

Strategic Disclosure of Multiple Benchmarks in Earnings Announcements: An Experimental Study of Investors' Behavior in Evaluating of Company Performance

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Abstract: This study has two research objective: (1) to provide empirical support regarding the effectiveness of strategic disclosure of multiple benchmarks in earnings announcements and (2) to explains the cognitive mechanism in processing the information that the consequences can affect the judgments of investors in evaluating company performance. This issue is important because during this study of the behavioral investors often focus on the consideration in the framework of investment decision-making mechanism based on a systematic and accurate. Much prior research has described strategic disclosure of prior-period benchmark in earnings announcement that focus on the transitory gain or loss, which, in turn, influences investor' judgments (Schrand dan Walther 2000; Krische 2005). Using multiple reference-point theory from psychology, this paper extend such research by investigating how investors behave differently to remainder effect and sufficient information available about external factors in earnings announcement. In addition, this study also investigates whether investors revisi their evaluation when they allowed to re-examine the prior-period announcement. The experimental results suggest that strategic disclosure of multiple benchmarks influences investor' judgments in evaluating of company performance.

Keywords: Strategic disclosures, multiple benchmarks, multiple reference-point theory, remainder effect, transitory gain or loss, judgments investor.

1. Introduction

This study is the development of previous research that has performed by Schrand and Walther (2000), and Krische (2005) concerning the strategic disclosure of benchmark tests which later developed Libby et al. (2006) and Han and Tan (2007) by examining the strategic of multiple benchmarks. The purpose of this study was to provide empirical support regarding the effectiveness of strategic disclosure of multiple benchmarks in earnings announcements and to explain cognitive mechanism in processing the information that the consequences can affect the judgments of investors in evaluating company performance.

The bias phenomenon in performance evaluation process caused remainder effect and the availability of sufficient relevant information can affect mechanism cognitive and may result in more/less favorable investors in evaluating company performance (Krische, 2005). So far the study of behavioral investors often focus on the consideration in the framework of investment decision-making mechanism based on a systematic and accurate. However, because of bounded rationality, the condition for which individuals have limited information, time, memory capacity and so forth, in general considerations in the decision making process is based on heuristic, it is a simplification of strategic decision-making process (Bazerman, 1994). Strategic heuristic tends to cause bias, among others, because the order effect (Hartono, 2004; Nasution and Supriyadi, 2007), and it can lead to bias representativeness and anchoring-adjustment (Tversky and Kahneman, 1974; Habbe, 2006).

Issue of strategic disclosure of multiple benchmarks in earnings announcements is very important because there are very few who do it and still needed more explanation why investors behave in a more/less favorable in evaluating company performance. By offering strategic disclosure of multiple benchmarks in earnings announcements based on the theory

of a multiple reference points, this study attempted to explain why investors evaluate the company's performance differently to the information they receive. Furthermore, this study describes phenomenon of bias because the remainder effect and the availability of sufficient information (representative), and believed that more fairly representative of the availability of information revealed in the current announcement so investors will be the better and accurate consideration to support the performance evaluation process. This study was designed using an experimental approach. Thus, the expected contribution of this study is to strengthen the empirical support regarding the effectiveness of strategic disclosure of multiple benchmarks in earnings announcement. An other contribution explains the cognitive mechanism with bias because the remainder effects and the availability of sufficient relevant information that led to more/less favorable investors in evaluating the company performance.

In particular, the research is believed that investors would evaluate the company's performance better when using strategic disclosure of multiple benchmarks than using the strategic disclosure of single benchmark. This is based on a strategic reference point theory (Fiegenbaum et al., 1996) from the psychology literature. They argue that a firm's choice of reference points can help achieve strategic alignment capable of yielding improved performance and potentially even a sustainable competitive advantage. Strategic reference point consists of three dimensions: internal capability, external conditions, and time. In this study, theory of reference point is used to explain that in complex environments, decision makers tend to consider the three important dimensions that affect judgments of decision makers: the internal factors (input-output), external factors (government, competitors, regulators, customers) and the dimension of time (past, present and future). Differences in performance evaluation is also based on prospect theory that decision makers consider and

evaluate information differently between profit and loss (Kahneman & Tversky, 1979). Schrand and Walther (2000) explained that the investor is more often remind prior-period gain than the loss condition, as a result investors may evaluate current performance against a lower reference point, an increase in relative earnings growth, and can improve the perception of corporate performance.

Schrand and Walther (2000) and Krische (2005) examine the strategic prior-period benchmark disclosures in earnings announcement. By providing empirical support Schrand and Walther (2000) states that the managers strategically disclose prior-period benchmark in current earnings announcements, which, in turn, influences investors' judgments. Empirical support is also provided Krische (2005) with the results of experiments which showed that the quantitative descriptive of a transitory prior-period gain or loss is included in the current-period announcement, can help investors evaluate the performance of the company. Furthermore, Han and Tan (2007) examine the strategic multiple benchmarks in relation to investor reaction to management guidance forms. This study is the development of previous research, by Libby et al. (2006) that tested only benchmark focus on the number associated with the importance of guidance form. Then the question arises as to whether the strategic disclosure of multiple benchmarks effectively assist investors in evaluating the performance of the company? and how cognitive bias because remainder effects and the availability of adequate relevant information can affect judgments of investors in evaluating company performance. This question has become quite an interesting issue to be investigated because it still requires a more detailed explanation and empirical support wider.

In the experiment, Magister of Science (M.Si.) and doctoral student as investors are requested to interpret a company's earnings announcement and forecast the next period's

earnings. Five elements of the experimental design (Krische 2005), investors first receive a prior-period announcement that fully discloses the results of a property disposal, manipulated between subjects to be either a gain or a loss. After a distracter task, investors receive the current-period announcement by varying components of the prior-period information that are earnings, earnings plus description, adjusted earnings plus description, and adjusted earnings plus description plus industries average. Further, manipulated within subjects, to examine whether investors change their estimates once they are allowed to re-examine the prior-period announcement. The experiment concluded with a post-task questionnaire. Consistent with Han and Tan (2007), results indicate that investors evaluate the company's performance better when using strategic disclosure of multiple benchmarks than using the strategic disclosure of single benchmark.

This paper is organized into several parts. Part 2 develops the hypotheses. Part 3 and 4 describe the experimental method and results, respectively. Part 5 provides a discussion of the results, and limitations of this research.

2. Background and Hypotheses

2.1. Explanation of Differences Investor Reaction

The findings of Schrand and Walther (2000) is managers strategically select the prior-period earnings in quarterly earnings announcements and more likely to separately announce a prior-period gain from the sale of property, plant, and equipment than a loss. This results consistent with Krische (2005) that prior-period of strategic benchmarks disclosure effective to help investors in valuating company performance. In psychology research, it is believed that the difference of personality and style will influence human cognitive information processing (Gul, 1984). Therefore, although the earnings announcement revealed a variety of

information that support decision-making but due to differences in personality and cognitive styles of individuals, it can also potentially as biased processing that will affect the judgments of investors in evaluating company performance.

In the phenomenon of bias because the remainder effect and the availability of sufficient information (representative) in psychology will affect the mechanism cognitive of judgments which may result in more/less favorable investors in evaluating company performance. Bias because the remainder effect can occur when information about the prior-period event is expressed in the current announcement, so it will be more reminiscent of investors to this event. The assumption underlying this bias procesing is the existence of bounded rasonality (Bazerman, 1994), a condition in which individuals have limited information, time, memory capacity and so forth, so that the prior-period events would naturally be forgotten by investors, except if the information is revealed in the current announcement. While the availability of adequate information, it is believed that the investor would have considered a better and accurate result in the quality of judgments in the process of performance evaluation.

Prospect theory' Kahneman & Tversky (1979) explain that framing can affect individuals, because individuals recognize the losses and gains differently. Important factor underlying the framing effect is a more devastating loss assessed than the assessed income is more satisfying (gratifying). This means that individuals tend to deny risks when expressed in a positive frame, but will take risks in the expression of negative frames. Schrand and Walther (2000) results indicate that companies whose transitory prior-period gain on the disposal of property, plant, and equipment, remind investors of this event more often than companies whose transitory prior-period loss. Thus, if the phenomenon is associated with

bias because remainder effect, investors will process the information about the prior-period event revealed in current announcements is different between gain and loss (Krische, 2005), and is believed that information about transitory prior-period gain will tend to encourage investors to behave more favorable, while the information about transitory prior-period loss tend to behave less favorable in evaluating performance. The formulation of the hypothesis can be stated as follows:

H1a: Investors will evaluate the company's performance better when information about the transitory prior-period gain is disclosed in the current-period announcement.

H1b: Investors will evaluate the company's performance less good when information about the transitory prior-period loss is disclosed in the current-period announcement.

2.2. Cognitive mechanism associated with the Judgement Investors

- Availability

Prior-period earnings are generally disclosed in the current earnings announcement, but the provision of additional information about the prior-period gain or loss is left to the policy of management. Without mentioning the prior-period event in the current announcement, investors need to reopen the transitory prior-period gain or loss from the old memory to calculate the adjust earnings (Moeckel, 1990). Needs integration occurs only if the information about transitory prior-period gain or loss simultaneously available in working memory that can support the judgments of investors.

In clear, descriptive quantitative of information about prior-period gain or loss in earnings announcement today will ensure that investors have available enough information to calculate the adjusted earnings (Krische, 2005). This supports that investors will adjust more frequently when the transitory prior-period gain revealed a clear quantitative description in the current announcement than in the condition of loss of transitory prior-period, thus reducing the need to reopen the long-term memory (Schrand and Walther, 2000).

H2a: Investors will evaluate the company's performance is better when a clear, quantitative description of the transitory prior-period gain is included in the current-period announcement.

H2b: Investors will evaluate the company's performance is less good when a clear, quantitative description of the transitory prior-period loss is included in the current-period announcement.

- Integration

Although the availability of the prior-period gain or loss in working memory may be a necessary condition, it may not enough to influence investors' judgments. Decision makers who lack the knowledge to integrate information that was revealed, will use the information only as something that is explicitly presented (Dietrich et al., 2001). This is because the existence of bounded rasonality, namely the condition of individuals who have limited information, time, memory capacity etc. (Bazerman, 1994).

In the process of decision making, with a clear, quantitative descriptive of information transitory prior-period event which is expressed explicitly, it is not enough to help investors as a reference point. However, things are more helpful for investors to use adjusted earnings as a reference point when that number is provided explicitly than when investor need to calculate it by combining the description with the prior-period unadjusted earnings (Schrand and Walther, 2000; Krische, 2005). Therefore, the hypothesis was formulated as follows:

H3a: Investors will evaluate the company's performance is better when transitory prior-period gain and adjusted earnings are explicitly stated as a benchmark of performance in the current-period announcement, even when a clear, quantitative description of the gain is stated.

H3b: Investors will evaluate the company's performance is less good when the transitory prior-period loss and adjusted earnings are explicitly stated as a benchmark of performance in the current-period announcement, even when a clear, quantitative description of the loss is stated.

2.3. Strategic Multiple Benchmarks and Corporate Performance

Companies generally disclose the information about prior-period earnings in the current announcement as a benchmark to help investors to evaluating company performance. Schrand and Walther (2000) and Krische (2005) interpreted that disclosure of transitory prior-period gain or loss has two objectives are to maximize the increase (to minimize the decline) and smoothing. Libby et al. (2006), and Han and Tan (2007) expanded the testing the strategy disclosure of multiple-benchmarks associated with the management guidance form. Consistent with research findings in psychology that states that the benchmarks have been referred to as the comparison level (Thibaut and Kelley, 1959), the reference point (Kahneman and Tversky, 1979) and references and norms depend on the choice (Kahneman and Miller, 1986). Overall evaluation of the stimulus not only depends on the characteristic stimulus itself, but also on the reference or standard to support the evaluation process (Boles and Messick, 1995).

Strategic-reference-points theory is a theory of psychology which is widely developed to predict the effect of guidance form with the announcement of actual earnings (Libby, et al. 2006; and Han and Tan, 2007). Fiegenbaum et al. (1996) developed a theory of Strategic Reference Point (SRP) in three important dimensions that affect judgments of decision makers: the internal dimension (input-output), external (government, competitors, regulators, customers) and the dimension of time (past, present and future). Support for the SRP theory is also given by Javalgi et al. (2006) by integrating the process and model of SRP in the context of international marketing decisions. While Bamberger and Fiegenbaum (1996) provide support for the SRP by explaining the consequences for human resource strategy.

The research is to test the effectiveness of strategic disclosure of multiple benchmarks (Libby, et al. 2006; and Han and Tan, 2007) on the basis of multiple reference-point theory

(Fiegenbaum et al. 1996) which considers both internal factors (prior-period and current earnings) as well as external factors (industry average). It is believed that more fairly representative of the availability of information revealed in the current announcement (Schrand and Walther, 2000; Krische, 2005) so investors will be the better and accurate consideration to support the performance evaluation process. Gul (1984) in psychology and accounting research explains that the differences in personality and style will influence human cognitive information processing, which affects the differences in company performance evaluation. This study emphasizes more on processing bias because the remainder effect and the availability of sufficient information as multiple benchmarks to be extended not only transitory prior-period gain or loss the disclosure in the announcement today, but also external conditions such as average industry-laden good news and bad news.

Following the formulation of hypotheses:

H4a: Investors will evaluate the company's performance is better when the information of transitory prior-period gain, current-period earnings and positive information about industries average explicitly stated as performance of multiple benchmarks in the current-period announcement, even when a clear, quantitative description of the gain is stated.

H4b: Investors will evaluate the company's performance is less good when the information of transitory prior-period loss, current-period earnings, and negative information about industries average explicitly stated as performance of multiple benchmark in the current-period announcement, even when a clear, quantitative description of the loss is stated.

2.4. Inference and Corrections

Hogart and Einhorn (1992) explain the belief-adjustment theory by using the approach of anchoring and adjustment. This theory explains the phenomena order effects that arise from the interaction between the strategic information processing and the characteristics of tasks.

Bazerman (1994) suggested that the belief-adjustment model is one form of heuristic bias.

The model is based on the assumption that individuals process information sequentially and has limited memory. Individuals will tend to change the initial belief (initials anchoring) and make adjustments of its decision based on information available in the market sequentially.

In the remainder effect phenomena, belief-adjustment model based on the assumption that because bounded rasonality, individuals are naturally will forget the past period information, unless the information is revealed in the announcement period now. Thus, it is believed that the investor will change his beliefs when he received the information of announcement of earnings for different passage between the current earnings announcement with the current earnings announcement plus a duplicate copy of the prior-period announcement (Krische, 2005). On the other hand, Tan et al. (2002) and Libby et al. (2002) suggest that if investors are initially unaware of the influence that the selective repetition of prior-period information has on their evaluations, they can self-correct their forecasts after re-examining the prior-period announcement. There are four levels in the current announcement includes information on earnings, earnings plus descriptive, adjusted earnings plus descriptive, and adjusted earnings plus descriptive plus industry average. The formulation of this hypothesis is stated as follows:

H5: After re-examining the prior-period earnings announcement, investors will revise their evaluations to reduce the influence of initial differences in information about the transitory prior-period gain or loss that is repeated in the current-period announcement.

3. Research Methods

Design experiments in this study includes five phases that developed from Krische (2005): First, by using the same company and financial data, the investor receives the prior-period announcement but the last period of the information varies between gain and loss. Investors

are asked to identify the amount of gain or loss in order to verify that they previously had known the information necessary to adjust the incident when asked to make forecasts. Second, descriptive explaining business enterprise for the purpose of explaining the events that occurred naturally before the run private investors to receive the next announcement relating to both of benchmark and multiple benchmarks strategic.

Third, it presents the current-period earnings announcement of the various components to reveal information that is earnings, earnings plus descriptions, adjusted earnings plus description, and adjusted earnings plus description plus the industry average. This is to test whether strategic disclosure of multiple benchmarks would be better than the strategic disclosure of single benchmark in supporting decision process evaluation. And the fourth, uses within-subject with the intention to test whether investors change the estimate when the test is conducted back to the announcement of the passage differ between current-period earnings and earnings plus prior-period announcement of the gain or loss. The experiment concluded with a post-task questionnaire that designed to help assess whether differences in investors' revised forecast because of differences perceptions about the prior-period event or differences in understanding of accounting information.

3.1. Dependent Variables

In this experiment, dependent variables is investors' evaluation to the company performance that measured by using investors' forecasts. Investors interpret a company's current earnings announcements and forecast the next year's earnings. Using forecasts of future earnings as a measure of investors evaluations of companies' performance, because the future earnings and future earnings growth are important components of the determination value (Feltham and Ohlson 1995, and Ohlson 1995).

3.2. Independent Variables

Independent variables in this study are treatment factors. These experiments uses a 2x4x2 mixed design (figure 1 and 2): the disclosure of prior-period earnings (two conditions: gain-loss), current announcement (four conditions) and the repeated announcement about current announcement and duplicate copy of prior and current announcement. Investor first receive a prior-period announcement that fully disclosure of a property disposal, manipulated between subjects to be either gain or loss. After explaining the description of the business enterprise, the investor receives the current earnings announcement, manipulation between subject to repeat the prior-period information at four levels: earnings, earnings plus description, adjusted earnings plus description, or adjusted earnings plus description plus industrial average.

Furthermore, using the within subjects that are intended to manipulate whether investors have access to the prior-period announcement when forecasting. Investors are prevented from repeating the announcement last period. However, after reporting earnings forecast initials, investors are provided with a duplicate copy of the prior and current announcement, and are then asked to predict earnings once again for the next year.

Figure 1
Prior-Period Announcement

G&G Snack Foods	
Prior-Year Results	
Sales	19X1 \$ 21. 097.000

G	Earnings before unusual items	\$206.000
a	Gain on disposal of property	<u>318.000</u>
i	Net earnings	<u>\$524.000</u>
n		
L	Earnings before unusual items	\$524.000
o	Loss on disposal of property	<u>318.000</u>
s	Net earnings	<u>\$206.000</u>
s		

Weighted average number of shares: 4.013.000
Per share amounts:

G	Earnings before unusual items	\$0.05
a	Gain on disposal of property	<u>\$0.08</u>
i	Net earnings	<u>\$0.13</u>
n		
L	Earnings before unusual items	\$0.13
o	Loss on disposal of property	<u>\$0.08</u>
s	Net earnings	<u>\$0.05</u>
s		

According to **Gerald B. Schreiber**, *G & G's* Chief Executive officer, “We are developing and implementing new marketing approaches which we believe will ultimately increase our supermarket sales of soft pretzels and result in a contribution to profits.”

Source: (Krische, 2005)

3.3. Subjects

Investors as subjects in this experiment were students of Magister Science (M.Si) and doctoral of Gadjah Mada University which is has taken or in going the course the financial management and capital markets. The reasons for selecting students as participants is to control directly the influence of extraneous variables, such as experience evaluating the performance of companies in capital markets, which can affect the decisions of participants.

Figure 2
Current-Year Announcement

Level of Prior-Period	Prior-Perior Event
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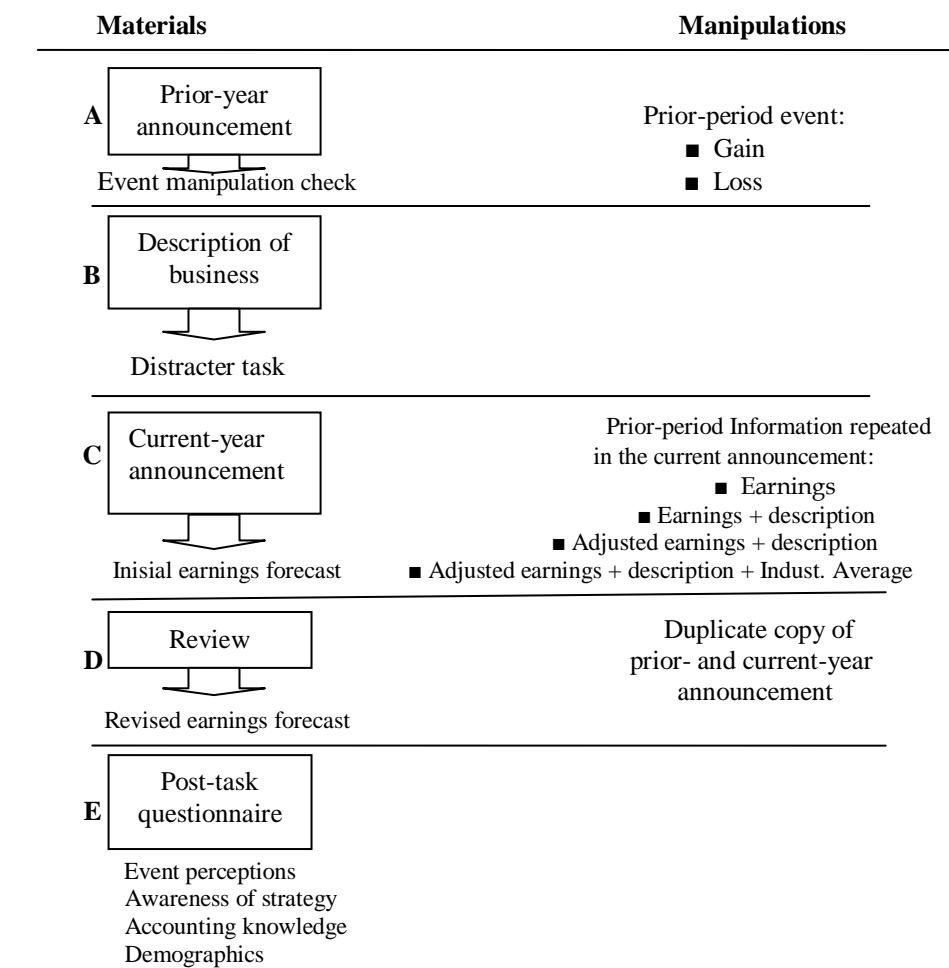
Information	Gain	Loss
	Earnings	Net earnings for the current year decreased to \$491,000 from net earnings of \$524,000 in the prior year. Net earnings per share decreased to \$0.12 compared to net earnings per share of \$ 0.13 in the prior year. The weighted average number of shares outstanding was 4.013.000 in both years.
Earnings+ deskription	Net earnings for the current year decreased to \$491,000 from net earnings of \$524,000 in the prior year. Net earnings per share decreased to \$0.12 compared to net earnings per share of \$ 0.13 in the prior year. The weighted average number of shares outstanding was 4.013.000 in both years. The prior year's net earnings include a \$318.000 after-tax gain on the sale of property, or \$0.08 per share.	Net earnings for the current year increased to \$491,000 from net earnings of \$206,000 in the prior year. Net earnings per share increased to \$0.12 compared to net earnings per share of \$0.05 in the prior year. The weighted average number of shares outstanding was 4.013.000 in both years. The prior year's net earnings include a \$318.000 after-tax loss on the sale of property, or \$0.08 per share.
Adjusted earnings+ deskription	Net earnings for the current year increased to \$491,000 from adjusted earnings of \$206,000 in the prior year. Net earnings per share increased to \$0.12 compared to adjusted earnings per share of \$0.05 in the prior year. The weighted average number of shares outstanding was 4.013.000 in both years. The prior year's adjusted earnings include a \$318.000 after-tax gain on the sale of property, or \$0.08 per share.	Net earnings for the current year decreased to \$491,000 from adjusted earnings of \$524,000 in the prior year. Net earnings per share decreased to \$0.12 compared to adjusted earnings per share of \$0.13 in the prior year. The weighted average number of shares outstanding was 4.013.000 in both years. The prior year's adjusted earnings include a \$318.000 after-tax loss on the sale of property, or \$0.08 per share.
Adjusted earnings+ deskription+ Industry Average	Net earnings for the current year increased to \$491,000 from adjusted earnings of \$206,000 in the prior year. Net earnings per share increased to \$0.12 compared to adjusted earnings per share of \$0.05 in the prior year. The weighted average number of shares outstanding was 4.013.000 in both years. The prior year's adjusted earnings include a \$318.000 after-tax gain on the sale of property, or \$0.08 per share. Additional information that net earnings in current year is higher than industry average.	Net earnings for the current year decreased to \$491,000 from adjusted earnings of \$524,000 in the prior year. Net earnings per share decreased to \$0.12 compared to adjusted earnings per share of \$0.13 in the prior year. The weighted average number of shares outstanding was 4.013.000 in both years. The prior year's adjusted earnings include a \$318.000 after-tax loss on the sale of property, or \$0.08 per share. Additional information that net earnings in current year is lower than industry average.

3.4. Experimental Procedure

Each investor was provided a packet containing the written instructions and materials developed from case studies Krische (2005). All investors have access to calculators. There are five phases in the experiment described (figure 3) which includes: stage manipulation check, business description explanation stage, the initial stage of forecasting, forecasting the revision stage, and ending with post-task questionnaire designed to help assess whether differences in investor's improve of forecast because of (1) differences in investor perceptions about the prior-period events, or (2) differences in investors' understanding of

accounting information and their ability to calculate the adjusted earnings. The questionnaire also related to demographic information.

Figure 3
Order of Experimental Materials and Manipulations



3.5. Technical Data Analysis and Testing Hypotheses

Technical analysis of the data used in this experiment is the analysis of variance (ANOVA) to test the overall gain or loss events and to explain of investors' forecasts (the initial and revised) associated with prior-period and current announcement. Before testing the hypothesis, first performed reability testing with Cronbach alpha, while testing the validity of

the instrument using factor analysis methods, especially related to post-test questions about the perception of events, strategic awareness and knowledge of accounting.

4. Results

4.1. Characteristic Data and Demografi Subjects

Participants numbered 46 students from M.Si and doctoral programs of Gadjah Mada University. Participants are consisting of 10 men and 36 women. Subjects had an average age of 28 years, and the average as a student and as a lecturer who average more than five years experience. Of the 46 participants, three could not be analyzed because it has a magnitude of forecasting earnings is very extreme. Participants were randomly grouped into eight groups as follows:

Tabel 1
Descriptive Statistics of Participant Category

Group	Earnings	Earnings+ Description	Adjusted Earnings+ Description	Adjusted Earnings + Description + Industries Average	Total
Gain	5	5	5	7	22
Loss	3	5	7	6	21
Total	8	10	12	13	43

4.2. Manipulation Tests

Tests performed on the first phase of manipulation is to identify events and magnitude of any gain or loss for the purpose of verifying that the participants had previously been familiar with the information required in adjusting transitory gain or loss when asked to make forecasts. This phenomenon is different from choosing a subject of study results Krische (2005), note that most participants do not understand the information needed to predict earnings, this proved to be almost 40% of participants made a mistake in interpreting and identifying transitory gain or loss on the settlement of property. Selecting student of the M.Si

and doctoral programs as participants, not to represent that they have the knowledge to predict earnings, so it requires special training before the test phase manipulation.

4.3. Preliminary Analysis

Before investigating the specific hypothesis, this study applying the model with a 2x4x2 mixed design analysis of variance (ANOVA) to test the overall effects of the prior-period events (gain or loss) and concluded the prior-period information in the current-period announcement (earnings, earnings plus description, adjusted earnings plus description, or adjusted earnings plus description plus industry average) on the forecasting of investors (the initial and revised). ANOVA analysis of obtained results: Initial-Between Groups ($F = 3.206$, $Sig. = 0.010$) and the Revised-Between-Group ($F = 2.803$, $Sig. = 0.020$). The sample of this study was relatively small samples so as to analyze non-parametric test was used to rank the initial and revised forecasts of investors (Kachelmeier and Messier, 1990). In addition, equality of variance test or known homogeneity of variance, as one of the ANOVA assumptions, that the dependent variable must have the same variance in each of the independent variables. Test of homogeneity of variance by using levene's test of equality of error variance showed that there was no difference between the experimental group (initial: $F = 1.240$, $p > 0.05$, $p = 0.308$; Revision: $F = 2.082$, $p > 0.05$; $p = 0.072$).

Table 2 presents mean, median, and mean ranked of investor's earnings forecast for the 2x4x2 mixed design. Descriptive statistics dependent and independent variables are described in table 2 below:

Tabel 2
Investor' Earnings Forecast
Panel A: Investor' Mean Earnings Forecast (Standard Deviation)

Transitory prior-period	Forecast	Earnings	Earnings+ Description	Adjusted Earnings +Description	Adjusted Earnings +Description +
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					Industry Average
Gain	Initial	570.800 (124.7)	494.600 (86.2)	614.006 (234.4)	698.714 (163.3)
	Revised	614.600 (107.9)	494.600 (86.2)	668.646 (269.6)	743.657 (163.1)
Loss	Initial	678.580 (109.7)	525.638 (54.6)	404.571 (103.6)	543.666 (84.7)
	Revised	645.846 (164.0)	577.638 (118.3)	448.846 (110.5)	517.166 (98.4)

Panel B: Investor' Median Earnings Forecast (Interquartile Range)

Transitory prior-period	Forecast	Earnings	Earnings+ Description	Adjusted Earnings +Description	Adjusted Earnings +Description + Industries Average
Gain	Initial	530000 (199000)	460000 (148500)	631230 (369400)	664000 (288000)
	Revised	550000 (190500)	460000 (148500)	631230 (505000)	776000 (295000)
Loss	Initial	700000 (-)	491000 (86597)	458000 (142000)	513000 (112000)
	Revised	700000 (-)	539194 (192500)	491000 (36928)	4965000 (121000)

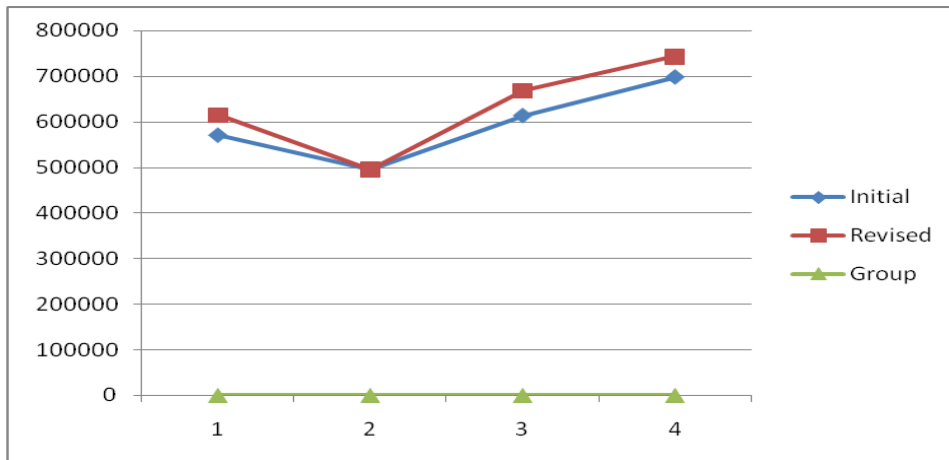
Panel C: Investor' Mean Ranked Earnings Forecast

Transitory prior-period	Forecast	Earnings	Earnings+ Description	Adjusted Earnings +Description	Adjusted Earnings +Description + Industries Average
Gain	Initial	23.10	15.70	27.40	32.27
	Revised	27.60	13.40	28.10	33.71
Loss	Initial	33.67	20.60	7.64	22.17
	Revised	26.67	22.40	11.64	15.17

Investors' mean and mean ranked earnings forecasts for the prior-period gain and loss conditions are presented graphically in figures 4 and 5 the following:

Figure4

Panel A: Investors' Mean Initial and Revised Earnings Forecasts for Prior-Period Gain Conditions



Panel B: Investors' Mean Initial and Revised Earnings Forecasts for Prior-Period Loss Conditions

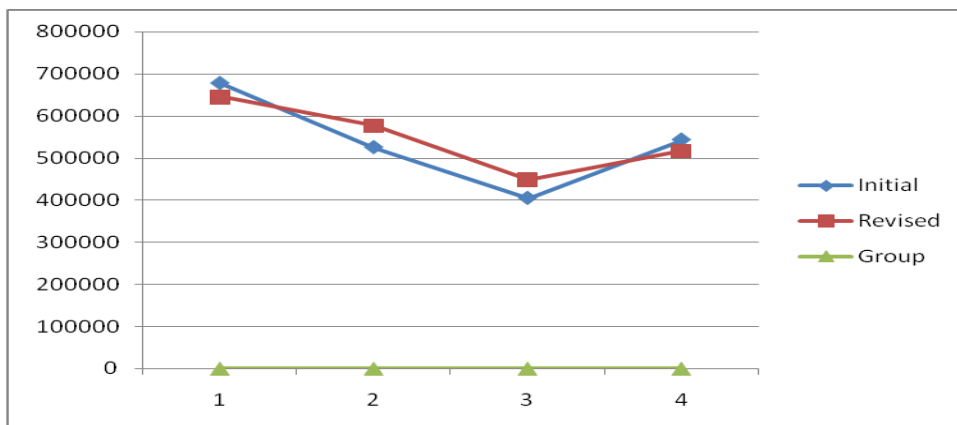
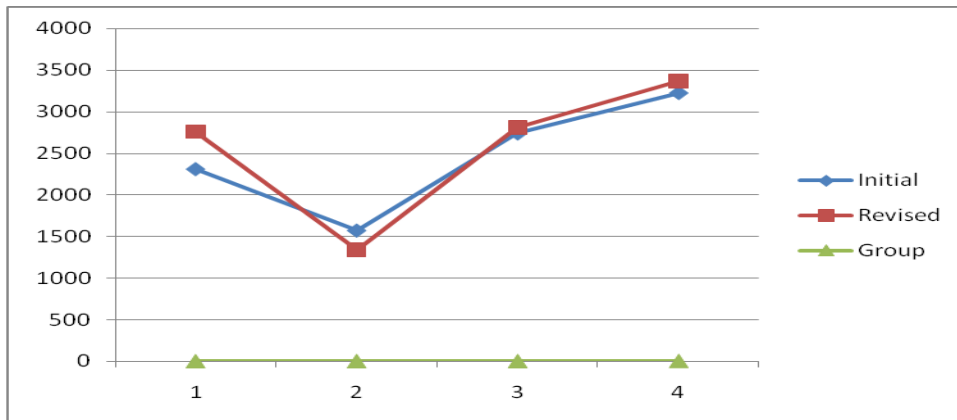
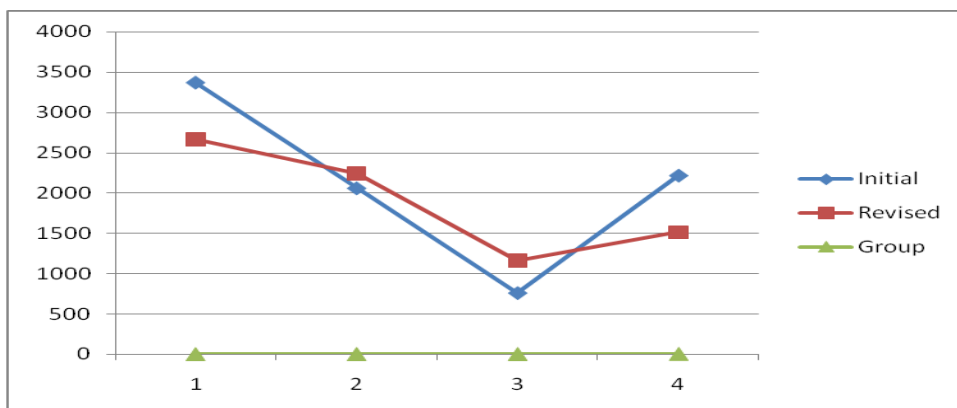


Figure 5
Panel A: Investors' Mean Initial and Revised Ranked Earnings Forecasts for Prior-Period Gain Conditions



Panel B: Investors' Mean Initial and Revised Ranked Earnings Forecasts for Prior-Period Loss Conditions



4.4. Hypothesis Testing

- Remainder Effect on Prior-Period Gain and Losses (H1)

Consistent with H1a, that investors' mean ranked earnings forecasts across the adjusted earnings plus description, and adjusted earnings plus description plus industry average conditions when a remainder of the prior-period gain is present is higher than in the earnings condition when no remainder is present. However, in the earnings plus description condition, it does not consistent that investors may be have not knowledge to calculate of adjusted earnings and to predict earnings. Consistent with H1b, investors' mean ranked earnings

forecast across of the conditions of earnings plus description, adjusted earnings plus description, and adjusted earnings plus description plus industry average, lower when there is the transitory prior-period loss than in conditions when there is no the transitory prior-period loss.

- Availability of Information (H2)

Not consistent with H2a, that investors' mean ranked earnings forecasts in the earnings plus description condition is higher than in the condition of earnings. Consistent with H2b, the ranking of earnings forecast of investors with the transitory prior-period loss is lower in the condition of earnings plus description than in the condition of earnings. Inconsistency in results might be due to investors' lack of understanding to interpret the transitory prior-period gain or loss and then calculate the adjusted earnings. This is supported by nearly 40% of participants were unable to identify transitory prior-period gain or loss.

- Integration (H3)

Consistent with H3a and H3b that investors evaluate companies more favorable when a clear, quantitative description of the comparative prior-period earnings number stated in current announcement is adjusted for prior-period gain (H3a). While investors evaluate companies less favorable when a clear, quantitative description of the comparative prior-period earnings number stated in current announcement is adjusted for prior-period loss (H3b).

- Strategic of Multiple Benchmarks (H4)

Consistent with H4a that investors evaluate the company's performance is better when a clear, quantitative description of the information of adjusted earnings plus description plus industries average in gain condition, explicitly stated as performance of multiple benchmarks in the current-period announcement than in the condition of a clear quantitative description of

the adjusted earnings plus description as the single benchmark. Conversely H4b, not support that investors evaluate the company's performance is less good when a clear, quantitative descriptive information of adjusted earnings plus description plus industries average in loss condition, explicitly expressed as a multiple benchmarks, than in a single benchmarks.

- Inference and Correction (H5)

The final hypothesis (H5) test whether investors revise their forecast after re-examining both the prior and current announcements. The study found that investors average revise their forecasts. In particular, investors are increasing their forecast revisions when in both conditions of no description of the prior-period gain that disclosed in the current announcement, and in the prior-period adjusted earnings in a gain or loss condition, as well as when the information is revealed by adjusted earnings plus description plus positive information about the industry average. Conversely, investors reduce their earnings forecast when there is no description of the prior-period loss in current announcement and in the condition of adjusted earnings plus description plus negative information about the industry average. However, investors did not change their predictions in the condition of earnings plus description in current announcement. This study also found that investors revise their earnings forecast the higher for transitory prior-period loss in both the condition of earnings plus description and in the condition of adjusted earnings plus description.

- Additional Analysis

Revised forecasts of investors in this study, is due to the support of the availability of relevant information about the transitory prior-period gain information and positive information on the industry average. This is shown by the average investor forecasting of earnings is a higher than in the other conditions. In addition, through the description of business and post-

task questionnaire, can be explained that the average investor has less understanding to identify the transitory prior-period gain or loss as an important factor in making earnings forecasts, so the use of strategic disclosure of both the single and multiple benchmarks are unaware by the investors. However, as a pilot research, this study provides support that in the process of decision making, investors consider available relevant informations in earnings announcements. They are internal factors such as the transitory prior-period gain or loss and external factors such as industry average. Further, investors better evaluate the performance using strategic disclosure of multiple benchmarks rather than the strategic of a single benchmark, consistent with the findings of Libby et al. (2006) and Han and Tan (2007).

5. Conclusion, Limitations and Discussion

This study aims to provide empirical support regarding the effectiveness of strategic disclosure of multiple benchmarks in earnings announcements and to explains the cognitive mechanism in processing the information that the consequences could affect investors' judgments in evaluating company performance. This study, developed previous research that has been done by Schrand and Walther (2000), Krische (2005) concerning the disclosure of strategic benchmark testing, and later developed by Libby et al. (2006) and Han and Tan (2007) by examining the strategic of multiple benchmarks. The focus of this study is to examine the strategic disclosure of multiple benchmarks based on internal factors (transitory prior-period gain or loss) and external factors (industry average of positive or negative news) in the current announcement. The results support that the strategic disclosure of multiple benchmarks effective for the performance evaluation process.

Another limitation relates to using a small sample of total 43 participants, this study also has several limitations including: not considering other aspects of psychology such as

psychological and cognitive style differences. Because of in testing manipulation is known that existence less understanding of investors about earnings forecasts so worried of bias in the evaluation as a result of a lack of understanding of investors, and not because of differences in psychological and cognitive style of individuals. For the development of the next studies need to consider aspects of psychological and cognitive style and training required before manipulation testing. Moreover, the possibility of grouping is also required of investors in low or high knowledge category that allegedly has the potential to evaluate differences.

Several possibilities for the development of future research is to consider relevant information, both internal, external and time-oriented dimension of past, present and future as management earnings forecasts. Baginski et al. (1993, 2004), Pownall et al. (1989, 1993) and Ajinkya and Gift (1984) explains the importance of management earnings forecasts as having information content for the prediction. And to improve internal and external validity in experimental settings, needs to consider: history, maturity, testing, and selection instrumentasion (Cooper and Schindler, 2006).

References

- Ajinkya, B. B., and M. J. Gift. 1984. Corporate Managers, earnings forecasts and symmetrical adjustment of market expectations. *Journal of Accounting Research* 22 (2): 425-444.
- Baginski, S. P, E. J. Conrad, and J. M. Hassell. 1993. The effects of management forecast precision on equity pricing and on the assessment of earnings uncertainty. *The Accounting Review* 68 (4): 913-927.
- _____, J. M. Hassell, and M. D. Kimbrough. 2004. Why do managers explain their earnings forecasts? *Journal of Accounting Research* 42 (1 March): 1-29.

- Bamberger, P., and A., Fiegenbaum. 1996. The role of strategic reference points in explaining the nature and consequences of human resource strategy. *Academy of Management Review* 21 (4): 926-958.
- Bazerman. 1994. *Judgment in managerial decision making*. Willey & Sons. Inc.
- Boles, T. L., and D. M. Messick. 1995. A reverse outcome bias: The influence of multiple reference points on the evaluation of outcomes and decisions. *Organizational Behavior and Human Decision Processes* 61 (3): 262-275.
- Cooper, D. R., and P. S. Schindler. 2006. *Business Research Methods*. Singapore, McGraw-Hill/Irwin.
- Dietrich, J. R., S. J. Kachelmeier, D. N. Kleinmuntz, and T. J. Linsmeier. 2001. Market efficiency, bounded rationality, and supplemental business reporting disclosures. *Journal of Accounting Research* 39 (2): 243-268.
- Einhorn, H. J. and R. M. Hogarth. 1981. Behavioral decision theory: processes of judgment and choice. *Journal of Accounting Research* 19 (1 Spring): 1-31.
- Feltham, G. A., and J. A. Ohlson. 1995. Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research* 11 (2): 689-731.
- Fiegenbaum, A., S. Hart, and D. Schendel. 1996. Strategic reference point theory. *Strategic Management Journal* 17: 219-235.
- Gul, Ferdinand A. 1984. The joint and moderating role of personality and cognitive style on decision making. *The Accounting Review* 2: 264-277.
- Habbe, Abdul Hamid. 2006. *Pengujian heuristik representativeness dan anchoring-adjustment atas perilaku over/underreaction investor terhadap informasi laba dan konsekuensinya pada prediksi laba dan penilaian saham*. Disertasi. Perpustakaan UGM.
- Han. Jun., and H. Tan. 2007. Investors' Reactions to Management Guidance Forms: The Influence of Multiple Benchmarks. *The Accounting Review* 82 (2): 521-543.
- Hartono, Jogyanto. 2004. *How, why and when investors revise their beliefs to company information and their implications to firms announcement policy*. ANDI Yogyakarta.
- Hogarth, M. R., and H. J. Einhorn. 1992. Order effects in belief updating: the belief-adjustment model. *Cognitive Psychology* 24: 1-55.
- Javalgi, R. G., S. M. Kin, W. J. Lundstrom, and R. F. Wright. 2006. Toward the Development of an Integrative Framework of Subsidiary Success: A Synthesis of the Process and

- Contingency Models with the Strategic Reference Points Theory. *Thunderbird International Business Review* 48 (6): 843-866.
- Kachelmeier, S. J., and W. F. Messier. 1990. An investigation of the influence of a nonstatistical decision aid on auditor sample size decisions. *The Accounting Review* 65 (1): 209-226.
- Kahneman, D. and A. Tversky. 1979. Prospect theory: an analysis of decision under risk. *Econometrica* 47 (2 March): 263-291.
- _____, and D. T. Miller. 1986. Norm theory: Comparing reality to its alternatives. *Psychological Review* 93: 136-153.
- Krische, S. D. 2005. Investor'evaluations of strategic prior-period benchmark disclosure in earnings announcements. *The Accounting review* 80 (1): 243-268.
- Libby, R., and M. G. Lipe. 1992. Incentives, effort, and the cognitive processes involved in accounting-related judgments. *Journal of Accounting Research* 2 (Autumn): 249-273.
- _____, H. T. Tan and J. E. Hunton. 2006. Does the form of managements'earnings guidance affectttt analysts'earnings forecasts? *The Accounting Review* 81 (1): 251-270.
- Moeckel, Cindy. 1990. The effect of bexperience on auditor's memory errors. *Journal of Accounting Research* 28 (2): 368-387.
- Nasution, D., and Supriyadi. 2007. Pengaruh urutan bukti, gaya kognitif dan personalitas terhadap proses revisi keyakinan. *Simposium Nasional Akuntansi X. Juli*.
- Ohlson, J. A. 1995. Earnings, book values, and dividends in security valuation. *Contemporary Accounting Research* 11 (2): 661-687.
- Pownall, G., and G. Waymire. 1989. Voluntary disclosure credibility and securities prices: evidence from management earnings forecasts, 1969-73. *Journal of Accounting Research* 27 (2 Autumn): 227-245.
- _____, C. Wasley, and G. Waymire. 1993. The stock price effects of alternative types of management earnings forecasts. *The Accounting Review* 68 (October): 896-912.
- Schrand, C. M. and B. R. Walther. 2000. Strategic Benchmarks in Earnings Announcements: The Selective Disclosure of Prior-Period Earnings Components. *The Accounting Review* 75 (2): 151-177.
- Tan. H. T, R. Libby, and J. Hunton. 2002. Analysts' Reactions to Earnings Preannouncement Strategies. *Journal of Accounting Research* 40 (1): 223-246.

- Thibaut, J. W., and H. H. Kelly. 1959. *The Sosial Psychology of groups*. New York, NY: Willey.
- Tversky, A. and D. Kahneman. 1974. Judgment under uncertainty: heuristics and biases. *Science*, 185: 1124-1131.