.262809	0	1	0	0	0.0004659	0
PT Branta Mulia Tbk	0.00111	0.00022	9.215227	0	1	0	0	0.0013937	0
PT Gajah Tunggal Tbk	0.0016	0.00103	10.09497	1	1	0	0	0.0027031	0
PT Goodyear Indonesia Tbk	0.00012	-0.00014	8.585316	0	0	0	0	0.0004937	0
PT Hexindo Adiperkasa Tbk	-0.00007	0.00091	8.805354	0	0	0	0	0.0056024	0
PT Indomobil Sukses International Tbk	0.00684	0.00006	9.362235	0	1	0	0	0.0009182	0

Manufacturing firms Year 2003

Manufacturing Firms	Abprod	Abcogs	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Indospring Tbk	0.00271	0.00158	8.450831	0	0	0	0	0.0021342	0
PT Intraco Penta Tbk	0.00252	0.00129	8.826435	0	1	0	0	0.0080402	0
PT Multi Prima Sejatera Tbk	-0.00021	-0.00063	8.094681	1	0	0	0	0.0035781	0
PT Nipress Tbk	0.00085	0.00091	8.021553	0	0	0	0	0.0025386	0
PT Prima Alloy Steel Tbk	-0.00085	0.00567	8.481589	0	1	0	0	0.0082202	0
PT Selamat Sempuma Tbk	-0.00065	-0.0009	8.766135	0	0	0	0	0.0002364	0
PT Sugi Samapersada Tbk	-0.00086	-0.00105	7.763503	0	0	0	0	0.0001703	0
PT Tunas Ridean Tbk	0.00114	0.00118	9.045818	0	1	0	0	0.0005833	0
PT United Tractors Tbk	0.00365	0.00285	9.773782	0	1	0	0	0.0077522	0
PT Modern Photo Film Company Tbk	0.00499	0.00271	9.007707	0	1	0	1	0.0406700	0.04067
PT Perdana Bangun Pusaka Tbk	-0.00088	-0.00102	7.800614	0	0	0	0	0.0004914	0
PT Bristol-Myers Squibb Indonesia Tbk	-0.00361	-0.00353	8.123888	0	0	0	0	0.0036553	0
PT Dankos Laboratories Tbk	-0.00163	-0.00149	8.820168	0	1	0	0	0.0005168	0
PT Darya-Varia Laboratoria Tbk	-0.00094	-0.00158	8.509098	0	0	0	0	0.0002870	0
PT Kalbe Farma Tbk	-0.00139	-0.00155	9.304391	0	1	0	0	0.0010147	0
PT Kimia Farma (Persero) Tbk	-0.00099	-0.00098	9.016425	0	1	0	0	0.0005577	0
PT Merck Tbk	-0.00147	-0.00146	8.236376	0	0	0	0	0.0001791	0
PT Pyridam Farma Tbk	-0.00113	-0.00127	7.84355	1	0	0	0	0.0000511	0
PT Schering Plough Indonesia Tbk	-0.00083	-0.00099	7.787149	0	0	0	0	0.0018115	0
PT Tempo Scan Pasific Tbk	-0.00113	-0.00125	9.259244	0	0	0	0	0.0001558	0
PT Mandom Indonesia Tbk	-0.00106	-0.00111	8.551459	0	0	0	0	0.0001401	0
PT Mustika Ratu Tbk	-0.00142	-0.00201	8.464712	0	0	0	0	0.0098737	0
PT Unilever Indonesia Tbk	-0.00118	-0.00128	9.490219	0	0	0	0	0.0000897	0

Appendix 4
Manufacturing firms Year 2004

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1	ΔDiexp t
PT Ades Alfindo Putrasetia Tbk	-0.0003	55,100,000,000	0.002279	-0.000787332	0.000371688	0.001612178
PT Aqua Golden Mississippi Tbk	0.000171	493,592,737,500	0.002701	0.000518495	0.000112082	5.10409E-05
PT Cahaya Kalbar Tbk	0.000414	69,912,500,000	0.002397	-0.00018432	0.000107706	0.000139012
PT Davomas Abadi Tbk	0.002172	111,633,401,880	0.009246	0.001587438	0.002279479	7.69631E-05
PT Delta Djakarta Tbk	0.070185	1,441,186,290	0.245271	0.035272679	0.017353065	0.07278798
PT Fast Food Indonesia	0.000247	401,625,000,000	0.002215	0.000234381	0.00019934	0.001216182
PT Indofood Sukses Makmur Tbk	0.000327	5,630,940,000,000	0.003182	8.36511E-06	0.000249539	0.000445308
PT Mayora Indah Tbk	0.000356	291,301,920,000	0.004731	0.000941407	0.000361604	0.00072731
PT Multi Bintang Indonesia Tbk	0.000259	579,425,000,000	0.001227	0.000255527	3.53074E-05	0.000354282
PT Pioneerindo Gourmet International Tbk	0.000178	110,404,000,000	0.00145	6.15481E-05	-6.90645E-05	0.000819698
PT Sari Husada Tbk	0.000134	1,883,524,330,000	0.000656	7.1689E-05	4.15604E-05	0.000170492
PT Siantar TOP Tbk	2.12E-05	340,600,000,000	0.002092	3.37093E-05	0.000215217	6.66566E-05
PT Sierad Produce Tbk	2.18E-05	144,757,301,660	0.009351	0.001567543	-0.001305592	0.000958112
PT Suba Indah Tbk	-0.00078	64,800,000,000	0.006627	-0.00021103	0.0051	0.000551846
PT Ultra Jaya Milk Industry and Trading Company Tbk	3.08E-05	1,155,352,800,000	0.000473	4.82047E-05	7.08338E-05	7.60912E-05
PT BAT Indonesia Tbk	0.000117	534,600,000,000	0.001073	-3.32248E-05	-0.000285572	0.000529817
PT Gudang Garam Tbk	3.19E-05	26,167,596,800,000	0.000928	4.41124E-05	8.40082E-05	7.32205E-05
PT Hanjaya Mandala Sampoerna Tbk	0.000143	20,137,500,000,000	0.000876	0.000147564	-2.25221E-05	0.000130277
PT Ever Shine Textile Industry Tbk	0.000149	251,901,090,000	0.001936	0.000440359	-0.000163505	0.000122943
PT Fortune Mate Indonesia Tbk	0.000121	144,000,000,000	0.000284	-0.001783722	-0.000491799	2.22453E-05
PT Hanson Industri Utama Tbk	0.000429	78,216,077,460	0.004669	0.000858883	0.000652091	0.000304371
PT Indorama Syntetics Tbk	0.000649	343,534,646,175	0.001225	-0.007533282	-0.000552428	8.45876E-05
PT Karwell Indonesia Tbk	0.000184	240,732,607,000	0.002423	0.000242314	-6.49268E-05	0.000201809
PT Pan Brothers Tex Tbk	-4.8E-06	147,840,000,000	0.002081	0.00029413	-0.000147748	0.000240543
PT Ricky Putra Globalindo Tbk	0.000176	31,680,000,000	0.007016	0.000461567	-0.000860732	0.001225565
PT Ryane Adibusana Tbk	-0.00026	13,751,500,000	0.000524	-0.001416208	-0.000988838	0.000468965
PT Sarasa Nugraha Tbk	-2.8E-05	209,000,000,000	0.000721	-0.000336303	-0.000229163	6.94383E-05
PT Sepatu Bata Tbk	0.000287	183,300,000,000	0.002405	0.000180687	-1.75832E-05	0.000708773
PT Surya Intrindo Makmur Tbk	3.61E-05	225,000,000,000	0.000414	-6.53132E-05	-0.000127596	3.31985E-05
PT Argha Karya Prima Industry Tbk	0.000117	476,000,000,000	0.001989	0.000214631	-0.000155097	0.000195154
PT Asahimas Flat Glass Co Ltd Tbk	0.000358	857,150,000,000	0.0017	0.000116536	7.36091E-05	0.000263705
PT Asiaplast Industries Tbk	-0.00057	45,500,000,000	0.005312	0.001596198	-0.000426857	0.000200012

Manufacturing firms Year 2004

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1	ΔDiexp t
PT Berlina Co Ltd Tbk	0.000315	110,400,000,000	0.002423	0.000480524	-0.000103397	0.000266443
PT Dynaplast Tbk	0.000302	429,998,016,000	0.001724	0.000353766	0.000332822	0.000169499
PT Fatrapolindo Nusa Industri Tbk	-5.7E-05	129,213,000,000	0.001222	5.69941E-05	-0.000508602	0.000129582
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	-5.1E-05	141,750,000,000	0.002647	6.74957E-05	-0.000175993	0.000177331
PT Langgeng Makmur Plastik Industry Ltd Tbk	-8.1E-05	22,185,309,300	0.010696	-0.000321662	0.000933095	0.001555737
PT Lapindo International Tbk	-2.6E-05	132,050,150,000	0.00069	0.000246776	0.00025766	2.9814E-05
PT Siwani Makmur Tbk	9.11E-05	19,425,000,000	0.003939	0.000495707	-0.000120103	0.000413037
PT Summitplast Interbenua Tbk	0.000134	141,950,000,000	0.001506	0.000410798	0.000227742	8.42478E-05
PT Indocement Tunggal Perkasa Tbk	0.000167	7,822,617,360,375	0.00059	-0.000531495	2.67685E-05	8.78033E-05
PT Semen Cibinong Tbk	3.71E-05	3,103,474,500,000	0.000763	4.13063E-05	8.42166E-05	7.78389E-05
PT Semen Gresik (Persero) Tbk	0.000183	4,656,243,200,000	1.3E-06	-0.001168165	5.75114E-05	0.000237194
PT Alakasa Industrindo Tbk	1.15E-05	17,260,611,870	0.034813	0.015288686	0.005690934	0.000373142
PT Alumindo Light Metal Industry Tbk	-0.0003	66,220,000,000	0.016971	0.000877055	0.001545832	0.000699094
PT Betonjaya Manunggal Tbk	8.04E-05	34,200,000,000	0.00134	0.000797353	-5.55556E-05	6.07045E-05
PT Citra Tubindo Tbk	5.05E-05	640,000,000,000	0.000112	-0.000850496	0.000375102	1.06084E-05
PT Indal Aluminium Industry Tbk	-0.00046	22,968,000,000	0.020487	0.006821724	0.00115687	0.001319364
PT Jaya Pari Steel Tbk	-0.00045	59,250,000,000	0.006412	0.002228552	-8.69367E-05	0.000183931
PT Lion Mesh Prima Tbk	0.001354	5,280,000,000	0.016901	0.004570455	0.001447727	0.000722284
PT Lion Metal Works Tbk	0.000141	44,213,600,000	0.002513	0.000522852	0.000100919	0.000534705
PT Pelangi Indah Canindo Tbk	-0.00038	79,782,000,000	0.002201	0.000203369	9.51342E-06	0.000207028
PT Tembaga Mulia Semanan Tbk	0.001251	40,407,400,000	0.045121	0.019868632	0.001664844	0.00094835
PT Tira Austenite Tbk	0.000522	65,800,000,000	0.001802	-0.001613221	0.002862629	0.000700394
PT Adhi Chandra Automotive Product Tbk	-1.7E-06	385,920,000,000	0.000488	0.000117878	3.7018E-05	3.18118E-05
PT Astra International Tbk	0.000157	20,232,971,570,000	0.002192	0.000634193	4.09194E-05	0.000269625
PT Astra Otoparts Tbk	0.000105	1,173,823,184,000	0.002492	0.000658597	7.49789E-05	0.00028085
PT Branta Mulia Tbk	0.000398	427,500,000,000	0.003445	0.000555079	-0.000161371	0.000368655
PT Gajah Tunggal Tbk	0.000339	1,742,400,000,000	0.003907	0.000618729	9.67654E-05	0.000252876
PT Goodyear Indonesia Tbk	0.000209	153,750,000,000	0.004994	0.001164955	0.000166062	0.000328319
PT Hexindo Adiperkasa Tbk	0.000888	155,400,000,000	0.006407	0.002147149	0.000991216	0.000737573
PT Indomobil Sukses International Tbk	-0.00028	996,502,680,000	0.004305	0.001586758	-0.00650879	0.000289183
PT Intraco Penta Tbk	0.000109	53,940,000,000	0.011569	0.002820807	-0.000511402	0.001619914
PT Multi Prima Sejatera Tbk	0.000403	13,812,500,000	0.002806	0.000716543	-0.000422878	0.000689572

Manufacturing firms Year 2004

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1	ΔDiexp t
PT Nipress Tbk	0.00219	7,300,000,000	0.023041	0.006350924	-0.000172466	0.002007092
PT Prima Alloy Steel Tbk	-0.00074	35,280,000,000	0.015354	0.004259408	0.005639512	0.000702039
PT Selamat Sempurna Tbk	0.000143	344,147,232,000	0.002124	0.000271318	9.94749E-05	0.000202938
PT United Tractors Tbk	0.001049	1,966,544,375,000	0.004524	0.001028794	-4.61673E-06	0.000304536
PT Modern Photo Film Company Tbk	0.00067	166,731,187,500	0.009841	-0.000320994	-0.000975768	0.001778611
PT Perdana Bangun Pusaka Tbk	-1.3985	20,140,000,000	0.002934	7.24713E-05	0.000327061	0.000596816
PT Bristol-Myers Squibb Indonesia Tbk	0.000559	87,692,000,000	0.002527	0.000274847	-9.27109E-05	0.00076148
PT Dankos Laboratories Tbk	0.000251	1,093,955,625,000	0.001263	0.000174005	0.000115042	0.000426231
PT Darya-Varia Laboratoria Tbk	0.000128	434,000,000,000	0.000983	8.39866E-05	-0.000365608	0.000468487
PT Kalbe Farma Tbk	5.23E-05	8,121,600,000,000	0.00042	6.45056E-05	4.03131E-05	0.000149543
PT Kimia Farma (Persero) Tbk	-6.4E-05	1,166,340,000,210	0.001651	9.3974E-05	0.000238071	0.000447503
PT Merck Tbk	0.000239	358,400,000,000	0.001042	0.000214902	0.000210385	0.000359815
PT Pyridam Farma Tbk	0.000106	42,806,400,000	0.000794	0.000156817	0.001271025	0.000427703
PT Schering Plough Indonesia Tbk	-6.9E-05	30,600,000,000	0.00366	-0.000177454	0.000245425	0.001570852
PT Tempo Scan Pasific Tbk	0.00016	2,655,000,000,000	0.000893	9.31794E-05	6.20441E-05	0.000257692
PT Mandom Indonesia Tbk	0.000227	366,600,000,000	0.002184	0.000445869	0.000148412	0.000527062
PT Mustika Ratu Tbk	0.000118	186,180,000,000	0.00131	7.57339E-05	-0.0001246	0.000594997
PT Unilever Indonesia Tbk	5.12E-05	27,658,750,000,000	0.000325	3.11365E-05	4.00757E-05	9.50981E-05

Manufacturing firms Year 2004

Manufacturing Firms	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp	Abprod	Abcogs
PT Ades Alfindo Putrasetia Tbk	0.001934	0.001894	3.774307	0.00457	-0.77238431	0	0.00168	0.00011	-0.00057
PT Aqua Golden Mississippi Tbk	0.002413	0.002445	0.000944	0.00458	0.000175119	1	0.00001	-0.0004	-0.00033
PT Cahaya Kalbar Tbk	0.002411	0.002112	0.305768	0.00508	-0.07857779	0	0.00018	-0.00009	-0.00016
PT Davomas Abadi Tbk	0.007624	0.007626	2.100023	0.00534	0.110682186	0	-0.0017	0.00022	0.00121
PT Delta Djakarta Tbk	0.132081	0.130973	0.004489	0.03016	0.097017202	0	0.00846	-0.02139	-0.00654
PT Fast Food Indonesia	0.000879	0.000865	2.421229	0.00481	0.127814568	0	0.0013	-0.00156	-0.00159
PT Indofood Sukses Makmur Tbk	0.002366	0.002378	1.588418	0.00482	0.024695251	0	0.00028	-0.00038	-0.00065
PT Mayora Indah Tbk	0.003555	0.003767	0.344618	0.00435	0.066242542	0	0.00015	-0.00045	-0.00033
PT Multi Bintang Indonesia Tbk	0.000694	0.000713	2.15964	0.00495	0.178667257	0	0.0007	-0.00119	-0.00123
PT Pioneerindo Gourmet International Tbk	0.000513	0.000541	4.319512	0.0049	-0.18810574	0	0.00111	-0.00131	-0.00153
PT Sari Husada Tbk	0.000353	0.000382	3.829383	0.00496	0.16221394	0	0.00067	-0.00111	-0.00125
PT Siantar TOP Tbk	0.001736	0.001686	1.133451	0.00466	0.056574869	0	0.00019	-0.00054	-0.00067
PT Sierad Produce Tbk	0.00887	0.00914	0.070046	0.00318	-0.12195807	0	-0.00085	0.00262	0.0024
PT Suba Indah Tbk	0.007577	0.007931	2.449214	0.0033	-0.1162309	0	-0.00053	0.00236	0.00263
PT Ultra Jaya Milk Industry and Trading Company Tbk	0.000322	0.000327	1.224422	0.00489	0.003936295	1	0.00062	-0.00107	-0.00118
PT BAT Indonesia Tbk	0.000586	0.001356	1.261763	0.00492	-0.02698722	0	0.00092	-0.00019	-0.00125
PT Gudang Garam Tbk	0.000744	0.001159	2.385186	0.00483	0.103248136	0	0.0005	-0.00046	-0.00101
PT Hanjaya Mandala Sampoerna Tbk	0.000588	0.000599	0.335629	0.00492	0.195322349	0	0.00057	-0.00104	-0.00114
PT Ever Shine Textile Industry Tbk	0.001841	0.001853	0.700266	0.00469	-0.02577805	0	0.00028	-0.00048	-0.00048
PT Fortune Mate Indonesia Tbk	0.000385	0.000187	0.916188	0.00557	-0.31397264	0	0.00062	0.00032	-0.00101
PT Hanson Industri Utama Tbk	0.00411	0.004557	0.217164	0.00446	0.004076022	1	-0.00026	0.00036	0.00026
PT Indorama Syntetics Tbk	0.001106	0.013913	0.159539	0.00771	0.009717352	0	0.00043	0.01763	-0.00081
PT Karwell Indonesia Tbk	0.002095	0.002298	5.615148	0.00471	0.001085219	1	0.00023	-0.00017	-0.00049
PT Pan Brothers Tex Tbk	0.001783	0.001823	1.994564	0.00456	0.076167176	0	0.00036	-0.00049	-0.00062
PT Ricky Putra Globalindo Tbk	0.004964	0.005254	13.08681	0.004	0.103514967	0	0.00004	0.00056	-0.0002
PT Ryane Adibusana Tbk	0.00069	-0.0001	0.287311	0.00504	-0.12337998	0	0.001	-0.00022	-0.00084
PT Sarasa Nugraha Tbk	0.000746	0.00059	3.575605	0.00492	-0.41948343	0	0.00055	-0.00058	-0.00089
PT Sepatu Bata Tbk	0.001368	0.001363	1.194679	0.00484	0.150962229	0	0.00075	-0.00106	-0.00121
PT Surya Intrindo Makmur Tbk	0.0004	0.000359	2.659354	0.00494	-0.05942892	0	0.0006	-0.00088	-0.00106
PT Argha Karya Prima Industry Tbk	0.001611	0.001749	0.815715	0.00472	0.004899699	1	0.00034	-0.00046	-0.00074
PT Asahimas Flat Glass Co Ltd Tbk	0.001084	0.001093	0.996899	0.00503	0.139104545	0	0.00049	-0.00096	-0.0011
PT Asiaplast Industries Tbk	0.004849	0.005317	0.310403	0.00315	-0.02530205	0	-0.00053	0.00056	0.00064

Manufacturing firms Year 2004

Manufacturing Firms	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp	Abprod	Abcogs
PT Berlina Co Ltd Tbk	0.001788	0.001815	0.720216	0.00477	0.060163628	0	0.0003	-0.00081	-0.0008
PT Dynaplast Tbk	0.001371	0.001481	1.038674	0.0049	0.062111281	0	0.00039	-0.00082	-0.00083
PT Fatrapolindo Nusa Industri Tbk	0.001375	0.001406	0.808521	0.0047	-0.08088531	0	0.00048	-0.00022	-0.00054
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	0.002218	0.002427	0.640736	0.0045	0.109564709	0	0.00015	0	-0.0005
PT Langgeng Makmur Plastik Industry Ltd Tbk	0.009406	0.009962	3.541783	0.00347	-0.10129787	0	-0.0006	0.00352	0.00218
PT Lapindo International Tbk	0.000639	0.000666	9.650507	0.00475	0.029312	0	0.00052	-0.00102	-0.00098
PT Siwani Makmur Tbk	0.003259	0.003339	5.78478	0.00433	0.039292701	0	0.00004	-0.00004	-0.00018
PT Summitplast Interbenua Tbk	0.001324	0.001338	4.124736	0.00474	0.040433441	0	0.00036	-0.00087	-0.00075
PT Indocement Tunggal Perkasa Tbk	0.000395	0.000396	1.72553	0.00519	0.011436397	0	0.00061	-0.00064	-0.00117
PT Semen Cibinong Tbk	0.000708	0.00073	1.168015	0.00486	-0.06971168	0	0.00055	-0.00081	-0.00095
PT Semen Gresik (Persero) Tbk	0.00086	0.000893	1.337354	0.00548	0.078284564	0	0.00091	0.00059	-0.00037
PT Alakasa Industrindo Tbk	0.034409	0.034472	10.09116	-0.00455	0.014117515	0	-0.00818	0.00385	0.01368
PT Alumindo Light Metal Industry Tbk	0.015335	0.016523	0.212882	0.00201	0.035896626	0	-0.00312	0.00596	0.0046
PT Betonjaya Manunggal Tbk	0.001192	0.001213	1.5813	0.00459	0.099570483	0	0.00038	-0.00111	-0.00079
PT Citra Tubindo Tbk	0.000101	9.93E-05	1.239206	0.00524	0.020607244	0	0.00066	-0.00056	-0.00119
PT Indal Aluminium Industry Tbk	0.019078	0.021182	0.389891	-0.00045	0.007317333	0	-0.00344	0.0048	0.00637
PT Jaya Pari Steel Tbk	0.005082	0.006586	0.875422	0.00292	0.477459776	0	-0.00084	0.00075	0.00026
PT Lion Mesh Prima Tbk	0.014441	0.014953	0.432269	0.00255	0.161141046	0	-0.00308	0.00186	0.00374
PT Lion Metal Works Tbk	0.001317	0.001824	0.435006	0.00457	0.195256443	0	0.00054	-0.00093	-0.00132
PT Pelangi Indah Canindo Tbk	0.001999	0.001932	1.968656	0.00419	-0.01845177	0	0.0003	-0.00042	-0.00047
PT Tembaga Mulia Semanan Tbk	0.043637	0.044549	0.349345	-0.00615	-0.00694877	0	-0.01034	0.00662	0.01713
PT Tira Austenite Tbk	0.001075	0.001174	0.834036	0.0057	0.039113921	0	0.0009	-0.00044	-0.00117
PT Adhi Chandra Automotive Product Tbk	0.000396	0.000438	3.127659	0.00484	0.138203202	0	0.00058	-0.001	-0.00111
PT Astra International Tbk	0.001682	0.00176	1.498391	0.0046	0.197250228	0	0.00036	-0.00089	-0.00078
PT Astra Otoparts Tbk	0.002007	0.002134	0.892758	0.0045	0.114013007	0	0.00029	-0.00069	-0.00062
PT Branta Mulia Tbk	0.002732	0.002802	0.558837	0.00469	0.02748469	0	0.00013	-0.00037	-0.00043
PT Gajah Tunggal Tbk	0.003262	0.003053	1.392015	0.00455	0.03927873	0	-0.00011	-0.00046	-0.00016
PT Goodyear Indonesia Tbk	0.004435	0.004505	0.575208	0.0041	0.06370984	0	-0.00032	0.00005	0.0004
PT Hexindo Adiperkasa Tbk	0.004823	0.004732	0.751407	0.00428	0.156400582	0	-0.00029	-0.00133	0
PT Indomobil Sukses International Tbk	0.003761	0.003821	2.741049	0.00358	-0.02018293	0	-0.00018	0.00114	0.00012
PT Intraco Penta Tbk	0.010558	0.012491	0.412423	0.00258	0.008349113	0	-0.00077	0.00378	0.00285
PT Multi Prima Sejatera Tbk	0.002251	0.002444	0.177847	0.00474	-0.02612619	0	0.00062	-0.00045	-0.00055

Manufacturing firms Year 2004

Manufacturing Firms	ΔCOGS t	ΔProd t	MTB t-1	Abcfo	Net Income t	SUS t	Abdisexp	Abprod	Abcogs
PT Nipress Tbk	0.019606	0.019833	0.072217	0.00198	-0.01519414	0	-0.00342	0.00285	0.00547
PT Prima Alloy Steel Tbk	0.01387	0.014127	0.309082	0.00077	0.032497769	0	-0.00269	0.00094	0.00404
PT Selamat Sempurna Tbk	0.001616	0.001807	0.819373	0.00471	0.090689417	0	0.00031	-0.00057	-0.00081
PT United Tractors Tbk	0.003613	0.003861	4.113973	0.00505	0.181564282	0	-0.00022	-0.00022	-0.00015
PT Modern Photo Film Company Tbk	0.007898	0.007801	0.784079	0.00434	-0.05413607	0	-0.00016	0.00228	0.00115
PT Perdana Bangun Pusaka Tbk	0.002304	0.002544	0.798478	-1.39399	-0.04611259	0	0.00049	-0.00016	-0.00057
PT Bristol-Myers Squibb Indonesia Tbk	0.000957	0.001031	0.77443	0.00507	0.00024393	1	0.00077	-0.0015	-0.00169
PT Dankos Laboratories Tbk	0.000557	0.000577	3.701673	0.00496	0.233668536	0	0.00077	-0.00131	-0.00138
PT Darya-Varia Laboratoria Tbk	0.00033	0.000361	1.456079	0.00491	0.132692717	0	0.00088	-0.0012	-0.00145
PT Kalbe Farma Tbk	0.000183	0.000179	7.93517	0.00492	0.152073391	0	0.00071	-0.00119	-0.00129
PT Kimia Farma (Persero) Tbk	0.001097	0.001217	1.546869	0.00462	0.056832149	0	0.00068	-0.00084	-0.00106
PT Merck Tbk	0.000451	0.00021	2.246891	0.00497	0.285725981	0	0.00076	-0.00162	-0.00137
PT Pyridam Farma Tbk	0.000309	0.000354	0.705079	0.00489	0.020976316	0	0.00089	-0.00159	-0.00137
PT Schering Plough Indonesia Tbk	0.001917	0.001959	13.69129	0.00442	-0.00562435	0	0.00127	-0.00091	-0.00137
PT Tempo Scan Pasific Tbk	0.000491	0.000491	1.618912	0.00495	0.166964176	0	0.0007	-0.00114	-0.00124
PT Mandom Indonesia Tbk	0.001315	0.001366	1.079124	0.00473	0.213519558	0	0.00062	-0.00118	-0.00114
PT Mustika Ratu Tbk	0.000601	0.00058	0.803192	0.00485	0.047885549	0	0.00092	-0.0012	-0.00136
PT Unilever Indonesia Tbk	0.000156	0.00016	13.14333	0.00494	0.42983969	0	0.00068	-0.00114	-0.00126

Manufacturing firms Year 2004

Manufacturing Firms	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Ades Alfindo Putrasetia Tbk	8.283398	1	1	0	0	0.0011013	0
PT Aqua Golden Mississippi Tbk	11.71875	1	0	1	0	0.0001741	0.000174
PT Cahaya Kalbar Tbk	8.470188	1	0	0	0	0.0009482	0
PT Davomas Abadi Tbk	8.951373	0	0	0	0	0.0000062	0
PT Delta Djakarta Tbk	8.600817	0	0	0	0	0.0502288	0
PT Fast Food Indonesia	8.448042	0	0	0	0	0.0002345	0
PT Indofood Sukses Makmur Tbk	10.18494	0	0	0	0	0.0007750	0
PT Mayora Indah Tbk	9.108828	0	0	0	0	0.0004286	0
PT Multi Bintang Indonesia Tbk	8.683951	0	0	0	0	0.0004710	0
PT Pioneerindo Gourmet International Tbk	8.046575	1	0	0	0	0.0002635	0
PT Sari Husada Tbk	9.049692	0	0	0	0	0.0000893	0
PT Siantar TOP Tbk	8.703727	0	0	0	0	0.0003238	0
PT Sierad Produce Tbk	9.102285	1	1	0	0	0.0011959	0
PT Suba Indah Tbk	9.052308	1	1	0	0	0.0095282	0
PT Ultra Jaya Milk Industry and Trading Company Tbk	9.049548	1	1	1	1	0.0000776	7.76E-05
PT BAT Indonesia Tbk	8.811805	0	0	0	0	0.0005013	0
PT Gudang Garam Tbk	10.23902	0	1	0	0	0.0001011	0
PT Hanjaya Mandala Sampoerna Tbk	10.00851	0	0	0	0	0.0001869	0
PT Ever Shine Textile Industry Tbk	8.758982	0	1	0	0	0.0003994	0
PT Fortune Mate Indonesia Tbk	8.26821	1	0	0	0	0.0000003	0
PT Hanson Industri Utama Tbk	8.831459	1	0	1	0	0.0038185	0.003818
PT Indorama Syntetics Tbk	9.675323	0	0	0	0	0.0044450	0
PT Karwell Indonesia Tbk	8.615761	0	0	0	0	0.0018165	0.001817
PT Pan Brothers Tex Tbk	8.050351	0	0	0	0	0.0002909	0
PT Ricky Putra Globalindo Tbk	8.421319	0	0	0	0	0.0023188	0
PT Ryane Adibusana Tbk	7.736706	0	1	0	0	0.0004634	0
PT Sarasa Nugraha Tbk	8.142589	1	0	0	0	0.0003782	0
PT Sepatu Bata Tbk	8.365981	0	1	0	0	0.0002674	0
PT Surya Intrindo Makmur Tbk	8.241823	1	0	0	0	0.0002679	0
PT Argha Karya Prima Industry Tbk	9.132064	1	1	1	1	0.0005256	0.000526
PT Asahimas Flat Glass Co Ltd Tbk	9.17219	0	1	0	0	0.0003989	0
PT Asiaplast Industries Tbk	8.467014	1	1	0	0	0.0215110	0

Manufacturing firms Year 2004

Manufacturing Firms	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Berlina Co Ltd Tbk	8.425789	0	1	0	0	0.0005652	0
PT Dynaplast Tbk	8.884756	1	1	0	0	0.0007132	0
PT Fatrapolindo Nusa Industri Tbk	8.556575	1	1	0	0	0.0011588	0
PT Kageo Igar Jaya Tbk Tbk (Igarjaya)	8.373361	0	1	0	0	0.0003606	0
PT Langgeng Makmur Plastik Industry Ltd Tbk	8.700084	1	0	0	0	0.0226448	0
PT Lapindo International Tbk	7.59024	0	0	0	0	0.0001378	0
PT Siwani Makmur Tbk	7.727079	0	1	0	0	0.0004548	0
PT Summitplast Interbenua Tbk	8.272585	1	1	0	0	0.0003778	0
PT Indocement Tunggal Perkasa Tbk	10.00625	1	1	0	0	0.0001440	0
PT Semen Cibinong Tbk	9.883528	1	1	0	0	0.0001139	0
PT Semen Gresik (Persero) Tbk	9.82282	0	1	0	0	0.0003695	0
PT Alakasa Industrindo Tbk	7.830245	0	0	0	0	0.0030420	0
PT Alumindo Light Metal Industry Tbk	9.003535	0	0	0	0	0.0060098	0
PT Betonjaya Manunggal Tbk	7.370342	0	0	0	0	0.0001466	0
PT Citra Tubindo Tbk	8.825513	0	1	0	0	0.0001377	0
PT Indal Aluminium Industry Tbk	8.500948	0	0	0	0	0.0067224	0
PT Jaya Pari Steel Tbk	8.116839	0	1	0	0	0.0018345	0
PT Lion Mesh Prima Tbk	7.533551	0	0	0	0	0.0035127	0
PT Lion Metal Works Tbk	8.081441	0	0	0	0	0.0004250	0
PT Pelangi Indah Canindo Tbk	8.412207	0	1	0	0	0.0016784	0
PT Tembaga Mulia Semanan Tbk	8.746924	0	1	0	0	0.0076973	0
PT Tira Austenite Tbk	8.454203	1	1	0	0	0.0006957	0
PT Adhi Chandra Automotive Product Tbk	8.169984	0	0	0	0	0.0000514	0
PT Astra International Tbk	10.43782	0	1	0	0	0.0005858	0
PT Astra Otoparts Tbk	9.291658	0	1	0	0	0.0005190	0
PT Branta Mulia Tbk	9.18849	0	1	0	0	0.0007672	0
PT Gajah Tunggal Tbk	10.08541	1	1	0	0	0.0007448	0
PT Goodyear Indonesia Tbk	8.593577	0	0	0	0	0.0007147	0
PT Hexindo Adiperkasa Tbk	8.766793	0	0	0	0	0.0018701	0
PT Indomobil Sukses International Tbk	9.448369	0	1	0	0	0.0008048	0
PT Intraco Penta Tbk	8.813959	0	0	0	0	0.0022006	0
PT Multi Prima Sejatera Tbk	8.090915	0	0	0	0	0.0226199	0

Manufacturing firms Year 2004

Manufacturing Firms	SIZE t-1	loCA t	DEBT t	locasus	debtsus	CL t	clsus
PT Nipress Tbk	8.276659	1	0	0	0	0.0089012	0
PT Prima Alloy Steel Tbk	8.566821	0	1	0	0	0.0062625	0
PT Selamat Sempurna Tbk	8.801136	0	1	0	0	0.0006280	0
PT United Tractors Tbk	9.782217	0	1	0	0	0.0009651	0
PT Modern Photo Film Company Tbk	9.016366	0	1	0	0	0.0019399	0
PT Perdana Bangun Pusaka Tbk	7.783804	0	0	0	0	0.0019377	0
PT Bristol-Myers Squibb Indonesia Tbk	8.218599	0	0	0	0	0.0005565	0.000557
PT Dankos Laboratories Tbk	8.917389	0	1	0	0	0.0004042	0
PT Darya-Varia Laboratoria Tbk	8.574478	0	0	0	0	0.0001632	0
PT Kalbe Farma Tbk	9.388881	0	1	0	0	0.0000926	0
PT Kimia Farma (Persero) Tbk	9.136132	0	1	0	0	0.0002065	0
PT Merck Tbk	8.301742	0	0	0	0	0.0001215	0
PT Pyridam Farma Tbk	7.834214	1	0	0	0	0.0001859	0
PT Schering Plough Indonesia Tbk	7.771065	0	0	0	0	0.0016901	0
PT Tempo Scan Pasific Tbk	9.288551	0	0	0	0	0.0001206	0
PT Mandom Indonesia Tbk	8.586974	0	0	0	0	0.0001573	0
PT Mustika Ratu Tbk	8.438754	0	0	0	0	0.0002225	0
PT Unilever Indonesia Tbk	9.533551	0	0	0	0	0.0000445	0

Appendix 5

SUSPECT FIRM YEARS

Manufacturing Firms	CFOt	MVt-1	St	ΔSt	ΔSt-1
PT Multi Bintang Indonesia Tbk	0.000663346	119,680,408,000	0.004762	0.001621296	-0.000262068
PT Prima Alloy Steel Tbk	0.002395791	20,520,000,000	0.008764	0.000235917	0.000975232
PT Perdana Bangun Pusaka Tbk	0.000516875	6,460,000,000	0.007762	-0.000516819	0.000925233
PT Ever Shine Textile Industry Tbk	9.77265E-05	644,866,790,400	0.000648	-0.00017354	-9.27507E-06
PT Wahana Jaya Perkasa Tbk	0.000147311	149,990,400,000	0.001278	-2.21414E-05	0.000690831
PT Asiaplast Industries Tbk	1.93846E-07	32,500,000,000	0.005202	-0.000272277	0.000647231
PT Betonjaya Manunggal Tbk	8.40741E-09	27,000,000,000	0.000687	-7.03704E-05	7.9963E-05
PT Tira Austenite Tbk	0.00086389	112,000,000,000	0.002006	0.001681795	-0.000601286
PT Modern Photo Film Company Tbk	-1.73183E-07	108,041,809,500	0.015681	-0.001505815	-0.000518892
PT Aqua Golden Mississippi Tbk	0.000171433	493,592,737,500	0.002701	0.000518495	0.000112082
PT Ultra Jaya Milk Industry and Trading Company Tbk	3.08032E-05	1,155,352,800,000	0.000473	4.82047E-05	7.08338E-05
PT Hanson Industri Utama Tbk	0.000429331	78,216,077,460	0.004669	0.000858883	0.000652091
PT Karwell Indonesia Tbk	0.000183727	78,216,077,460	0.002423	0.000242314	-6.49268E-05
PT Argha Karya Prima Industry Tbk	0.000117351	476,000,000,000	0.001989	0.000214631	-0.000155097
PT Bristol-Myers Squibb Indonesia Tbk	0.000559236	87,692,000,000	0.002527	0.000274847	-9.27109E-05

SUSPECT FIRM YEARS

Manufacturing Firms	ΔDiexp t	CHCogs	ΔCOGS t	ΔProd t	MTB t-1	Net Income t	SUS t
PT Multi Bintang Indonesia Tbk	0.000902754	0.002635	0.002655	0.002655	1.020955	0.000262533	1
PT Prima Alloy Steel Tbk	0.000564084	0.007122	0.007185	0.007185	0.7791	0.002557352	1
PT Perdana Bangun Pusaka Tbk	0.001767647	0.005575	0.005543	0.005543	0.200421	0.001981234	1
PT Ever Shine Textile Industry Tbk	4.2325E-05	0.000616	0.000579	0.000579	1.543996	0.002013063	1
PT Wahana Jaya Perkasa Tbk	0.000104387	0.001484	0.001559	0.001559	0.682076	0.001039505	1
PT Asiaplast Industries Tbk	0.000245169	0.004451	0.004685	0.004685	0.309986	0.000970884	1
PT Betonjaya Manunggal Tbk	5.45185E-05	0.000639	0.000608	0.000608	1.569743	0.002069817	1
PT Tira Austenite Tbk	0.000670589	0.001157	0.001183	0.001183	0.109382	0.00366386	1
PT Modern Photo Film Company Tbk	0.002684118	0.012722	0.012706	0.012706	0.751725	0.003761651	1
PT Aqua Golden Mississippi Tbk	5.10409E-05	0.002413	0.002445	0.002445	0.000944	0.000175119	1
PT Ultra Jaya Milk Industry and Trading Company Tbk	7.60912E-05	0.000322	0.000327	0.000327	1.224422	0.003936295	1
PT Hanson Industri Utama Tbk	0.000304371	0.00411	0.004557	0.004557	0.217164	0.004076022	1
PT Karwell Indonesia Tbk	0.000201809	0.002095	0.002298	0.002298	5.615148	0.001085219	1
PT Argha Karya Prima Industry Tbk	0.000195154	0.001611	0.001749	0.001749	0.815715	0.004899699	1
PT Bristol-Myers Squibb Indonesia Tbk	0.00076148	0.000957	0.001031	0.001031	0.77443	0.00024393	1

SUSPECT FIRM YEARS

Manufacturing Firms	Abcfo	Abdisexp	Abprod	Abcogs	SIZE t-1	loCA t	DEBT t	locasus
PT Multi Bintang Indonesia Tbk	0.00445	0.00031	-0.00189	-0.00126	8.637096	1	1	1
PT Prima Alloy Steel Tbk	0.00604	-0.00108	0.0013	0.00098	8.586527	0	1	0
PT Perdana Bangun Pusaka Tbk	0.00453	0.00038	0.0007	-0.00001	7.823638	0	0	0
PT Ever Shine Textile Industry Tbk	0.005	0.00054	-0.00073	-0.00098	8.869911	0	1	0
PT Wahana Jaya Perkasa Tbk	0.00492	0.00044	-0.00035	-0.00046	9.266883	1	1	1
PT Asiaplast Industries Tbk	0.0043	-0.00046	0.00101	0.0003	8.450583	1	1	1
PT Betonjaya Manunggal Tbk	0.00487	0.00055	-0.00081	-0.00098	7.400071	1	0	1
PT Tira Austenite Tbk	0.00501	0.00081	-0.00195	-0.0012	8.86662	1	1	1
PT Modern Photo Film Company Tbk	0.00321	-0.0008	0.00499	0.00271	9.007707	0	1	0
PT Aqua Golden Mississippi Tbk	0.00458	0.00001	-0.0004	-0.00033	11.71875	1	0	1
PT Ultra Jaya Milk Industry and Trading Company Tbk	0.00489	0.00062	-0.00107	-0.00118	9.049548	1	1	1
PT Hanson Industri Utama Tbk	0.00446	-0.00026	0.00036	0.00026	8.831459	1	0	1
PT Karwell Indonesia Tbk	0.00471	0.00023	-0.00017	-0.00049	8.615761	0	0	0
PT Argha Karya Prima Industry Tbk	0.00472	0.00034	-0.00046	-0.00074	9.132064	1	1	1
PT Bristol-Myers Squibb Indonesia Tbk	0.00507	0.00077	-0.0015	-0.00169	8.218599	0	0	0

SUSPECT FIRM YEARS

Manufacturing Firms	debtsus	CL t	clsus
PT Multi Bintang Indonesia Tbk	1	0.0017524	0.001752
PT Prima Alloy Steel Tbk	1	0.0165191	0.016519
PT Perdana Bangun Pusaka Tbk	0	0.0052703	0.00527
PT Ever Shine Textile Industry Tbk	1	0.0003126	0.000313
PT Wahana Jaya Perkasa Tbk	1	0.0009777	0.000978
PT Asiaplast Industries Tbk	1	0.0023975	0.002398
PT Betonjaya Manunggal Tbk	0	0.0000484	4.84E-05
PT Tira Austenite Tbk	1	0.0004897	0.00049
PT Modern Photo Film Company Tbk	1	0.0406700	0.04067
PT Aqua Golden Mississippi Tbk	0	0.0001741	0.000174
PT Ultra Jaya Milk Industry and Trading Company Tbk	1	0.0000776	7.76E-05
PT Hanson Industri Utama Tbk	0	0.0038185	0.003818
PT Karwell Indonesia Tbk	0	0.0018165	0.001817
PT Argha Karya Prima Industry Tbk	1	0.0005256	0.000526
PT Bristol-Myers Squibb Indonesia Tbk	0	0.0005565	0.000557

Appendix 6

Output Regressions of Test Equation 3.5

Regression abnormal CFO

Descriptive Statistics

	Mean	Std. Deviation	N
abcfo	,0000003	,07834183	319
size	8,7182568	,67311895	319
mtb	2,8226499	11,60521227	319
ni	,0556797	,12752350	319
sus	,05	,212	319

Correlations

		abcfo	size	mtb	ni	sus
Pearson Correlation	abcfo	1,000	,079	,010	,045	,013
	size	,079	1,000	,050	,147	,037
	mtb	,010	,050	1,000	,029	-,034
	ni	,045	,147	,029	1,000	-,093
	sus	,013	,037	-,034	-,093	1,000
Sig. (1-tailed)	abcfo	.	,079	,430	,210	,406
	size	,079	.	,184	,004	,252
	mtb	,430	,184	.	,301	,272
	ni	,210	,004	,301	.	,048
	sus	,406	,252	,272	,048	.
N	abcfo	319	319	319	319	319
	size	319	319	319	319	319
	mtb	319	319	319	319	319
	ni	319	319	319	319	319
	sus	319	319	319	319	319

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	sus, mtb, size, ni[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: abcfo

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,087[a]	,008	-,005	,07853686	2,007

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: abcfo

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,015	4	,004	,606	,659[a]
	Residual	1,937	314	,006		
	Total	1,952	318			

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: abcfo

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,076	,058		-1,314	,190		
	size	,009	,007	,073	1,283	,200	,974	1,027
	mtb	3,79E-005	,000	,006	,100	,921	,996	1,004
	ni	,022	,035	,036	,626	,532	,968	1,033
	sus	,005	,021	,014	,251	,802	,987	1,013

a. Dependent Variable: abcfo

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	size	mtb	ni	sus
1	1	2,408	1,000	,00	,00	,02	,05	,01
	2	1,014	1,541	,00	,00	,13	,10	,68
	3	,903	1,633	,00	,00	,80	,15	,05
	4	,673	1,892	,00	,00	,05	,68	,25
	5	,003	28,823	1,00	1,00	,00	,02	,00

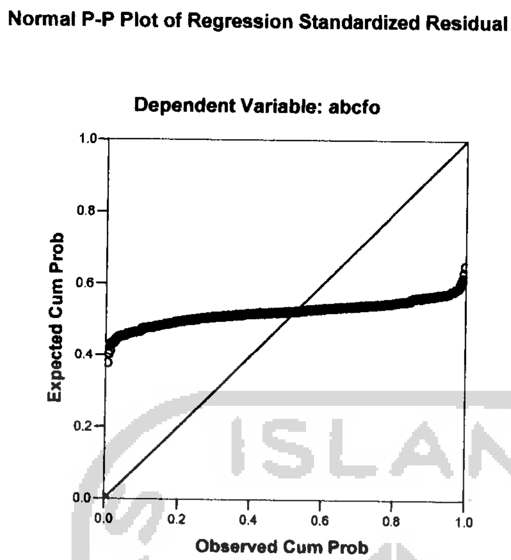
a. Dependent Variable: abcfo

Residuals Statistics[a]

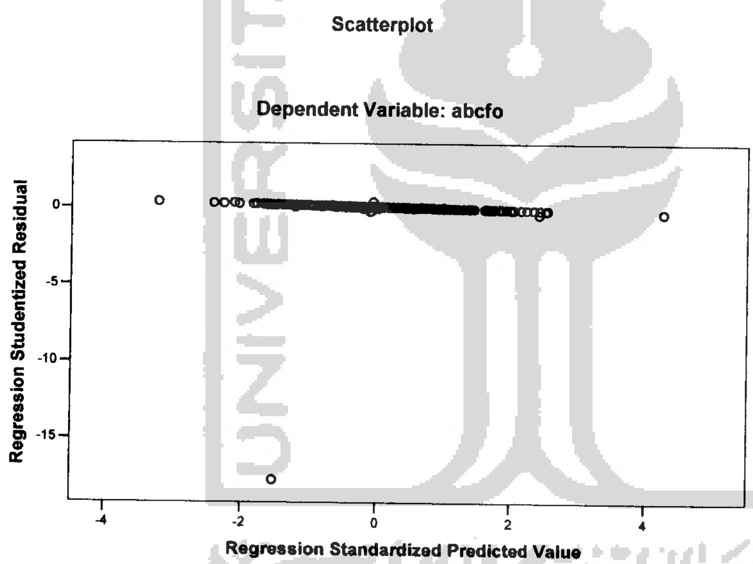
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,0221091	,0291988	,0000003	,00685487	319
Std. Predicted Value	-3,225	4,260	,000	1,000	319
Standard Error of Predicted Value	,005	,073	,008	,006	319
Adjusted Predicted Value	-,0263968	,0907991	,0002365	,00864173	319
Residual	-1.38348	,03060381	,00000000	,07804136	319
Std. Residual	-17,616	,390	,000	,994	319
Stud. Residual	-17,709	,390	-,001	,999	319
Deleted Residual	-1.39820	,03096684	-.000236	,07903114	319
Stud. Deleted Residual	-504,170	,390	-1,526	28,231	319
Mahal. Distance	,073	270,172	3,987	16,015	319
Cook's Distance	,000	,667	,003	,039	319
Centered Leverage Value	,000	,850	,013	,050	319

a. Dependent Variable: abcfo

Charts



Normal P-P Plot of Regression Standardized Residual
Dependent Variable: abcfo
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Scatterplot
Dependent Variable: abcfo
Regression Studentized Residual
Regression Standardized Predicted Value
0
-5
-10
-15
-4
-2
0
2
4

Nonparametric Correlations

Correlations

			size	mtb	ni	sus	Standardized Residual
Spearman's rho	size	Correlation Coefficient	1,000	,026	,136*	,032	-,859**
		Sig. (2-tailed)	.	,649	,015	,567	,000
		N	319	319	319	319	319
	mtb	Correlation Coefficient	,026	1,000	,234**	-,113*	-,062
		Sig. (2-tailed)	,649	.	,000	,043	,266
		N	319	319	319	319	319
	ni	Correlation Coefficient	,136*	,234**	1,000	-,200**	-,387**
		Sig. (2-tailed)	,015	,000	.	,000	,000
		N	319	319	319	319	319
	sus	Correlation Coefficient	,032	-,113*	-,200**	1,000	-,137*
		Sig. (2-tailed)	,567	,043	,000	.	,014
		N	319	319	319	319	319
	Standardized Residual	Correlation Coefficient	-,859**	-,062	-,387**	-,137*	1,000
		Sig. (2-tailed)	,000	,266	,000	,014	.
		N	319	319	319	319	319

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Regression abnormal discretionary expenses

Descriptive Statistics

	Mean	Std. Deviation	N
abdiexp	,0000001	,00206400	319
size	8,7182568	,67311895	319
mtb	2,8226499	11,60521227	319
ni	,0556797	,12752350	319
sus	,05	,212	319

Correlations

		abdiexp	size	mtb	ni	sus
Pearson Correlation	abdiexp	1,000	-,023	-,006	,057	,017
	size	-,023	1,000	,050	,147	,037
	mtb	-,006	,050	1,000	,029	-,034
	ni	,057	,147	,029	1,000	-,093
	sus	,017	,037	-,034	-,093	1,000
Sig. (1-tailed)	abdiexp	.	,338	,461	,156	,380
	size	,338	.	,184	,004	,252
	mtb	,461	,184	.	,301	,272
	ni	,156	,004	,301	.	,048
	sus	,380	,252	,272	,048	.
N	abdiexp	319	319	319	319	319
	size	319	319	319	319	319
	mtb	319	319	319	319	319
	ni	319	319	319	319	319
	sus	319	319	319	319	319

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	sus, mtb, size, ni[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: abdiexp

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,070[a]	,005	-,008	,00207203	1,967

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: abdiexp

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,000	4	,000	,385	,819[a]
	Residual	,001	314	,000		
	Total	,001	318			

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: abdiexp

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,001	,002		,546	,585		
	size	,000	,000	-,034	-,588	,557	,974	1,027
	mtb	-8.7E-007	,000	-,005	-,087	,931	,996	1,004
	ni	,001	,001	,064	1,122	,263	,968	1,033
	sus	,000	,001	,024	,429	,668	,987	1,013

a. Dependent Variable: abdiexp

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	size	mtb	ni	sus
1	1	2,408	1,000	,00	,00	,02	,05	,01
	2	1,014	1,541	,00	,00	,13	,10	,68
	3	,903	1,633	,00	,00	,80	,15	,05
	4	,673	1,892	,00	,00	,05	,68	,25
	5	,003	28,823	1,00	1,00	,00	,02	,00

a. Dependent Variable: abdiexp

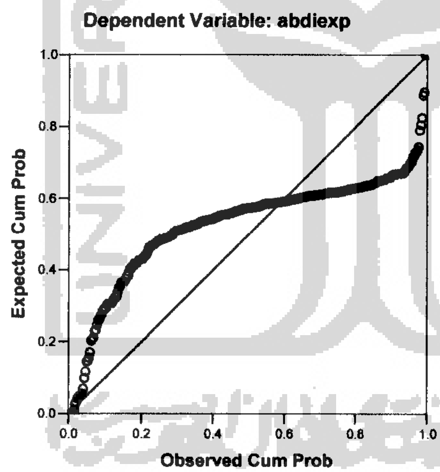
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,0008272	,0006572	,0000001	,00014420	319
Std. Predicted Value	-5,737	4,556	,000	1,000	319
Standard Error of Predicted Value	,000	,002	,000	,000	319
Adjusted Predicted Value	-,0012301	,0051538	,0000149	,00032847	319
Residual	-.026483	,00841353	,00000000	,00205896	319
Std. Residual	-12,781	4,061	,000	,994	319
Stud. Residual	-12,803	4,069	-,002	,999	319
Deleted Residual	-.026575	,00844665	-.000015	,00210154	319
Stud. Deleted Residual	-18,491	4,174	-,020	1,254	319
Mahal. Distance	,073	270,172	3,987	16,015	319
Cook's Distance	,000	1,599	,006	,090	319
Centered Leverage Value	,000	,850	,013	,050	319

a. Dependent Variable: abdiexp

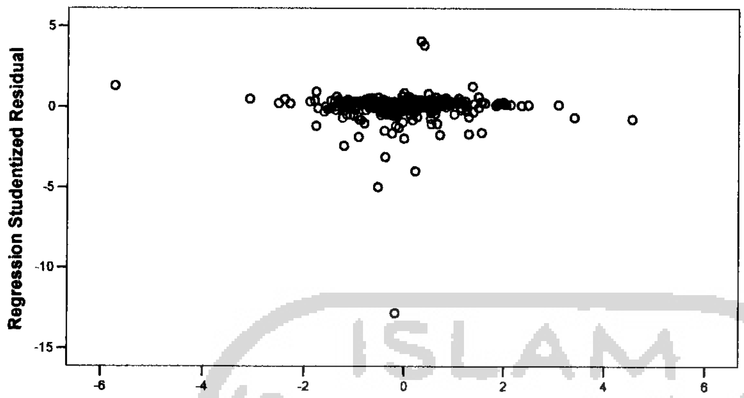
Charts

Normal P-P Plot of Regression Standardized Residual



Scatterplot

Dependent Variable: abdiexp



Nonparametric Correlations

Correlations

			size	mtb	ni	sus	Standardized Residual
Spearman's rho	size	Correlation Coefficient	1,000	,026	,136*	,032	-,104
		Sig. (2-tailed)	.	,649	,015	,567	,065
		N	319	319	319	319	319
	mtb	Correlation Coefficient	,026	1,000	,234**	-,113*	,303**
		Sig. (2-tailed)	,649	.	,000	,043	,000
		N	319	319	319	319	319
	ni	Correlation Coefficient	,136*	,234**	1,000	-,200**	,024
		Sig. (2-tailed)	,015	,000	.	,000	,670
		N	319	319	319	319	319
	sus	Correlation Coefficient	,032	-,113*	-,200**	1,000	-,094
		Sig. (2-tailed)	,567	,043	,000	.	,093
		N	319	319	319	319	319
	Standardized Residual	Correlation Coefficient	-,104	,303**	,024	-,094	1,000
		Sig. (2-tailed)	,065	,000	,670	,093	.
		N	319	319	319	319	319

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 7

Output Regressions of Test Equation 3.6

Regression abnormal production

Descriptive Statistics

	Mean	Std. Deviation	N
Abprod	-,0000003	,00282395	319
size	8,7182568	,67311895	319
mtb	2,8226499	11,60521227	319
ni	,0556797	,12752350	319
sus	,05	,212	319

Correlations

		Abprod	size	mtb	ni	sus
Pearson Correlation	Abprod	1,000	,066	,035	-,172	-,005
	size	,066	1,000	,050	,147	,037
	mtb	,035	,050	1,000	,029	-,034
	ni	-,172	,147	,029	1,000	-,093
	sus	-,005	,037	-,034	-,093	1,000
Sig. (1-tailed)	Abprod	.	,121	,266	,001	,464
	size	,121	.	,184	,004	,252
	mtb	,266	,184	.	,301	,272
	ni	,001	,004	,301	.	,048
	sus	,464	,252	,272	,048	.
N	Abprod	319	319	319	319	319
	size	319	319	319	319	319
	mtb	319	319	319	319	319
	ni	319	319	319	319	319
	sus	319	319	319	319	319

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	sus, mtb, size, ni[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abprod

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,200[a]	,040	,028	,00278463	1,957

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: Abprod

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,000	4	,000	3,261	,012[a]
	Residual	,002	314	,000		
	Total	,003	318			

a. Predictors: (Constant), sus, mtb, size, ni

b. Dependent Variable: Abprod

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,003	,002		-1,546	,123		
	size	,000	,000	,093	1,651	,100	,974	1,027
	mtb	8,56E-006	,000	,035	,635	,526	,996	1,004
	ni	-,004	,001	-,189	-3,360	,001	,968	1,033
	sus	,000	,001	-,025	-,448	,654	,987	1,013

a. Dependent Variable: Abprod

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	size	mtb	ni	sus
1	1	2,408	1,000	,00	,00	,02	,05	,01
	2	1,014	1,541	,00	,00	,13	,10	,68
	3	,903	1,633	,00	,00	,80	,15	,05
	4	,673	1,892	,00	,00	,05	,68	,25
	5	,003	28,823	1,00	1,00	,00	,02	,00

a. Dependent Variable: Abprod

Residuals Statistics[a]

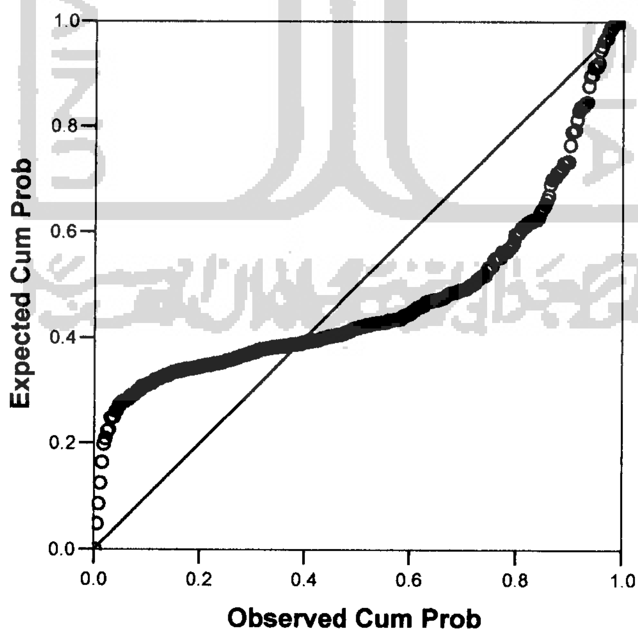
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,0026920	,0033166	-,0000003	,00056394	319
Std. Predicted Value	-4,773	5,882	,000	1,000	319
Standard Error of Predicted Value	,000	,003	,000	,000	319
Adjusted Predicted Value	-,0075168	,0038320	-,0000278	,00071313	319
Residual	-.021163	,02355068	,00000000	,00276706	319
Std. Residual	-7,600	8,457	,000	,994	319
Stud. Residual	-7,615	8,472	,003	1,001	319
Deleted Residual	-.021246	,02363224	,00002748	,00285929	319
Stud. Deleted Residual	-8,420	9,630	,007	1,066	319
Mahal. Distance	,073	270,172	3,987	16,015	319
Cook's Distance	,000	2,703	,010	,151	319
Centered Leverage Value	,000	,850	,013	,050	319

a. Dependent Variable: Abprod

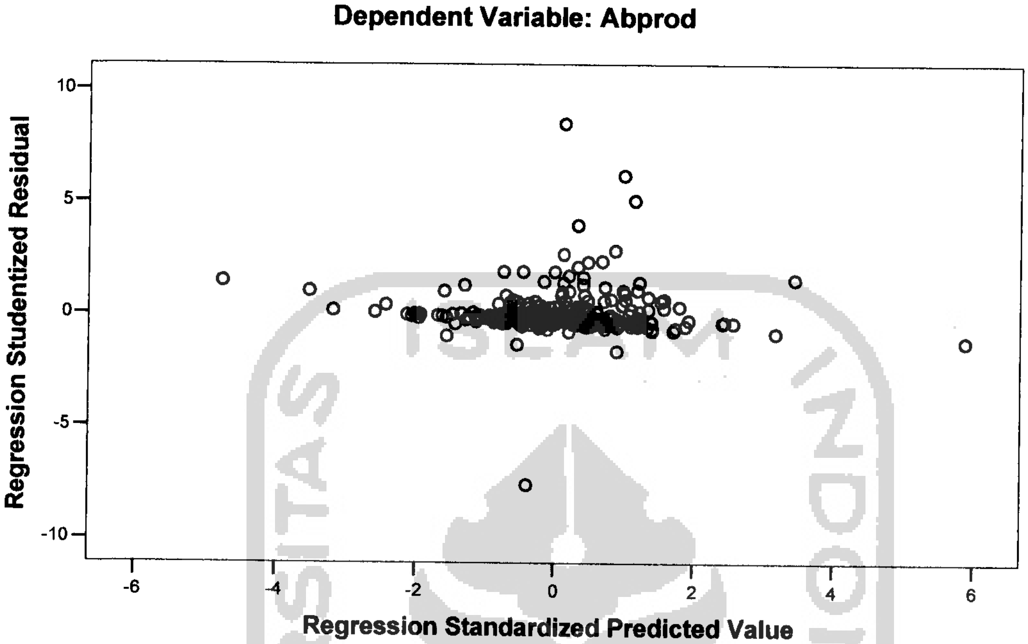
Charts

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Abprod



Scatterplot



Nonparametric Correlations

Correlations

			size	mtb	ni	sus	Standardized Residual
Spearman's rho	size	Correlation Coefficient	1,000	,026	,136*	,032	-,111*
		Sig. (2-tailed)	.	,649	,015	,567	,048
		N	319	319	319	319	319
	mtb	Correlation Coefficient	,026	1,000	,234**	-,113*	-,262**
		Sig. (2-tailed)	,649	.	,000	,043	,000
		N	319	319	319	319	319
	ni	Correlation Coefficient	,136*	,234**	1,000	-,200**	,011
		Sig. (2-tailed)	,015	,000	.	,000	,839
		N	319	319	319	319	319
	sus	Correlation Coefficient	,032	-,113*	-,200**	1,000	,014
		Sig. (2-tailed)	,567	,043	,000	.	,806
		N	319	319	319	319	319
	Standardized Residual	Correlation Coefficient	-,111*	-,262**	,011	,014	1,000
		Sig. (2-tailed)	,048	,000	,839	,806	.
		N	319	319	319	319	319

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 8

Output Regressions of Test Equation 3.7

Regression abnormal discretionary expenses

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abdisexp

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335[a]	.112	.084	.00197590	2.034

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	10	.000	3.899	.000[a]
	Residual	.001	308	.000		
	Total	.001	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.001	.002		.640	.523		
	size	-7.6E-005	.000	-.025	-.428	.669	.859	1.164
	mtb	-3.3E-006	.000	-.018	-.340	.734	.989	1.011
	ni	.001	.001	.043	.735	.463	.830	1.205
	Sus	.000	.001	.012	.108	.914	.235	4.247
	loca	.000	.000	.055	.894	.372	.776	1.289
	Debt	.000	.000	-.074	-1.264	.207	.845	1.184
	cl	-.102	.017	-.342	-5.948	.000	.872	1.146
	locasus	.000	.001	-.028	-.274	.784	.276	3.625
	debtsus	.000	.001	.027	.287	.774	.331	3.018
	clsus	.062	.062	.075	.998	.319	.514	1.945

a. Dependent Variable: Abdisexp

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

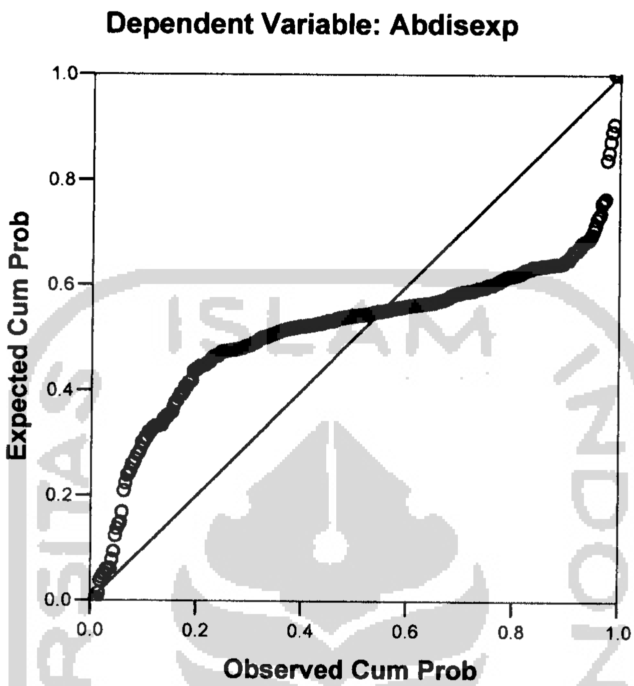
a. Dependent Variable: Abdisexp

Residuals Statistics[a]

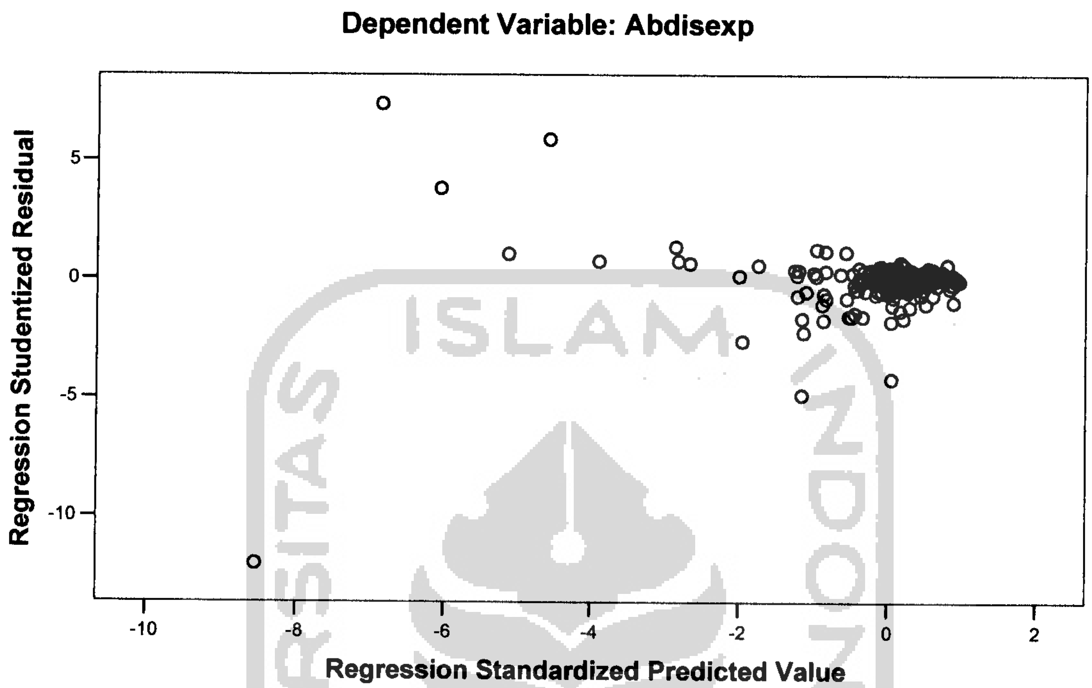
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0059101	.0006686	.0000001	.00069187	319
Std. Predicted Value	-8.542	.966	.000	1.000	319
Standard Error of Predicted Value	.000	.002	.000	.000	319
Adjusted Predicted Value	-.0076042	.0030516	.0000063	.00079020	319
Residual	-.020600	.01321268	.00000000	.00194459	319
Std. Residual	-10.426	6.687	.000	.984	319
Stud. Residual	-12.000	7.373	-.001	1.066	319
Deleted Residual	-.027292	.01606418	-.000006	.00230851	319
Stud. Deleted Residual	-16.418	8.112	-.013	1.262	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	4.253	.021	.247	319
Centered Leverage Value	.004	.868	.031	.084	319

a. Dependent Variable: Abdisexp

Normal P-P Plot of Regression Standardized Residual



Scatterplot



Regression abnormal COGS

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abcogs

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.419[a]	.175	.148	.00295505	1.995

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcogs

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	10	.000	6.544	.000[a]
	Residual	.003	308	.000		
	Total	.003	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcogs

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.002	.002		-.698	.486		
	size	.000	.000	.029	.519	.604	.859	1.164
	mtb	1.55E-005	.000	.056	1.082	.280	.989	1.011
	ni	-.003	.001	-.120	-2.115	.035	.830	1.205
	Sus	-.001	.002	-.034	-.321	.749	.235	4.247
	loca	.000	.000	-.062	-1.051	.294	.776	1.289
	Debt	.000	.000	.048	.853	.394	.845	1.184
	cl	.190	.026	.410	7.393	.000	.872	1.146
	locasus	.001	.002	.035	.359	.719	.276	3.625
	debtsus	-.001	.002	-.028	-.306	.760	.331	3.018
	clsus	-.089	.093	-.069	-.960	.338	.514	1.945

a. Dependent Variable: Abcogs

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions										
				(Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

a. Dependent Variable: Abcogs

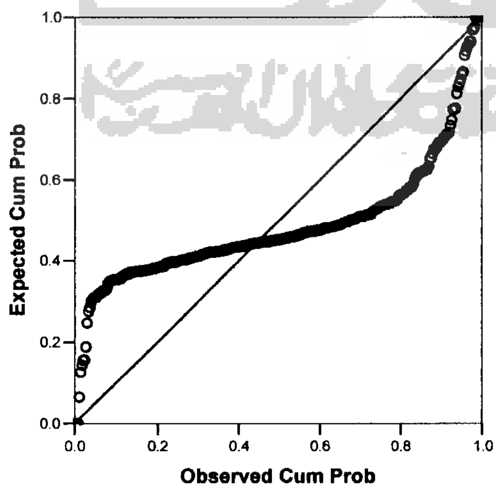
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0020926	.0108611	.0000000	.00134053	319
Std. Predicted Value	-1.561	8.102	.000	1.000	319
Standard Error of Predicted Value	.000	.003	.000	.000	319
Adjusted Predicted Value	-.0047414	.0121816	-.0000205	.00141692	319
Residual	-.017389	.02917893	.00000000	.00290821	319
Std. Residual	-5.885	9.874	.000	.984	319
Stud. Residual	-6.369	11.365	.002	1.060	319
Deleted Residual	-.020369	.03865756	.00002054	.00342140	319
Stud. Deleted Residual	-6.824	14.892	.012	1.211	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	3.815	.020	.223	319
Centered Leverage Value	.004	.868	.031	.084	319

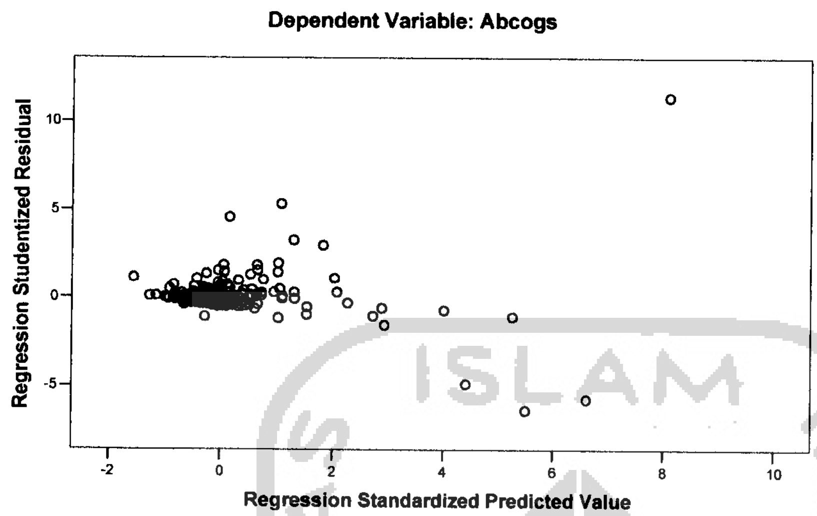
a. Dependent Variable: Abcogs

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Abcogs



Scatterplot



Appendix 9

Output Regressions of Test Equation 3.8

Regression abnormal CFO

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abcfo

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.102[a]	.010	-.022	.07918824	2.002

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcfo

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.065	.060		-1.071	.285		
	size	.007	.007	.057	.933	.351	.859	1.164
	mtb	1.33E-005	.000	.002	.035	.972	.989	1.011
	ni	.033	.038	.054	.864	.388	.830	1.205
	Sus	.014	.043	.037	.317	.751	.235	4.247
	loca	.008	.011	.046	.709	.479	.776	1.289
	Debt	.005	.010	.030	.490	.625	.845	1.184
	cl	.028	.688	.002	.041	.968	.872	1.146
	locasus	-.013	.051	-.027	-.250	.803	.276	3.625
	debtsus	-.004	.047	-.008	-.085	.933	.331	3.018
	clsus	-.159	2.491	-.005	-.064	.949	.514	1.945

a. Dependent Variable: Abcfo

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.020	10	.002	.324	.975[a]
	Residual	1.931	308	.006		
	Total	1.952	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcfo

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions										
				(Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

a. Dependent Variable: Abcfo

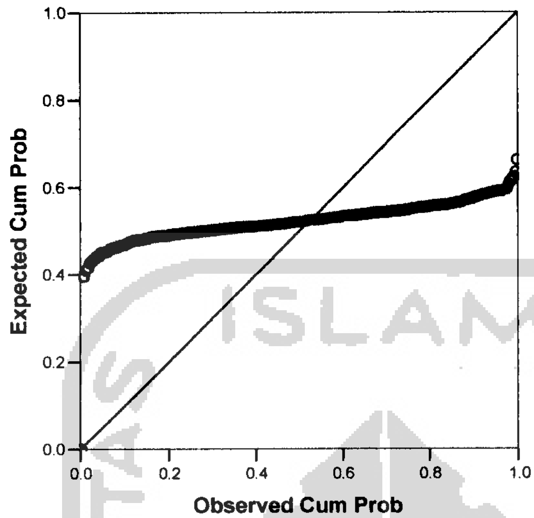
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0224641	.0243567	.0000003	.00799119	319
Std. Predicted Value	-2.811	3.048	.000	1.000	319
Standard Error of Predicted Value	.007	.074	.012	.008	319
Adjusted Predicted Value	-.0270933	.1035871	.0002963	.01010450	319
Residual	-1.37965	.03300693	.00000000	.07793320	319
Std. Residual	-17.422	.417	.000	.984	319
Stud. Residual	-17.540	.460	-.001	.991	319
Deleted Residual	-1.39839	.04013033	-.000296	.07922757	319
Stud. Deleted Residual	-529.277	.459	-1.605	29.637	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	.380	.002	.022	319
Centered Leverage Value	.004	.868	.031	.084	319

a. Dependent Variable: Abcfo

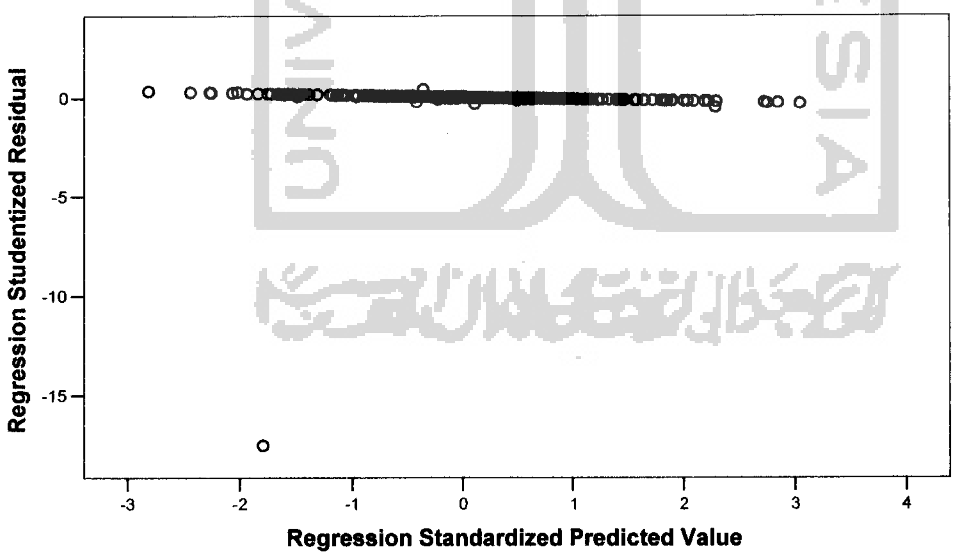
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Abcfo



Scatterplot

Dependent Variable: Abcfo



Regression abnormal discretionary expenses

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abdisexp

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335[a]	.112	.084	.00197590	2.034

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	10	.000	3.899	.000[a]
	Residual	.001	308	.000		
	Total	.001	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.001	.002		.640	.523		
	size	-7.6E-005	.000	-.025	-.428	.669	.859	1.164
	mtb	-3.3E-006	.000	-.018	-.340	.734	.989	1.011
	ni	.001	.001	.043	.735	.463	.830	1.205
	Sus	.000	.001	.012	.108	.914	.235	4.247
	loca	.000	.000	.055	.894	.372	.776	1.289
	Debt	.000	.000	-.074	-1.264	.207	.845	1.184
	cl	-.102	.017	-.342	-5.948	.000	.872	1.146
	locasus	.000	.001	-.028	-.274	.784	.276	3.625
	debtsus	.000	.001	.027	.287	.774	.331	3.018
	clsus	.062	.062	.075	.998	.319	.514	1.945

a. Dependent Variable: Abdisexp

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

a. Dependent Variable: Abdisexp

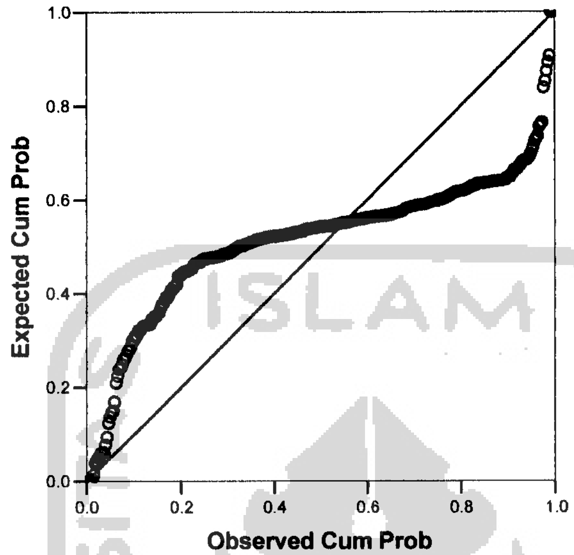
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0059101	.0006686	.0000001	.00069187	319
Std. Predicted Value	-8.542	.966	.000	1.000	319
Standard Error of Predicted Value	.000	.002	.000	.000	319
Adjusted Predicted Value	-.0076042	.0030516	.0000063	.00079020	319
Residual	-.020600	.01321268	.00000000	.00194459	319
Std. Residual	-10.426	6.687	.000	.984	319
Stud. Residual	-12.000	7.373	-.001	1.066	319
Deleted Residual	-.027292	.01606418	-.000006	.00230851	319
Stud. Deleted Residual	-16.418	8.112	-.013	1.262	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	4.253	.021	.247	319
Centered Leverage Value	.004	.868	.031	.084	319

a. Dependent Variable: Abdisexp

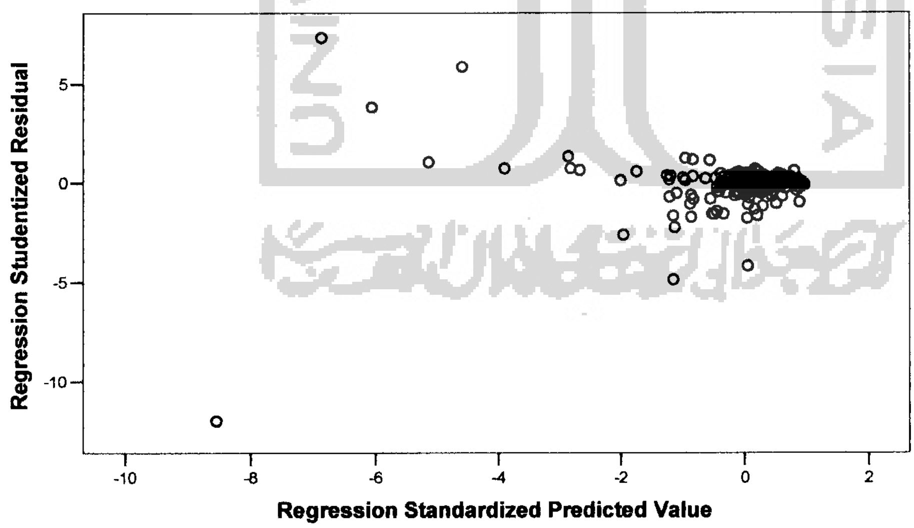
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Abdisexp



Scatterplot

Dependent Variable: Abdisexp



Regression abnormal production

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abprod

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.362[a]	.131	.103	.00267474	1.949

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abprod

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	10	.000	4.647	.000[a]
	Residual	.002	308	.000		
	Total	.003	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abprod

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.004	.002		-2.047	.042		
	size	.000	.000	.117	2.034	.043	.859	1.164
	mtb	1.25E-005	.000	.051	.964	.336	.989	1.011
	ni	-.004	.001	-.187	-3.211	.001	.830	1.205
	Sus	-.001	.001	-.048	-.443	.658	.235	4.247
	loca	.000	.000	-.077	-1.283	.200	.776	1.289
	Debt	.000	.000	-.020	-.348	.728	.845	1.184
	cl	.117	.023	.287	5.051	.000	.872	1.146
	locasus	.000	.002	.020	.194	.846	.276	3.625
	debtsus	.000	.002	-.015	-.162	.871	.331	3.018
	clsus	.029	.084	.025	.340	.734	.514	1.945

a. Dependent Variable: Abprod

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions										
				(Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

a. Dependent Variable: Abprod

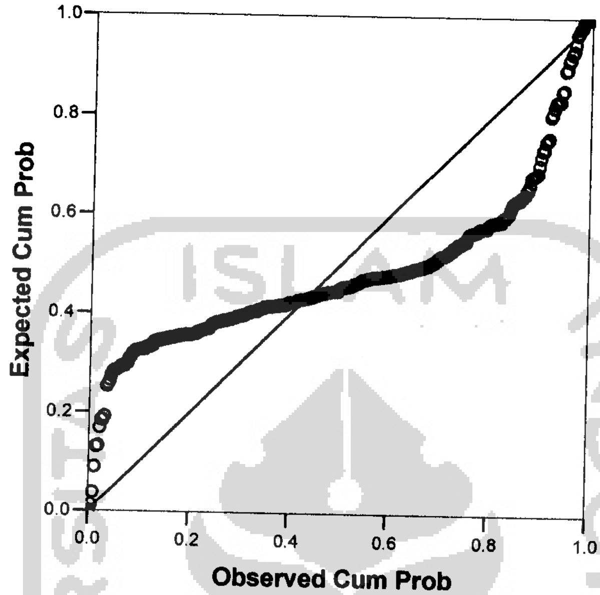
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0028037	.0066474	-.0000003	.00102244	319
Std. Predicted Value	-2.742	6.502	.000	1.000	319
Standard Error of Predicted Value	.000	.002	.000	.000	319
Adjusted Predicted Value	-.0053040	.0113423	-.0000170	.00117343	319
Residual	-.026922	.01697255	.00000000	.00263235	319
Std. Residual	-10.065	6.345	.000	.984	319
Stud. Residual	-11.098	7.304	.001	1.048	319
Deleted Residual	-.032732	.02248600	.00001669	.00302854	319
Stud. Deleted Residual	-14.304	8.019	-.004	1.190	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	2.417	.017	.168	319
Centered Leverage Value	.004	.868	.031	.084	319

a. Dependent Variable: Abprod

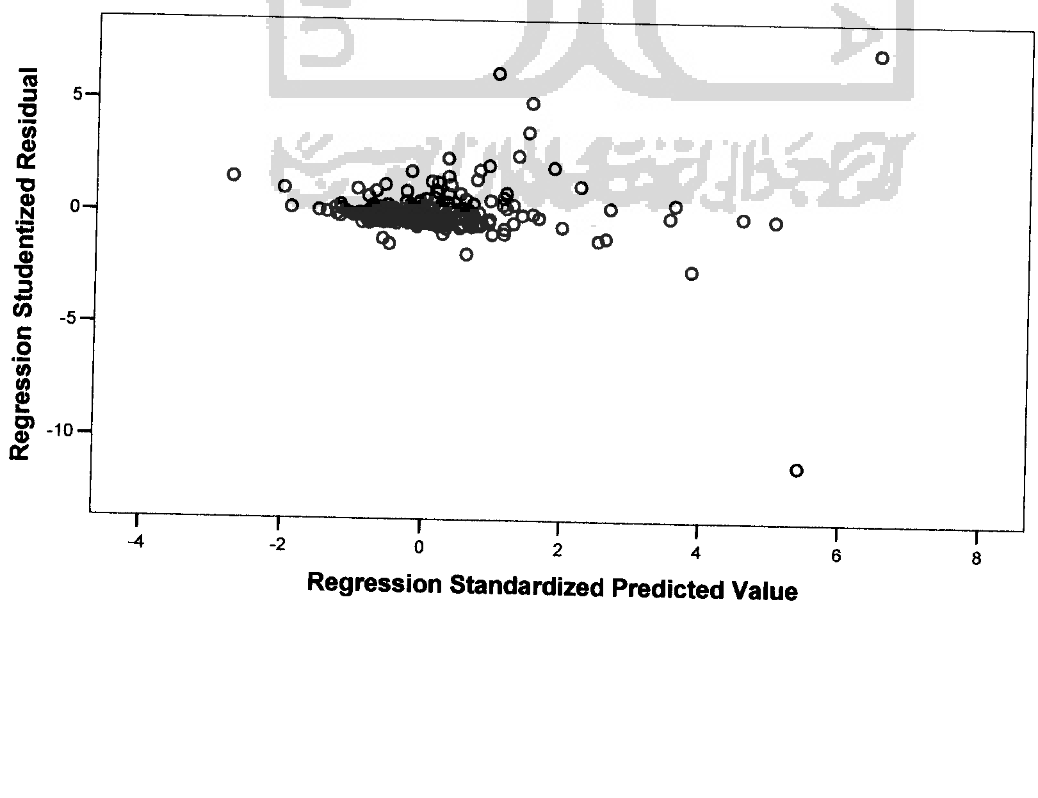
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Abprod



Scatterplot

Dependent Variable: Abprod



Appendix 10

Output Regressions of Test Equation 3.9

Regression abnormal CFO

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abcfo

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.102[a]	.010	-.022	.07918824	2.002

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcfo

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.020	10	.002	.324	.975[a]
	Residual	1.931	308	.006		
	Total	1.952	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abcfo

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-.065	.060		-1.071	.285		
	size	.007	.007	.057	.933	.351	.859	1.164
	mtb	1.33E-005	.000	.002	.035	.972	.989	1.011
	ni	.033	.038	.054	.864	.388	.830	1.205
	Sus	.014	.043	.037	.317	.751	.235	4.247
	loca	.008	.011	.046	.709	.479	.776	1.289
	Debt	.005	.010	.030	.490	.625	.845	1.184
	cl	.028	.688	.002	.041	.968	.872	1.146
	locasus	-.013	.051	-.027	-.250	.803	.276	3.625
	debtsus	-.004	.047	-.008	-.085	.933	.331	3.018
	clsus	-.159	2.491	-.005	-.064	.949	.514	1.945

a. Dependent Variable: Abcfo

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

a. Dependent Variable: Abcfo

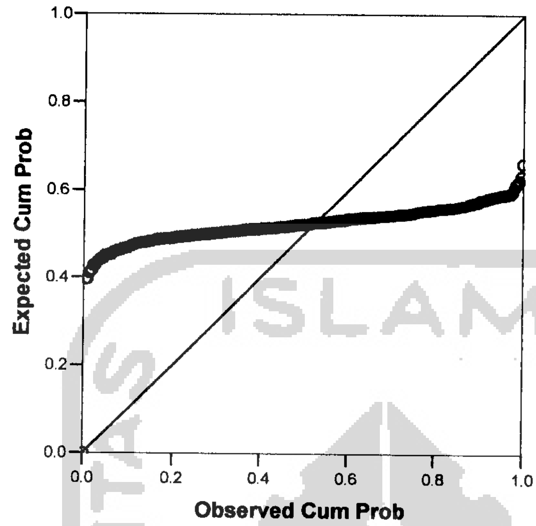
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0224641	.0243567	.0000003	.00799119	319
Std. Predicted Value	-2.811	3.048	.000	1.000	319
Standard Error of Predicted Value	.007	.074	.012	.008	319
Adjusted Predicted Value	-.0270933	.1035871	.0002963	.01010450	319
Residual	-1.37965	.03300693	.00000000	.07793320	319
Std. Residual	-17.422	.417	.000	.984	319
Stud. Residual	-17.540	.460	-.001	.991	319
Deleted Residual	-1.39839	.04013033	-.000296	.07922757	319
Stud. Deleted Residual	-529.277	.459	-1.605	29.637	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	.380	.002	.022	319
Centered Leverage Value	.004	.868	.031	.084	319

a. Dependent Variable: Abcfo

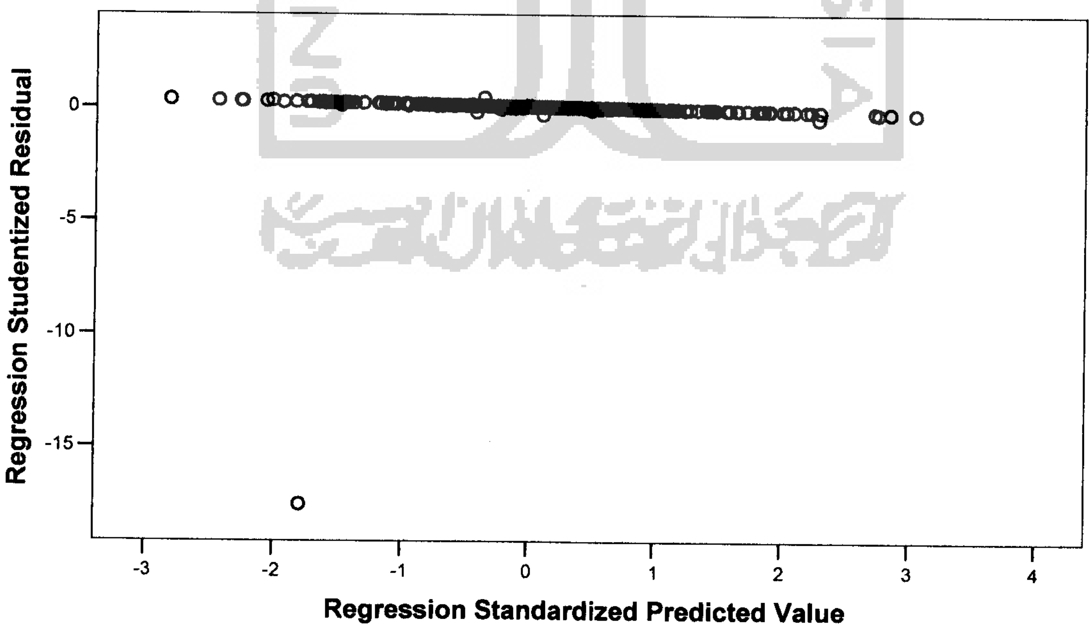
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Abcfo



Scatterplot

Dependent Variable: Abcfo



Regression abnormal discretionary expenses

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abdisexp

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.335[a]	.112	.084	.00197590	2.034

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	10	.000	3.899	.000[a]
	Residual	.001	308	.000		
	Total	.001	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abdisexp

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.001	.002		.640	.523		
	size	-7.6E-005	.000	-.025	-.428	.669	.859	1.164
	mtb	-3.3E-006	.000	-.018	-.340	.734	.989	1.011
	ni	.001	.001	.043	.735	.463	.830	1.205
	Sus	.000	.001	.012	.108	.914	.235	4.247
	loca	.000	.000	.055	.894	.372	.776	1.289
	Debt	.000	.000	-.074	-1.264	.207	.845	1.184
	cl	-.102	.017	-.342	-5.948	.000	.872	1.146
	locasus	.000	.001	-.028	-.274	.784	.276	3.625
	debtsus	.000	.001	.027	.287	.774	.331	3.018
	clsus	.062	.062	.075	.998	.319	.514	1.945

a. Dependent Variable: Abdisexp

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

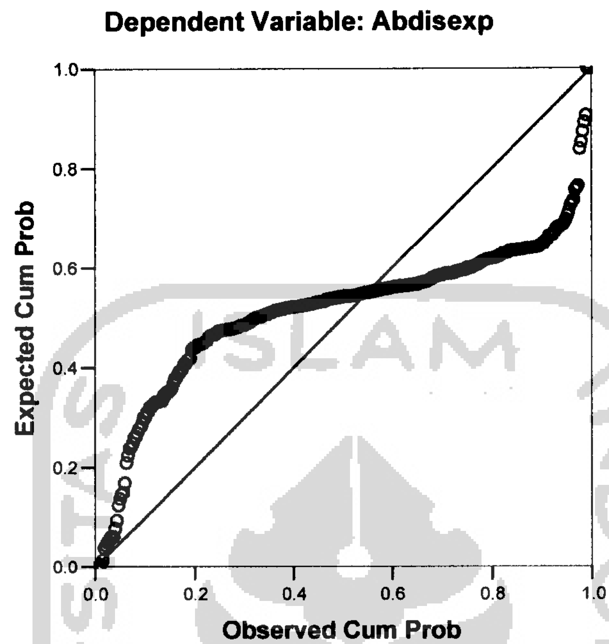
a. Dependent Variable: Abdisexp

Residuals Statistics[a]

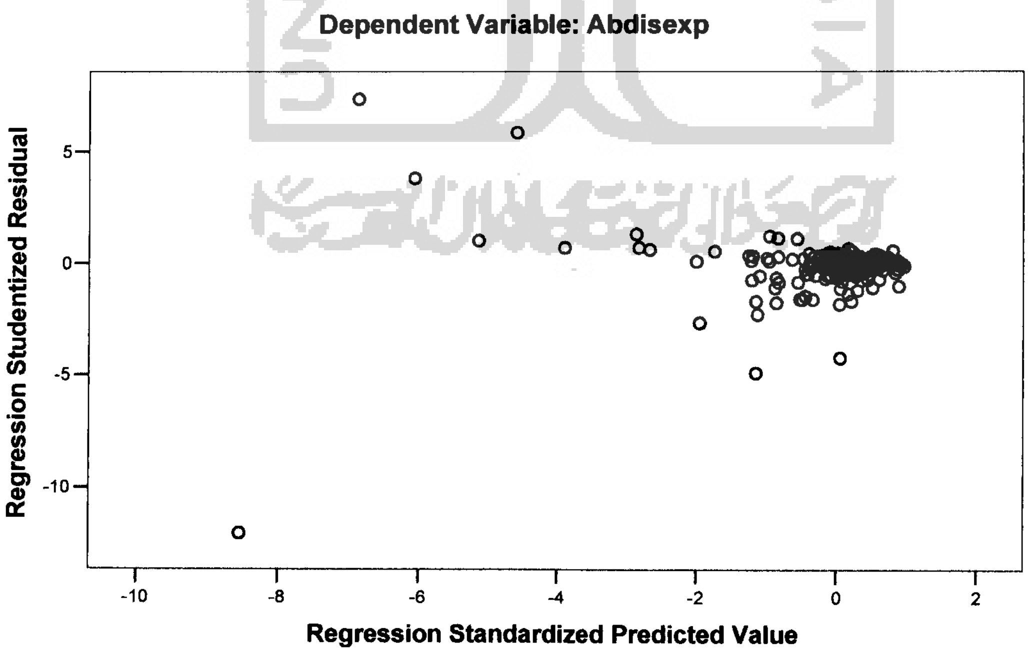
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0059101	.0006686	.0000001	.00069187	319
Std. Predicted Value	-8.542	.966	.000	1.000	319
Standard Error of Predicted Value	.000	.002	.000	.000	319
Adjusted Predicted Value	-.0076042	.0030516	.0000063	.00079020	319
Residual	-.020600	.01321268	.00000000	.00194459	319
Std. Residual	-10.426	6.687	.000	.984	319
Stud. Residual	-12.000	7.373	-.001	1.066	319
Deleted Residual	-.027292	.01606418	-.000006	.00230851	319
Stud. Deleted Residual	-16.418	8.112	-.013	1.262	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	4.253	.021	.247	319
Centered Leverage Value	.004	.868	.031	.084	319

a. Dependent Variable: Abdisexp

Normal P-P Plot of Regression Standardized Residual



Scatterplot



Regression abnormal production

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Abprod

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.362[a]	.131	.103	.00267474	1.949

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abprod

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.000	10	.000	4.647	.000[a]
	Residual	.002	308	.000		
	Total	.003	318			

a. Predictors: (Constant), clsus, size, mtb, locasus, ni, Debt, cl, loca, debtsus, Sus

b. Dependent Variable: Abprod

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.004	.002		-2.047	.042		
	size	.000	.000	.117	2.034	.043	.859	1.164
	mtb	1.25E-005	.000	.051	.964	.336	.989	1.011
	ni	-.004	.001	-.187	-3.211	.001	.830	1.205
	Sus	-.001	.001	-.048	-.443	.658	.235	4.247
	loca	.000	.000	-.077	-1.283	.200	.776	1.289
	Debt	.000	.000	-.020	-.348	.728	.845	1.184
	cl	.117	.023	.287	5.051	.000	.872	1.146
	locasus	.000	.002	.020	.194	.846	.276	3.625
	debtsus	.000	.002	-.015	-.162	.871	.331	3.018
	clsus	.029	.084	.025	.340	.734	.514	1.945

a. Dependent Variable: Abprod

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions										
				(Constant)	size	mtb	ni	Sus	loca	Debt	cl	locasus	debtsus	clsus
1	1	3.862	1.000	.00	.00	.00	.00	.01	.02	.02	.01	.00	.01	.00
	2	2.272	1.304	.00	.00	.01	.02	.02	.00	.01	.00	.02	.03	.02
	3	1.200	1.794	.00	.00	.01	.00	.00	.03	.00	.22	.04	.00	.17
	4	1.025	1.942	.00	.00	.00	.42	.00	.14	.00	.06	.00	.00	.00
	5	.912	2.058	.00	.00	.94	.01	.00	.00	.00	.00	.00	.00	.02
	6	.610	2.515	.00	.00	.03	.03	.00	.01	.13	.54	.05	.01	.18
	7	.416	3.048	.00	.00	.00	.15	.00	.47	.41	.05	.00	.03	.12
	8	.346	3.339	.00	.00	.00	.31	.03	.27	.20	.10	.00	.03	.00
	9	.220	4.186	.00	.00	.00	.00	.13	.00	.17	.00	.11	.90	.12
	10	.135	5.351	.00	.00	.00	.02	.80	.04	.00	.01	.77	.00	.37
	11	.003	38.355	1.00	1.00	.00	.03	.00	.01	.06	.00	.00	.00	.00

a. Dependent Variable: Abprod

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.0028037	.0066474	-.0000003	.00102244	319
Std. Predicted Value	-2.742	6.502	.000	1.000	319
Standard Error of Predicted Value	.000	.002	.000	.000	319
Adjusted Predicted Value	-.0053040	.0113423	-.0000170	.00117343	319
Residual	-.026922	.01697255	.00000000	.00263235	319
Std. Residual	-10.065	6.345	.000	.984	319
Stud. Residual	-11.098	7.304	.001	1.048	319
Deleted Residual	-.032732	.02248600	.00001669	.00302854	319
Stud. Deleted Residual	-14.304	8.019	-.004	1.190	319
Mahal. Distance	1.277	276.155	9.969	26.585	319
Cook's Distance	.000	2.417	.017	.168	319
Centered Leverage Value	.004	.868	.031	.084	319

a. Dependent Variable: Abprod

Charts

Normal P-P Plot of Regression Standardized Residual