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Earnings management prediction (a study of company's life cycle)

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ARTICLE INFO

ABSTRACT

This research aims to test whether deferred tax expense and accruals affect in detecting earnings management to avoid reporting earnings decline and to avoid reporting losses at the stage of the company life cycle period from 2000 to 2007. Earnings man-agement is an effort made by the manager with the purpose to increase or decrease the profit. Deferred tax expense is the expense arising from temporary differences between accounting income and taxable income. The accrual is to recognize revenue when it is generated and recognized expense in the period incurred, regardless of the time of receipt or payment of cash. The life cycle is divided into stages of company, namely start-up, growth, mature and decline. Results of this research is that there is no effect of deferred tax expense in detecting earnings management in order to avoid reporting earnings decline and to avoid reporting losses for the growth and mature stage of. Accrual has no effect in detecting earnings management to avoid reporting earnings decline in both growth and mature stage. To avoid reporting losses, accruals in detect-ing earnings management influence the growth stage, while the mature stage accrual does not affect in detecting earnings management. This research does not test on start-up stage and decline because the data sample is not sufficient for a stage to be tested.

1. INTRODUCTION

Earnings have a very important role in a company because they can be used for a measure whether a company is successful in a business. By using earn-ings, a company can survive and perform various developments to achive business progress, and can be used as a basis for decision making on the com-pany's stakeholders. Earnings are often used for several purposes, such as: (1) as a basis for giving bonuses to managers, (2) to calculate the taxable income and (3) as criteria to assess the performance of the company.

Phillips, Pincus and Rego (2003) revealed the presence of three main motivations that encourage companies to conduct earnings management: (1) to avoid earnings decline, (2) to avoid losses and (3) to avoid the failure of predictions made by analysts. The first motivation aims to avoid reporting earn-ings decline related to income smoothing hypothe-sis. The second motivation aims to avoid losses because losses have potential to lower stock prices, in turn it can decrease investor and creditor confi-dence and encourage tax examinations by tax au-thorities. The third motivation aims to avoid fail-

ures made by the analysis. As according to Stice et al. (2005) there are four kinds of factors that moti-vate manager to conduct earnings management in his financial statement; i.e. to meet internal targets, to meet external expectations, to level or smooth earnings (income smoothing) and to dress the fi-nancial statements for the purpose of an initial pub-lic offering or to obtain a loan from the bank.

Accruals basis has been known as the basis used in accounting related to the recognition of income or revenue. This accruals basis concept provides flexibility for managers to modify earn-ings by raising or lowering the portion of accruals in making financial statements. Accruals can be divided into two parts, they are the accruals that are naturally present in the process of preparing financial statements (non-discretionary accruals) and part of the results that has been modified (dis-cretionary accruals) (Fivi and Ira 2008). Both types of accruals should be completely understood by the decision makers in the company. Corporate man-agers try to minimize tax that should be paid by increasing accruals to make profit rate lower (May-dew 1997 in Januar and Agus 2004).

Several researches have been conducted to de-tect earnings management by using accruals. Yuliati (2004) explains the facts on the existence of weaknesses in the application of the accruals con-cept. Researchers named Phillips, Pincus and Rego (2003) have made use of the presence of other vari-ables that can be used to detect the deferred tax expense. They argue that in measuring manager flexibility, differed tax expense is better than accru-als since accounting rules provide more flexibility to managers th[3] the tax rules. Errors in measuring accruals model can be reduced by focusing on de-ferred tax expense compared by dividing total ac-cruals of company into discretionary component and non-discretionary component.

Deferred tax expense and accruals, in detecting earnings management, can be explained at each stage of the company life cycle. Start-*up* stage, the profit earned is still negative, deferred tax expense is also still quite negative and the company does not play in the accrual component so that the be-havior of earnings management has not affected yet because the profit generated is still negative. Growth stage, cash flow begins to increase so the profits obtained are still relatively small, deferred tax expense is also still relatively small and discre-tionary accruals begin to associate with company growth so it will give motivation to undertake in-come-increasing earnings management (Yuliati 2004). Mature stage, cash flow will increase rapidly and the profit produced is also greater. At this stage, the company will perform accrual policies that will lead the profits to decrease (income-decreasing earnings management) with the intent of reducing the tax effects that will motivate to per-form income minimization and increasing income to increase profits in order to obtain larger bonuses. Decline stage, consumers experience boredom of products then the cash flow will decrease and the profit will also decrease. At this stage the company will conduct accruals policy, for deferred tax ex-pense will look small and will motivate the com-pany to perform income smoothing so that the company appears to be in stable condition.

This study, as a replication of the study con-ducted by Phillips, Pincus and Rego (2003), is to test whether deferred tax expense is more powerful in detecting earnings management to avoid report-ing profit decline [3]d to avoid reporting losses and to examine the effect of accruals in detecting earn-ings management to avoid reporting earnings de-cline and to avoid reporting losses based on each stage of its life cycle.

The problem of this study is formulated as fol-

lows: (1) Does deferred tax expense affect in detect-ing earnings management to avoid reporting a de-cline in earnings based on each stage of the com-pany life cycle? (2) Does accrual affect in detecting earnings management to avoid reporting a decline in earnings based on each stage of the company life cycle? (3) Does deferred tax expense affect in de-tecting earnings management to avoid reporting losses based on each stage of the company life cy-cle? (4) Does accrual affect in detecting earnings management to avoid reporting losses based on each stage of the company life cycle?

In accordance with the formulation of the problem and the background of the problem that have been outlined before, the objectives of this study are: (1) to analyze the effect of deferred tax expense in detecting earnings management to avoid reporting a profit decline at each stage of the company life cycle. (2) To analyze the effect of ac-cruals in detecting earnings management to avoid reporting a profit decline at each s[6]ge of the com-pany life cycle. (3) To analyze the effect of deferred tax expense in detecting earnings management to avoid reporting losses at each stage of t[3] company life cycle. (4) To analyze the effect of accruals in detecting earnings management to avoid reporting losses at each stage of the company life cycle.

2. THEORETICAL FRAMEWORK AND HYPO-THESIS

Accruals Accounting

Accrual can be divided into 2 (Siti & Zulaikhah 2003), they are Discretionary Accrual (DA) and Non Discretionary Accrual (NDA). Discretionary accrual is the recognition of accruals income or ex-pense that is free and not regulated and becomes management policy options. While non discretion-ary accrual is recognition of accruals earning this is subject to a reasonable standard or generally ac-cepted in accounting principles. Healy in Scott (2003) says that managers manage its net profit by controlling various accruals, where accruals include the proportion of income and expense items in the balance sheet that do not appear in the statement of cash flows.

Deferred Tax Expense

Deferred tax expense is recognized and presented as an expense in the income statement of current year , except for income tax expense resulting from transactions or events that are credited or charged directly to equity, either in the same period and in different periods, business combination which is substantially an acquisition, arising from the differ-

Figure 1
Company Life Cycle
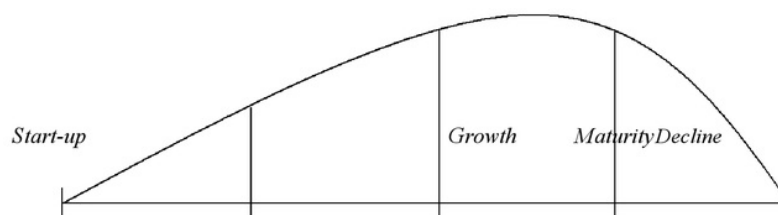
(Source: Mamduh & Halim 2005)

ence in accounting earnings, i.e. earnings in the financial statements for the benefit of external par-ties and fiscal earnings (earnings are used as the basis for calculating the tax). Phillips, Pincus and Rego (2003) describes the deferred tax expense is expense arising from temporary differences be-tween accounting earnings (earnings in the finan-cial statements for external users) and taxable earn-ings (earnings that are used as the basis for calcu-lating the tax).

Life Cycle
According to Weston and Brigham (1981) in Mam-duh & Halim (2005), the cycle of a company or an industry will tend to be described as a form of curve S (S-shaped curve) as seen in Figure 1. Mam-duh and Halim (2005) provide guidance on the classification of company year observation into life cycles, they are: (a) start-*up* is the stage of introduc-tory where the company begins to build new prod-uct infrastructure so that the flow of acceptance is not so great. (b) Growth is the stage of growth where the company's products began to be ac-cepted by consumers and demand began to grow rapidly and thus increase cash flow and profits will begin to increase as well. (c) Mature is the stage of maturity where the company's products are widely accepted by the public and thus increase cash flows from sales, and profits will increase rapidly. (d) Decline is the stage of decline where people tend to experience boredom with the company's products so that cash flow will decline and profits will de-cline as well.

Earnings Management and Deferred Tax Expense
Earnings management in the narrow sense is only related to the choice of accounting methods. Earn-ings management is defined as the behavior of managers "to *play*" with the component of discre-tionary accruals in determining earnings. In a broader sense, earnings management is the man-ager's actions to improve or reduce earnings re-

ported currently on a unit where managers are re-sponsible, without resulting in an increase or de-crease long-term economic probability of the units (Sugiri in Agnes (2001: 92).

Deferred tax expense is only related to tempo-rary differences between accounting profit and taxable profit. Large deferred tax expense will re-duce the level of profits obtained by the company, and vice versa small deferred tax expense will in-crease the level of profits obtained by the company.

At the stage of start-*up*, the profit earned is still negative so the deferred tax expense is also still negative and thus it sill has no effect on the behav-ior of earnings management. At the stage of growth, cash flow starts to increase, the profits earned is also still small so that the deferred tax expense is also still relatively small, and thus it will motivate company to undertake income-increasing earnings management (Yuliati 2004). At the stage of mature, the cash flow will increase rapidly so the profit generated thus it will motivate to perform income minimization in reducing taxes and increas-ing income to increase profits in order to obtain larger bonuses. At the stage of decline, consumers experience boredom of products, so cash flow will decrease and profit will also decrease and thus the company will be motivated to perform income smoothing so that the company appears to be in stable condition. From the explanation before, it can be submitted 2 (two) hypothesis as follows:

H1a: Deferred tax expense affects earnings man-agement to avoid reporting a profit decline at each stage of the life cycle.
H1b: Deferred tax expense affects earnings man-agement to avoid reporting losses at each stage of the life cycle.

Earnings Management and Accrual
Report making, using accrual method, is used by managers to manipulate earnings with the aim to influence the decisions of stakeholders. Hence there is a tendency for managers to manage earnings is

such away by applying the income-increasing dis-cretionary accruals, it is the effort to manipulate earnings by lowering the level of earnings at a cer-tain level to reverse the accrual policies undertaken previously.

At the stage of start-*up*, the company does not play in the accrual component so the behavior of earnings management still has not effect because the profit generated is still negative. At this stage of growth, discretionary accruals begin to associate with company's growth started and thus it will give motivation to undertake income-increasing earnings management (Yuliati 2004). At the stage of **mature**, the cash flow will increase rapidly so the profit gen-erated will also be larger and the company will con-duct accrual policies that will lead to decreased prof-its (income-decreasing earnings management) with the intent of reducing the tax effects and thus it will motivate to perform income minimization in lower tax and increasing income to increase profits in order to obtain larger bonuses. At the stage of *decline*, con-sumers experience boredom of products and then the cash flow decreases and profit will also decrease so that the company will undertake accruals policy for deferred tax expense will look small and thus it will motivate the company to perform income smoothing so that the company appears to be in stable condition. From the explanation before, it can be arranged 2 (two) hypothesis as follows:

H2a: Accrual affects earnings management to avoid reporting a profit decline at each stage of the life cycle.

H2b: Accrual **a**ffects earnings management to avoid reporting losses based on each stage of the life cy-cle.

3. RESEARCH METHOD
Research Design
This research uses quantitative methods in analyz-ing the data because statistical test used is logistic regression analysis. Based on the characteristics of the problem, this study is included in the category of historical research, i.e. a study of the problems associated with the events or the company's past financial statement. This study is also a confirma-tory study aimed to test the hypothesis. Based on the type of data, this study is an archive research where the data obtained based on filing documents or other records that come from the company's in-ternal data and external data, i.e. publication of data obtained from the other party.

Classification of Company's Life Cycle Stage
Company-year observation is classified into four

stages of life cycle, namely start-*up*, growth, *mature* and decline. Classification method used is based on the method applied by Black (1988) and Anthony and Rames (1992) in Sari Atmini (2001). Criteria of classification at the stage of start-up are: (1) The company that has established long enough (about 5 years, making it possible to be classified). (2) The company was not formed as a result of a merger or other form of restructuring. (3) The company started sales of not more than one year before it went public. (4) Only company's data during the first three years after the date of the company estab-lishment was included. (5) The company was founded between 1980 and 2007. According to An-thony and Ramesh (1992) in Juniarti and Rini Li-manjaya (2005), company with high sales growth, in general, is a company that is still in the early stages of development and has high growth oppor-tunities, while company with low sales growth en-ables the company to enter the stage of decline.

Classification of company-year observations into the stages of growth, mature and decline is based on three classification variables, namely per-cent sales growth (SG), dividend payments per year as a percentage of the profit (DP), and company's age (AGE). There are four steps to classify into life cycle stages, they are: (1) For each classification variable is calculated using equation of Sales Growth (SG), DP and AGE. For SG and DP are cal-culated based on each average and AGE starting from the year of establishment to 2007. (2) For SG quintile is given the name SK SG, the highest quin-tile is the fifth quintile is given a score of 1 (growth), the fourth quintile is given a score of 2 (growth/mature), the third quintile is given a score of 3 (mature), the second quintile is given a score of 4 (mature/decline) and the first quintile is given a score of 5 (decline). (3) Variables of AGE and DP are combined based on each quintile and given the name of SK ADP. Then they are sorted based on the first quintile of the DP. The first quintile of DP con-tains SK ADP, and then the highest SK ADP sub-tracted by the lowest SK ADP and divided into 3 quintiles. Of the 3 quintiles is named ADP cycle. (4) From the results, the score of ADP cycle will be added to SG SK. And came up with the name of the combined score (SK G). The highest combined score subtracted by the lowest combined score and di-vided into 5 quintiles. A company is said *growth* if it is in the first and second quintile. A company is said mature if it is in the third and fourth quintile. A company is said decline if it is in the fifth quin-tile.

The formula used to obtain the data DP, SG,

and AGE is as follows:

$$DPt = (DIVt/IBEDt) \times 100 \tag{1}$$

$$SGt = [(SALESt – SALESt\text{-}1) /SALESt\text{-}1] \times 100 \tag{2}$$

$$AGEt = (AGE\ current\ year) - (AGE\ based\ year) \tag{3}$$

Explanation:

DIVt   = dividend in year t

IBEDt   = income before extraordinary item and discontinued operation in year t

SALESt = net sales in year t

AGE   = current year

AGE based year = company establishment year

Definition of Operation and Measure of Variables
Deferred Tax Expense

Deferred tax expense is the tax expense arising from temporary differences between accounting earnings (earnings in the financial statements for external parties) with taxable income (income used as the basis for calculating the tax) (Phillips, Pincus and SO Rego 2003). This variable is an independent variable and its value is taken in the Income Statement. This variable is measured by:

$$X1 = DTE / Total\ Asset. \tag{4}$$

Accrual (Accrual Component)

Accrual component is a non-cash event recognition in the income statement but is expected to be received or paid, usually in cash in the future (Ahmed Riahi/Belkaovi 2001: 14). This variable is calculated by using the model of Healy (1985) in Phillips, Pincus, and Rego (2003).

$$TAccit = EBEIit – (CFOit - EIDOit). \tag{5}$$

Where:

TAccit = total accruals of firm in year t

EBEIit = earnings before extraordinary items of company i in year t

CFOit = operating cash flow (cash flows from operations) of company i in year t

EIDOit = extraordinary items and cash flows (extraordinary items and discontinued operations) from the discontinued operations of company i in year t.

Earnings Management (Y)

Earnings management is a form of manipulation or financial statements that become part of communication between managers and external parties that can be measured by discretionary accruals (DA). Accrual measurement is theoretically more attractive, because accrual is a collection of a number of net impacts on the accounting policies that includes portfolio determining income. The model used to calculate earnings management to avoid reporting earnings decline and avoid reporting earnings losses with the following equation:

First, to avoid reporting earning decline using EM 1

the range of -0.01 to 0.01

$$EM\ it = \alpha + \beta1\ DTE\ it + \beta2\ TAccit + \varepsilon\ it. \tag{6}$$

Where:

EM it = 1 if the change in net profit of company i from year t-1 to year t divided by the market value of equity at the end of year t-1 $\geq$ 0 and <0.01

EM it = 0 if the change in net profit of company i from year t-1 to year t divided by the market value of equity at the end of year t-1 $\geq$ -0.01 and <0

DTEit = Deferred Tax Expense of company i in year t divided by total assets at the end of year t-1.

TAccit = total accruals of company i in year t

ε it   = Error term.

Second, to avoid reporting earnings losses by using EM 2 ranging from -0.02 to 0.02.

$$EM\ it = \alpha + \beta1\ DTE\ it + \beta2\ TAccit + \varepsilon\ it. \tag{7}$$

Where:

EM it   = 1 if the net profit of company i in year t divided by the market value of equity at the end of year t-1 $\geq$ 0 and <0.02

EM it = 0 if the net profit of firm i from year t divided by the market value of equity at the end of year t-1 $\geq$ 0.02 and <0

DTEit = Deferred Tax Expense of company i in year t divided by total assets at the end of year t-1.

TAccit = total accruals of company i in year t

ε it   = Error term.

Population, Sample and Sampling Technique

The population of this study is the financial statements of manufacturing companies for 8 periods starting from 2000 to 2007. Sampling technique used in this study is non-probability sampling with purposive sampling. Purposive sampling technique is a technique used in the determination of the sample with certain considerations, namely: (1) Manufacturing companies that have been classified based on each stage of their life cycles and have been listed on the Indonesia Stock Exchange. (2) The only currency used is rupiah in preparing the financial statements, not using foreign currency. (3)

The company establishment year, in this study, is a manufacturing company established in the years starting from 1980. (4) The issuer has submitted annual financial statements ending December 31 continuously during the period 2000-2007. (5) The company includes the amount of deferred tax ex-pense in its financial statements. (6) Having the EM1 values ranged from -0.01 to 0.01 or EM2 which have ranged from -0.02 to 0.02.

Data Collection Method

The data collected, in this study, is the quantitative data derived from secondary data. The collection of

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Table 1
Selection of Study Samples

Description	Total
1. The number of manufacturing companies which go public in Indonesia Stock Exchange and publish financial statement continuously from 2000 to 2007.	128
2. Companies whose financial statements do not end on December 31.	(4)
3. Companies whose financial statements do not use rupiah currency.	(2)
4. Companies established under 1980	(65)
5. Companies that do not include the amount of differed tax expense in a row period 2000-2007	(42)
Sample Outcome	15

Source: Data processed.

this secondary data is in the form of financial statements consisting of balance sheet, income statement, along with notes to the financial state-ments of manufacturing company in 2000-2007. Method of data collection is documentation, i.e. data collection techniques which are taken from the summary of financial statements analyzed for re-search purposes, and are obtained from an agency, internet, and books.

Analysis Techniques
Data analysis techniques used in this study are as follows: (1) To collect data of company financial statements ended December 31 completely and continue during 2000-2007. (2) To identify compa-nies that record deferred tax expense in the annual financial statements during 2000-2007 derived from the Indonesia Stock Exchange (BEI). (3) To classify the sample companies into four samples according to their life cycle, namely start-up stage, growth stage, mature stage and decline stage. (4) To per-form descriptive analysis that aims to provide an explanation of the variables that are observed. (5) T calculates the value of total accruals using the model of Healy (1985). (6) To assess the feasibility of a model based on the value of Chi-Square at the Hosmer and Lemeshow's> 0.1 so it logistic regres-sion models are feasible to be used for further analysis. This is because there is no real difference between the predicted classification and the ob-served one. (7) To assess the overall model (overall fit model) based on the function of Likelihood (L). By comparing the value of -2LogL y enter constant value and independent variables. If the value goes down then the model can be said fit.

The steps performed in the classification of life cycle are as follows: (1) Data from sales is counted, to search for average % Sales Growth, the average % DP, and the age of each company. (2) Data sorted from the minimum rate to the maximum rate based on average % Sales Growth, after that it is calcu-lated to find the value ranges of the quintile, which are then given quintile number 1-2-3-4-5 which means that the cycle is worth 5-4-3-2-1. (3) On an average% DP, sorted from the minimum rate to the maximum rate, after that it is calculated to find the value ranges of the quintile, and then given quintile number 1-2-3-4-5, but numbers for its life cycle have not been determined. (4) At the age of each company is also done the same thing as the % DP, and then from the value of existing quintile on % DP and Age is merged to determine quintile from the joint between % DP and age. (5) Data that has been completely calculated from the joined quintile

% DP and Age, and then totaled with the number of existing cycle on average % Sales Growth, and then to determine the value of its quintile. (6) The final step is the determination of its life cycle; the life cycle is obtained based on the combined end value of % average Sales Growth, % DP, and age.

4. DATA ANALYSIS AND DISCUSSION
Overview of the Study Subjects
The subjects in this study were companies listed on the Stock Exchange during 2000 to 2007 were se-lected by purposive sampling. The samples are selected on the basis of suitability characteristics of the sample with sample selection criteria specified (see Table 1).

Table 2 illustrates the calculation of quintiles used to classify companies into the life cycle of a combined score among SG, DP and AGE.

In Table 2, if the score of company is 5 then it enters quintile number 1, i.e. a company that is in the stage of growth. Conversely, if the score of the com-pany is 6, so the company enters quintile number 2, i.e. a company that is in the stage of growth as well. If the score of the company is 6, so the company en-ters quintile number 3, i.e. a company that is in the stage of matures and so on. However, if the score of

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Table 2
Quintile Calculation

	Min	Max	Divided	Result	Quintile	Cycle
SG	-20.00%	88.00%	21.60%	1.60%	1	5
				23.20%	2	4
				44.80%	3	3
				66.40%	4	2
				88.00%	5	1
AGE	14	27	3	17	1	
				19	2	
				22	3	
				24	4	
				27	5	
DP	0.00%	31.00%	6.20%	6.20%	1	
				12.40%	2	
				18.60%	3	
				24.80%	4	
				31.00%	5	
KK DP & AGE						
KK-1	2	6	1	3	1	
				5	2	
				6	3	
KK-2-5	5	8	1	6	2	
				7	4	
				8	3	
TOT CYCLE	4	8	1	5	1	Growth
SG,DP&AGE				6	2	Growth
				6	3	Mature
				7	4	Mature
				8	5	Decline

Source: Data processed.

company is 6, it can be seen based on age (AGE) of the company, the greater the age of the company then the company enters the stage of mature. In the last step, the determination of its life cycle is ob-tained base on a combined end value of % average Sales Growth, % DP, and Age. Table 3 presents the life cycle ratings for 15 companies.

Descriptive Analysis on Variables Classification
Before testing the hypothesis, first performed a descriptive analysis of the variables in the classifi-cation that will be used in the research. In this study, researcher does not analyze the sample of company at the stage of decline, because at that stage there is only one company and if the sample

of company is use, so data are not valid.

Table 4 presents the variables used to classify companies into their life cycle. For companies that are at the stage of growth, the average percentage of sales growth is amounted to 21.89%, the growth is much greater than the sales growth at the stage of mature and decline is only amounted to 11.80% and 12.00%. This means that the growth rate of company's sales percentage at the stage of growth is greater than the company that is at the stage of mature and decline. On the other hand, the com-pany at the stage of growth is also younger than the companies that are at the stage of mature and de-cline. It is proven that companies that are at the stage of growth are at the age of 19 years in aver-

Table 3
Lifecycle Ratings

Ratings	Name of Companies	Stage of Cycle
I	There is no company at the stage of *start-up* due to the lack of company under the age of 5 years	*Start-Up*
II	PT. Fortune Mate Indonesia Tbk. PT. Argha Karya Prima Industry Tbk PT. Asiaplast Industries Tbk PT. Intikeramik Alamasri Industri Tbk. PT. Kabelindo Murni Tbk. PT. Multipolar Corporation Tbk. PT. Hexindo Adiperkasa Tbk. PT. Prima Alloy Steel Tbk. PT. Tempo Scan Pacific Tbk.	Stage of *Growth*
III	PT. Putra Sejahtera Pioneerindo Tbk. PT. Tirta Mahakam Resources Tbk. PT. Trias Sentosa Tbk. PT. Metrodata Electronics Tbk. PT. Mustika Ratu Tbk.	Stage of *Mature*
IV	PT. Kunia Kapuas Utama Glue Industries Tbk.	Stage of *Decline*

Source: Data processed.

Table 4
Descriptive Statistics of Variable Classification

	N	Minimum	Maximum	Mean	Deviation Standard
Growth:					
Age of Company	9	15	25	19	3.39
Sales Growth	9	-20.00%	88.00%	21.89%	30.22%
DP%	9	0.00%	18.00%	4.00%	7.00%
Mature					
Age of Company	5	14	27	22	5.03
Sales Growth	5	3.00%	20.00%	11.80%	7.79%
DP%	5	0.00%	31.00%	18.40%	12.22%
Decline					
Age of Company	1	27	27	27	-
Sales Growth	1	-12.00%	-12.00%	-12.00%	-
DP%	1	0.00%	0.00%	0.00%	-
Total Companies	15				

Source: Data processed.

age, while companies at the stage of mature and decline are at the age of 22 years and 27 years in average. In addition, the companies at the stage of decline have the smallest dividend in the amount of 0.00% in average, the highest average is at the stage of mature of 18.40%, while the average at the stage of growth is 4.00%.

Descriptive Analysis of Research Variables 1. Earnings Management

Earnings Management is divided into 2 groups:

The first group is earnings management to avoid reporting earnings decline (EM_EARNINGS_TRN) where this EM_EARNINGS_TRN has 2 values. They are 1 for positive earnings changes category and 0 for negative earnings changes category. EM_EARNINGS_TRN is said to be 1 the result of the change in net profit of company i in year t-1 to year t divided by the market value of equity at the end of year t-1 (NI_t-NI_{t-1}/MVE_{t-1}) is $\geq$ 0 and <0.01 and EM_EARNINGS_TRN is said to be 0 if the re-sult of net profit of company i from year t divided

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Table 5
Descriptive Statistics of Research Variables based on Life Cycle

Variables	N	Min	Max	Average	Deviation Standard
Stage of *Growth*					
DTE	72	-0.267141	0.112511	-0.002560	0.042100
TACC	72	-4.945309	0.782775	-0.157538	0.669649
EM_EARNINGS_TURN	72	0	1	0.055556	0.230669
EM_LOSS	72	0	1	0.041667	0.201229
Stage of *Mature*					
DTE	40	-0.213362	0.072218	-0.008088	0.045601
TACC	40	-0.923478	1.692669	0.006426	0.391773
EM_EARNINGS_TURN	40	0	1	0.075000	0.266747
EM_LOSS	40	0	1	0.075000	0.266747

Source: Data processed.

by the market value of equity at the end of year t-1 (NI_t/MVE_{t-1}) is ≥ -0.01 and <0.

The second group is the earnings management to avoid reporting losses (EM_LOSS) EM_LOSS which has a 2 value is 1 for positive earnings cate-gory and 0 for negative earnings category. EM_LOSS said to be 1 if the result of net income of firm i from year t divided by the market value of equity at the end of year t-1 (NI_t/MVE_{t-1}) is ≥ 0 and <0:02 and EM_EARNINGS_TRN is said to be 0 if the result of net income of company i from year t divided by the market value of equity at the end of year t-1 (NI_t/MVE_{t-1}) is ≥ -0.02 and <0.

2. Total Deferred Tax Expense and Accruals

The following Table 5 describes the descriptive statistics for each study variable deferred tax expense, total accruals and earnings management. Table 5 explains that the average deferred tax expense on the stage of growth of -0.002560 is larger than the stage of mature of -0.008088. This is consistent with the characteristics of detecting earnings management, i.e. the greater the deferred tax expense at the stage of growth can reduce the level of earnings derived by a company so as to be able to reduce the level of tax paid by the company. At the stage of mature, the average total accrual of 0.006426 is higher when compared to the stage of growth of -0.157538. As mentioned earlier, that the higher total accruals, the more opportunities for managers to manage earn-ings by implementing income-increasing discretion-ary accruals. At the stage of mature, the average earnings management to report a profit decline and to report losses of 0.075000 is greater than the stageof growth of 0.055556 and 0.041667.

Hypothesis Testing - Earnings Management to Avoid Earnings Decline

Testing is conducted to determine whether the dif-

fered tax expense and accrual affect in detecting earnings management to avoid reporting earnings decline.

At the Stage of Growth

Based on Table 6, the logistic equation model obtained can be formulated as follows:
$$EM\_EARNINGS\_TRN = -2.780 + 1.617\ DTE + 0.562\ TACC + e$$

Based on the results of the output, it can be seen that Chi_square value in the Hosmer and Le-meshow Test is 6.333 and it is significant at the level of 0.610. Since significance value is greater than 0.1, then the research hypothesis is accepted, and thus logistic regression model is worth being used for further analysis because there is no real difference between the predicted classification and the observed one.

Based on the results of the output it can be seen that to assess the overall model is based on the function of likelihood (L). Of two numbers -2 log likelihood, where in the negative earnings changes (Block 0) number -2 log L is 30.897, while in the positive earnings changes (Block 1) number -2 log L decreased to 30.701. The decline shows better re-gression model.

Variable Deferred tax expense (DTE) has a co-efficient value of 1.617 and significant level of 0.890. It means that Ho is accepted or not significant at the level of 0.1. From the regression testing, it can be concluded that at the time of the earnings man-agement to avoid reporting earnings decline is not affected by deferred tax expense. Meanwhile, the accrual variables have coefficient value of 0.562 and the significant level is 0.731. It means that Ho is accepted or ratio of total accruals is not significant at the level of 0.1. From the regression testing, it can be concluded that the time of the earnings man-agement to avoid reporting earnings decline is not

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Table 6
Logistic Regression Testing Result at the Stage of Growth – Earnings Decline

Variables		Coefficient	Significances
Variable in the Equation			
DTE	Differed Tax Expense	1.617	0.890
TACC	*Total Accrual*	0.562	0.731
Constant		-2.780	
Hosmer and Lemeshow Test			
Chi-square		6.333	0.610
-2 Log likelihood			
Block = 0		30.897	
Block = 1		30.701	

Source: Data processed.

Table 7
Logistic Regression Testing Result at the Stage of Mature – Earnings Decline

Variables		Coefficient	Significances
Variable in the Equation			
DTE	Differed Tax Expense	5.015	0.764
TACC	*Total Accrual*	-0.042	0.978
Constant		-2.491	
Hosmer and Lemeshow Test			
Chi-square		7.412	0.493
-2 Log likelihood			
Block = 0		21.311	
Block = 1		21.205	

Source: Data processed.

affected by accruals. In this study, accrual is calcu-lated using the total accruals.

At the Stage of Mature

Based on the Table 7, the logistic equation model obtained can be formulated as follows:

$$EM\_EARNINGS\_TRN = -2.491 + 5.015\ DTE - 0.042TACC + e$$

Based on the results of the output, it can be seen that the value of Chi-square at the Hosmer and Lemeshow Test is 7.412 and significant at the level of 0.493. Since significant value is greater than 0.1, so the null hypothesis (H0) is accepted, and then the logistic regression model is worth being used for further analysis because there is no real difference between the predicted classification and the observed one.

Based on the results of the output, it can be seen that to assess the overall model is based on the function of likelihood (L). From the two numbers -2 log likelihood, where at the negative earnings changes (Block 0) number -2 log L is 21.311, while at the positive earnings changes (Block 1) number - 2 log L decreased to 21.205. The decline shows bet-ter regression model.

Variable Deferred tax expense (DTE) has a co-efficient value of 5015 and significant level of 0.764.It means that Ho is accepted or not significant the the level of 0.1 l. From the regression testing, it can be concluded that at the time of the earnings management to avoid reporting earnings decline is not affected by deferred tax expense. The variable accrual (TACC) has coefficient value of -0.042 and a significant level of 0.978. It means that Ho is ac-cepted or ratio of total accruals is not significant at the level of 0.1. From the regression testing, it can be concluded at the time of the earnings manage-ment to avoid reporting earnings decline is not influenced by accruals. In this study, accrual is cal-culated using the total accruals.

Hypothesis Testing - Earnings Management to Avoid Losses

Testing was conducted to determine whether dif-fered tax expense and accrual affect in detecting earnings management to avoid reporting losses.

At the Stage of Growth

Based on the Table 8, logistic equation model ob-tained can be formulated as follows:

Table 8
Logistic Regression Testing Result at the Stage of Growth – Loss

Variables		Coefficient	Significances
Variable in the Equation			
DTE	Differed Tax Expense	-0.062	0.998
TACC	*Total Accrual*	-1.244	0.059
Constant		-3.740	
Hosmer and Lemeshow Test			
Chi-square		6.501	0.591
-2 Log likelihood			
Block = 0		24.942	
Block = 1		18.509	

Source: Data processed.

Table 9
Logistic Regression Testing Result at the Stage of Mature – Loss

Variables		Coefficient	Significances
Variable in the Equation			
DTE	Differed Tax Expense	7.211	0.737
TACC	*Total Accrual*	1.576	0.116
Constant		-2.698	
Hosmer and Lemeshow Test			
Chi-square		-7.443	0.490
-2 Log likelihood			
Block = 0		21.311	
Block = 1		19.038	

Source: Data processed.

$EM\_LOSS = -3.740 - 0.062\ DTE - 1.244\ TACC + e$

Based on the results of the output, it can be seen that the value of Chi_square at the Hosmer and Lemeshow Test is 6.501 and significant at the level of 0.591. Since significant value is greater than 0.1, so the null hypothesis (H0) is accepted and then the logistic regression model is worth being used for further analysis because there is no real differ-ence between the predicted classification and the observed one.

Based on the results of the output, it can be seen that to assess the overall model is based on the function of likelihood (L). From the two numbers -2 log likelihood, where at the negative earnings changes (Block 0) number -2 log L 24.942, while at the positive earnings changes (Block 1) number -2 log L decreased to 18.509. The decline shows better regression model.

Variable Deferred tax expense (DTE) has a co-efficient value of -0.062 and significant level of 0.998. It means that Ho is accepted or not signifi-cant at the level of 0.1. From the regression testing, it can be concluded that at the time of the earnings management to avoid reporting losses is not af-fected by deferred tax expense. The variable accrual has coefficient value of -1.224 and significant level

of 0.059. It means that Ho is rejected or the ratio of total accruals is signifi-cant at the level of 0.1. From the regression testing, it can be concluded that at the time of the earnings management to avoid re-porting losses is influenced by accruals. In this study accrual is calculated using the total accruals.

At the Stage of Mature
Based on the Table 9, logistic equation model ob-tained can be formulated as follows:

$EM\_LOSS = -2.698 + 7.211\ DTE + 1.576\ TACC + e$

Based on the results of the output it can be seen that the value of Chi_square in the Hosmer and Lemeshow Test is -7.443 and is significant at the level of 0.490. Since the significant value is greater value 0.1, so the research hypothesis is ac-cepted and then the logistic regression model is worth being used for further analysis because there is no real difference between the predicted classifi-cation and the observed one.

Based on the results of the output, it can be seen that to assess the overall model is based on the func-tion of likelihood (L). From the two numbers -2 log likelihood, where at the negative earnings changes (Block 0) number -2 log L is 21.331, while at the posi-tive earnings changes (Block 1) -2 log L decreased to

19.038. The decline shows better regression model.

Variable Deferred tax expense (DTE) has a co-efficient value of 7.211 and significant level of 0.737. It means that Ho is accepted or not significant at the level of 0.1. From the regression testing, it can be concluded that at the time of the earnings man-agement to avoid reporting losses is not affected by deferred tax expense. The variable accrual has coef-ficient value of -1.576 and significant level of 0.116. It means that Ho is received or the ratio of total accruals is significant at the level of 0.1. From the regression testing, it can be concluded that at the time of the earnings management to avoid report-ing losses is not affected by accruals. In this study accrual is calculated using the total accruals.

Discussion

Deferred Tax Expense and Income Management – Earnings Decline

Based on SPSS output, deferred tax expense at the time of reporting earnings decline at the stage of growth does not affect significantly in detecting earnings management. This is presumed because at the time the earnings decline, the temporary differ-ences resulting effect in a form of deferred tax expense is not too big so that it can affect the ability of deferred tax expense in detecting earnings man-agement to avoid reporting earnings decline. Tem-porary differences, in this regard, can be caused by differences in the depreciation method used in ac-counting and fiscal. While at the stage of mature, the deferred tax expense does not affect signifi-cantly in detecting earnings management. This is presumed that at the mature stage, the company experienced the peak of success, so modification on accrual will cause tax effect of deferred tax expense which is then used in detecting earnings manage-ment. So actually, in detecting earnings manage-ment can directly use accruals.

Results of this study are inconsistent with Phil-ips research, Pincus and Rego (2003) showed that variable deferred tax expense affects on earnings management in reporting earnings decline and in reporting loss. According Yuliati (2004), concluded that the deferred tax expense has significant effect on company in conducting earnings management. According to Anisa and Theresia (2005), deferred tax expense is incrementally less useful or as useful as accruals in detecting earnings management to avoid reporting earnings decline.

Deferred Tax Expense and Earnings Management - Losses

Based on SPSS output, deferred tax expense at the

time of reporting losses at the stage of growth does not affect significantly in detecting earnings man-agement. This is presumed because the accrual is more related to company growth than to deferred tax expense, so it will provide motivation to per-form income-increasing earnings management in detecting earnings management to avoid reporting losses. While at the stage of mature, accruals do not affect significantly in detecting earnings manage-ment This is presumed because at the stage of ma-ture, the deferred tax expense cannot be a tool for detecting earnings management.

Results of this study are not inconsistent with Philips' research, Pincus and Rego (2003) showed that variable deferred tax expense affects on earn-ings management in reporting earnings decline and in reporting loss. Yuliati (2004) concluded that the deferred tax expense has a significant effect on company in conducting earnings management. According to Anisa and Theresia (2005), deferred tax expense is incrementally less useful or as useful as accruals in detecting earnings management to avoid reporting earnings decline.

Accruals and Earnings Management – Earnings Decline

Based on SPSS output, according to the model Healy, accruals (total accruals) at the time of report-ing earnings decline at the stage of growth does not affect significantly in detecting earnings manage-ment. This is presumed because the accruals with method of Healy (total accruals) are not able to become benchmarks in detecting earnings man-agement to avoid reporting earnings decline so that other accrual method can be used. While at the stage of mature, accruals do not affect significantly in detecting earnings management. It is also pre-sumed because the accruals with method of Healy at the mature stage are not suitable for detecting earnings, so it requires accruals with other meth-ods. The results of this study are consistent with Anisa and Theresia (2005), the deferred tax expense is incrementally less useful or as useful as accrual in detecting earnings management to avoid report-ing earnings decline.

Accruals and Earnings Management – Losses
Based on SPSS output, according to Healy, accruals (total accruals) at the time of reporting loss at the stage of growth affect significantly in detecting earnings management. This is presumed because most companies choose to conduct earnings man-agement through modification on accruals and not on operating cash flow. While at the stage of ma-

ture, accruals do not affect significantly in detecting earnings management. This is presumed because at the stage of mature, the accruals with method of Healy (total accruals) are not able to become the benchmark anymore in detecting earnings man-agement because the companies have already been at the peak of their maturity, so other accrual mod-els can be used, especially in this stage of mature.

Results of this study are consistent with the study of Wilson (1986) in Sari Atmini (2001) showed that the total accrual and cash component of earnings have incremental information content beyond earnings itself and that the total accrual component of earnings have incremental informa-tion content. According to Anisa and Theresia (2005), deferred tax expense is incrementally less useful or as useful as accruals in detecting earnings management to avoid reporting earnings decline.

5. CONCLUSION, IMPLICATION, SUGGES-TION, AND LIMITATIONS

Based on the analysis using SPSS program, it can be concluded that deferred tax expense does not affect detecting earnings management to avoid reporting earnings decline and to avoid reporting losses on both growth and mature stages. This is presumed because modification on the accrual will result in tax effects of deferred tax expense which is then used to detect earnings management that is actually to detect earnings management can directly use accruals.

Accruals (total accruals), with Healy method, do not affect in detecting earnings management to avoid reporting earnings decline in both growth stages and mature stage. This is presumed because accruals with method of Healy (total accruals) are not able to become benchmarks in detecting earnings management to avoid reporting earnings decline so that other accrual method can be used. While accru-als (total accruals), with Healy method, affect in de-tecting earnings management to avoid reporting losses at the stage of growth, so it can be used to detect earnings management at the stage of growth. For accruals at the stage of mature do not affect in detecting earnings management to avoid reporting losses. This is presumed because at the stage of ma-ture, the accruals with method of Healy (total accru-als) are not able to detect earnings management be-cause the companies have already been at the top of maturity so that other models of accruals can be used, especially at this stage of mature.

Several limitations of this study are (1) this study does not test the modified Jones models and forward looking models as one of accruals meas-

ure. (2) The samples used are limited to the manu-facturing company established in 1980 and over that are listed at the Jakarta Stock Exchange (JSX) in the study period between 2000-2007, so the results of this study cannot be generalized to other compa-nies outside the group of manufacturing companies in Indonesia and have a very short period, so that no company found at the stage of start-up and only found one company that is at the stage of decline.

Suggestions for future research are: (1) Future research is expected to be able to improve the model, so that the results can explain the phe-nomenon of earnings management in relation to deferred tax expense and accruals. (2) Future re-search should be done to test further by taking a broader sample, i.e. sample with broader company year coverage and increase coverage of the object of study not only in the manufacturing industry alone, so that broader data can be collected to be used as research sample, in order to obtain samples of the company is at the stage start-*up* and find more than one company at the stage of decline. (3) Similar study can be done by analyzing the other accounting variables, particularly for start-*up* and decline stage where data with existing variables in this study are difficult to find.

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