

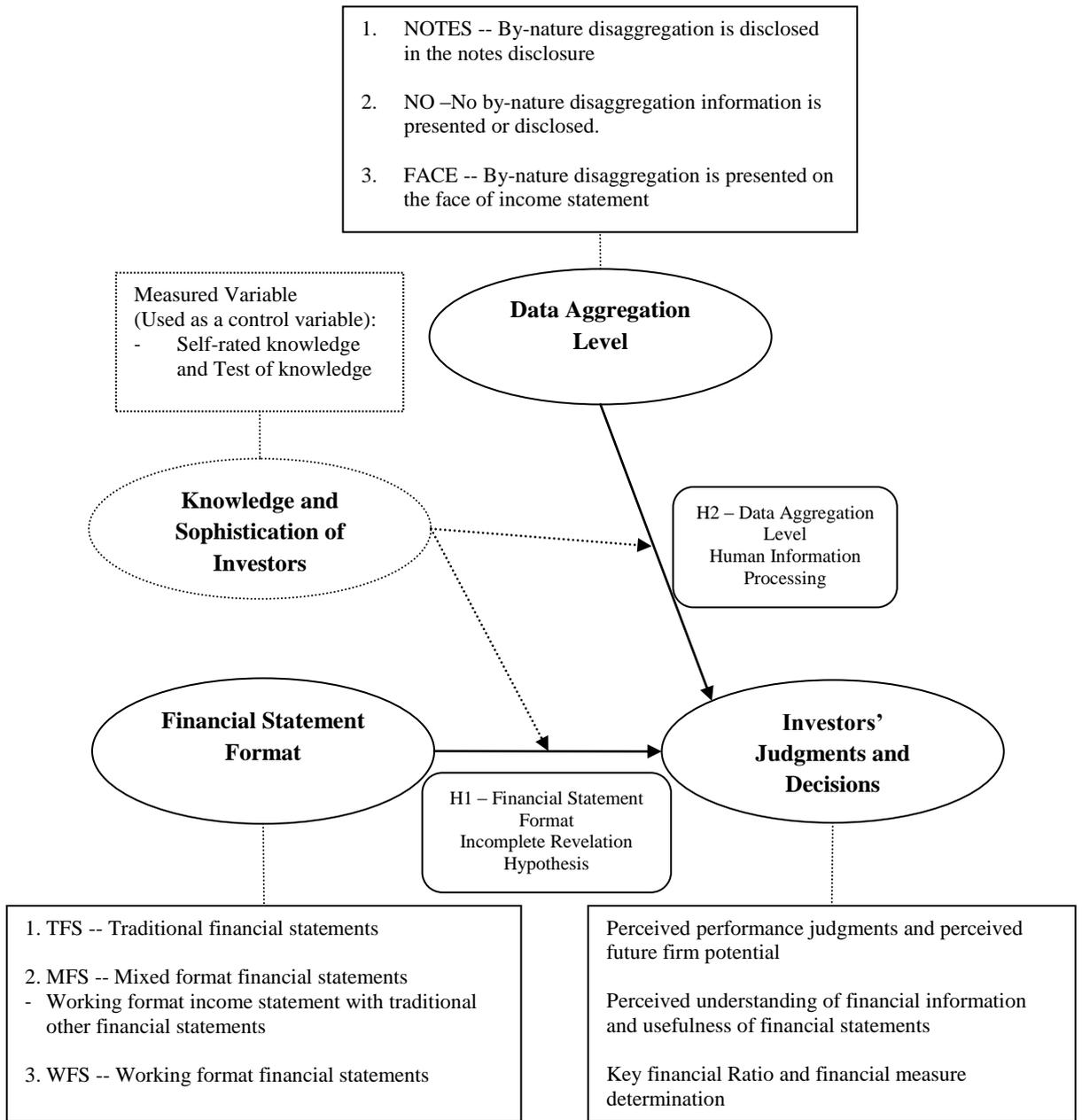
CHAPTER 3: RESEARCH METHODOLOGY

3.1. Experimental Design

3.1.1. Research Framework

This study is conducted in 2 experiments: *Experiment 1* and *Experiment 2*. Experiment 1 (3 X 1 between-subjects experiment with knowledge variable as a control variable) explores the impact of the financial statement formats on investors' operating performance evaluation judgments. Experiment 2 (3 X 1 between-subject experiment with knowledge variable as a control variable) provides the evidence on the impact of data aggregation level of by-nature information on investors' operating performance evaluation judgments. All experimental conditions in Experiment 1 and Experiment 2 (except for the NO condition in Experiment 2, discussed in the following section) are controlled for amount of information/information content and varied only for the presentation formats and levels of data disaggregation. Figure 3.1 below presents research framework used in this study.

Figure 3.1: Research Framework



3.1.2. Variables Defined

3.1.2.1. Independent Variables/Manipulated Variables

The experimental design, depicted in Figure 9 above, is employed to provide support for the research hypotheses. The aforementioned research framework is tested in two separate experiments with two independent variables being explored. The first independent variable is **Financial Statement Presentation Format**, which is manipulated in three levels: (1) *Traditional Format Financial Statements (TFS)*, (2) *Mixed Format Financial Statements (MFS)*, and (3) *Working Format Financial Statements (WFS)*.

In the first level of financial statement format variable (**TFS**), a full set of financial statements is presented in the traditional presentation format. The participants should be familiar with the traditional format financial statements. There is no out-of-the-ordinary presentation on the face of financial statements.

In the second level of the first independent variable (**MFS**), the financial statements are presented inconsistently. Specifically, the income statement is presented using working format proposed by the Boards and all other financial statements are presented using traditional format. This condition is to test whether the initial decision to amend only the performance reporting statement of FASB and IASB is valid. Recall from the previous discussion on the history of the Financial Statement Presentation Project, each Board pursues the amendment of financial performance reporting separately. The focus of the project launched by both Boards, independently, is only on the financial performance reporting (i.e. income statement or comprehensive income statement), not the whole set of financial statements. Later, the Boards decide to devote their efforts and resources jointly to pursue the revision of the whole set of financial statements, not just the performance reporting statement. Thus, the second level of manipulation of the first independent variable is to explore whether the amendment of just one performance reporting statement suffices to help investors better assess the financial performance and financial position of a given firm. The financial information presented to participants in **MFS** level of

manipulation is, indeed, non-cohesive. The non-cohesiveness or inconsistency in presentation format might induce more cognitive costs on the investors' part and might worsen the judgment and decision quality of the investors.

In the third level of manipulation of the first independent variable (*WFS*), the participants are given with a full set of financial statements presented in accordance with the proposed working format. The Boards argue that the financial statements should be categorized cohesively. Moreover, the operating results are saliently presented and clearly labeled on the working format income statement, which would facilitate the investors in evaluating operating performance.

The second independent variable is *Data Aggregation Level*, which is manipulated at 3 levels: (1) *By-nature disaggregation is disclosed in the note disclosure (in short, NOTES)*, and (2) *No by-nature disaggregation is presented or disclosed (in short, NO)*, and (3) *By-nature disaggregation is presented on the face of income statement (in short, FACE)*.

In the first level (*NOTES*), only the by-function disaggregation is presented on the face of the income statement and the by-nature disaggregation (i.e. detailed items of a particular expense item) is disclosed in the notes to financial statements. In the second level (*NO*), there is no information pertaining by-nature disaggregation presented or disclosed. This level would have lower information content relative to other data aggregation level manipulated conditions. The aim is to examine whether the information on by-nature disaggregation matters in forming judgments on operating performance evaluation of a given firm.

In the third level (*FACE*), both by-function disaggregation and by-nature disaggregation are presented on the face of income statement. This is to explore whether the information overload stage has reached. In other words, this is to test whether the presentation of by-nature information is of Type I or Type II aggregation (i.e. whether the by-nature presentation is too detailed or too lengthy.)

3.1.2.2. *Measured Variables*

The knowledge of the participants is measured and used as a control variable in the analysis. Knowledge would be measured in two ways. First, the participants are asked to self-rate their accounting and investment knowledge and their general understanding of financial statements. Second, the participants are required to complete knowledge test on accounting and investment knowledge.

3.1.2.3. *Dependent Variables*

Investors' judgments and decisions are dependent variables of interest in this current study. Various investors' judgments and decisions are solicited in several experimental steps to provide the evidence to support the hypotheses. Prior literature on presentation format suggests that different presentation formats would influence judgments and decisions of the investors differently. After the participants examine the background information of a hypothetical firm in the case materials and study the financial statements of that given firm, the participants are asked to respond to the questions on operating performance, future earnings potentials, future estimated earnings, financial position, usefulness of the financial information, and understandability of the information. The participants are asked to determine financial ratios and other financial measures and to assess the difficulty level when they perform the task. The experimental questionnaire is presented in Appendix B together with the case materials.

3.1.3. *Experiments*

3.1.3.1. *Experiment 1*

In the first experiment, I employ a 3 X 1 between-subject design with only one independent variable manipulated. The knowledge variable is measured, rather than manipulated, to control for the impact to differential levels of accounting and investment knowledge. The independent variable is the ***Financial Statement Formats***, which is manipulated 3 levels: (a) *Traditional Format Financial Statements (TFS)*, (b) *Mixed Format Financial Statements (MFS)*, and (c) *Working Format*

Financial Statements (WFS). All three experimental conditions hold constant the disclosure of by-nature disaggregation in the notes to financial statements (*NOTES*). Table 3.1 below shows the detail of a set of financial statements that the participants in each condition obtain in the case materials.

Even though the MFS-NOTES condition is no longer applicable because the Boards tentatively reached the decisions to revise the presentation of the whole set of financial statements, not just one performance reporting statement, this experimental condition is still vital to this experiment. The MFS-NOTES condition is important in disentangle the effect of the cohesiveness of financial presentation and the new classification scheme of the income statement.

The evidence on the importance of cohesiveness can be drawn by comparing the responses of participants in WFS-NOTES condition (Cell 3) with those of MFS-NOTES condition (Cell 2). Moreover, by comparing the responses of traditional financial statement with by-nature information in the notes or TFS-NOTES (Cell 1) and working format financial statement with by-nature information in the notes or WFS-NOTES (Cell 3), I can draw the conclusion on the usefulness of the proposed working format financial statements as opposed to that of traditional financial statements in performing operating performance evaluation.

Table 3.1: Experimental Conditions in Experiment 1

Financial Statement Format	Data Aggregation Level
	By-Nature Disaggregation is Disclosed in the Note Disclosure (NOTES)
Traditional Format Financial Statements (TFS)	Cell 1: TFS – NOTES Traditional I/S (<i>with by-nature disaggregation in the note disclosure</i>) Traditional B/S Traditional S/E Traditional C/F + Note disclosure
Mixed Format Financial Statements (MFS)	Cell 2: MFS – NOTES Working Format I/S (<i>with by-nature disaggregation in the note disclosure</i>) Traditional B/S Traditional S/E Traditional C/F + Note disclosure
Working Format Financial Statements (WFS)	Cell 3: WFS – NOTES Working Format I/S (<i>with by-nature disaggregation in the note disclosure</i>) Working Format B/S Working Format S/E Working Format C/F + Note disclosure

3.1.3.2. Experiment 2

In the second experiment, I use 3 X 1 between subjects design to provide the empirical evidence on the presentation location and information content of disaggregated by-nature data. Specifically, the independent variable is the presentation of the disaggregated by-nature data, which is manipulated in 3 levels: (a) *By-nature disaggregation is disclosed in the note disclosure (NOTES)*, (b) *No by-nature disaggregation is presented or disclosed (NO)*, and (c) *By-nature disaggregation is presented on the face of income statement (FACE)*. This second experiment holds constant the working format of financial statements (WFS). Table 3.2 below shows the detail of a set of financial statements that the participants in each condition obtain in the case materials.

Table 3.2: Experimental Conditions in Experiment 2

Financial Statement Format	Data Aggregation Level		
	By-Nature Disaggregation is Disclosed in the Note Disclosure (NOTES)	No By-Nature Disaggregation is Presented or Disclosed (NO)	By-Nature Disaggregation is Presented on the Face of Income Statement (FACE)
Working Format Financial Statements (WFS)	Cell 3: WFS - NOTES Working Format I/S (<i>with disaggregated by-nature data in the notes</i>) Working Format B/S Working Format S/E Working Format C/F + Note disclosure	Cell 4: WFS – NO Working Format I/S (<i>with no disaggregated by-nature data</i>) Working Format B/S Working Format S/E Working Format C/F	Cell 5: WFS - FACE Working Format I/S (<i>with disaggregated by-nature data on the face</i>) Working Format B/S Working Format S/E Working Format C/F

The participants' responses from Cell 3 and Cell 5 are analyzed to investigate the impact of presentation location of by-nature disaggregation and the data aggregation level, controlling for information content of by-nature disaggregation. I also examine whether presenting or disclosing by-nature disaggregation matters by comparing responses from Cell 3 with those of Cell 4 and response of Cell 4 with those of Cell 5. Note that Cell 5 includes more detailed disaggregated information on the nature of expense items on the face of the income statement, whereas Cell 3 presents such information in the note disclosure.

3.2. Experimental Procedures and Case Materials

3.2.1. Experimental Procedures

The experimental procedures are portrayed in Figure 3.2 below. The participants are welcome and they are ensured of the confidentiality of their responses. The responses of an individual would not be analyzed separately, but, rather, they would be combined with other participants' responses and then analyzed. In Step 1 of the experimental procedures, the pre-experimental questionnaire is provided in the first envelop. After responding to knowledge questions, the pre-experimental questionnaire should be returned to the first envelop. The participants are not allowed to change their responses in the later stages of the experiment.

Then, the background information of a hypothetical firm in the experimental case is separately given in the second envelop in Step 2 to restrain the participants to acquire the financial information or to observe the newly proposed format of financial statements before answering knowledge questions. In that same envelop, the comparative financial statements together with the notes to financial statements of a hypothetical firm are presented to participants. The participants are required to study the content of comparative financial statements before responding to the experimental questionnaire in Step 3. The participants are allowed to refer to background information as well as a set of financial statements while answering the questions on financial performance judgments and assessing firm future potentials. Later, the case materials, a set of financial statements, and experimental questionnaire are then collected and returned to envelop two.

In Step 4, debriefing session is launched. The cued recall test on totals and subtotals is solicited to determine whether participants acquire the information contained in the income statement as well as other financial statements. The participants are not allowed to refer back to the case materials to avoid invalidate the recall test. Moreover, manipulation check questions are asked to ensure the success of manipulated conditions. Finally, the responses from participants in the debriefing session are collected and returned together with the first and second envelops. The participants are expressed with gratitude for participating in the experiment.

Figure 3.2: Experimental Procedures

	PROCEDURES AND MATERIALS	MANIPULATIONS
<i>STEP</i> <i>1</i>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> PRE-EXPERIMENTAL QUESTIONNAIRE </div> <p>Self-rated knowledge questionnaire Investment knowledge questions</p>	
<i>STEP</i> <i>2</i>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> BACKGROUND INFORMATION AND FINANCIAL STATEMENT </div> <p>Case materials and company background Financial performance information</p>	<p>Independent Variable #1: Financial Statement Format (3 levels):</p> <ol style="list-style-type: none"> (1) Traditional Financial Statements (<i>TFS</i>). (2) Mixed Formats Financial Statements (<i>MFS</i>). (3) Working Format Financial Statements (<i>WFS</i>). <p>Independent Variable #2: Data Aggregation Level (3 levels):</p> <ol style="list-style-type: none"> (1) By-nature disaggregation is disclosed in the note disclosure (<i>NOTES</i>). (2) No by-nature disaggregation is presented or disclosed (<i>NO</i>). (3) By-nature disaggregation is presented on the face of income statement (<i>FACE</i>).
<i>STEP</i> <i>3</i>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> EXPERIMENTAL TASK </div> <p>Dependent variables are solicited. Performance evaluation judgment Future financial performance potential</p>	
<i>STEP</i> <i>4</i>	<div style="border: 1px solid black; padding: 5px; text-align: center;"> DEBRIEFING QUESTIONNAIRE </div> <p>Manipulation check questions Cognitive dissonance questionnaire Demographic information questionnaire</p>	

3.2.2. Case Background and Company Financial Information

The case materials describing company background and financial information are presented in Appendix B. The hypothetical company in this study (The AAA Company) has diversified to four core businesses which are chemicals, paper, cement, and other building materials. A full set of financial statements and a selected note disclosure are presented to the participants⁴². Since the income statement is the focus of this study, I would like to discuss the income statements for the years ended December 31, 2006 and 2007 under various presentation formats in this section. The excerpts taken from the case materials show various income-statement formats (see Figure 3.3, Figure 3.4, and Figure 3.5.)

Figure 3.3: Traditional Income Statement Presented in Case Material

The AAA Company Income Statement For the Year Ended December 31, 2007 and 2006			
<i>(in Baht)</i>			
	Note	2007	2006
Net sales	5	277,736,718	258,174,968
Cost of goods sold	5	-227,274,274	-201,967,319
Gross profit		50,462,444	56,207,649
Other expenses and income:			
Selling expenses		-12,632,323	-11,648,100
Administrative expenses	23	-16,455,652	-12,469,314
Directors' remuneration	24	-83,020	-83,116
Gain (loss) on sales of investments, allowance for impairment of investments and others	4	7,623,903	-1,758,972
Other income	25	5,344,688	4,244,229
Share of profits from investments accounted for using the equity method		16,243,084	10,736,618
Earnings before interests and taxes		50,503,124	45,228,994
Interest expense and financial charges	27	-5,273,273	-5,169,191
Income tax expense	28	-5,897,578	-4,036,133
Net income		39,332,273	36,023,670
Earnings per share (in Baht)	29	32.78	30.02

⁴² The financial statements included in the case materials are financial statements in which equity method is applied to investment in associates. Even though Thai Accounting Standard No. 44 on Consolidated and Separate Financial Statements governs that an entity with investments in associates must present the separate financial statements together with financial statements that applied the equity method to the investment in associates, only the latter is presented to avoid the complications in the case materials.

Relying on the net income alone, the overall financial performance in 2007 (39.33 million Baht) has improved from that in 2006 (36.02 million Baht). If the investors rely only on the net income number, the presentation format of income statement would not have any influences in their judgments. However, if the investors examine details, rather than the bottom-line, of income statement, the presentation formats might play a critical role in influencing the investors' performance evaluation judgments.

The financial performance of the hypothetical company is designed to pinpoint the benefits that would be gained from working format financial statements. To evaluate operating performance, investors with traditional income statement would utilize the earnings before interest and taxes (EBIT) as a benchmark and they would find that EBIT for the year 2007 (50.50 million Baht) is better than that of the year 2006 (45.23 million Baht.) Thus, they will evaluate the operating performance of the AAA Company as favorable. In fact, EBIT includes not only operating results, but also the investing results. The gains and losses from investing transactions are included in the calculation of EBIT. Thus, using the EBIT to evaluate the operating performance is not appropriate.

Figure 3.4: Working Format Income Statement with No By-Nature Disaggregation Presented in Case Material

The AAA Company Income Statement For the Year Ended December 31, 2007 and 2006			
<i>(in Baht)</i>			
	Note	2007	2006
BUSINESS			
Operating			
Net sales	5	277,736,718	258,174,968
Cost of goods sold	5	-227,274,274	-201,967,319
Gross profit		50,462,444	56,207,649
Selling expenses		-12,632,323	-11,648,100
Administrative expenses	23	-16,455,652	-12,469,314
Directors' remuneration	24	-83,020	-83,116
Other operating income	25	2,368,823	2,334,229
Total operating income		23,660,272	34,341,348
Investing			
Share of profits from investments accounted for using the equity method		16,243,084	10,736,618
Gain (loss) on sales of investments, allowance for impairment of investments and others	4	7,623,903	-1,758,972
Other investing income	25	2,482,000	1,492,000
Total investing income		26,348,987	10,469,646
Total business income		50,009,259	44,810,994
DISCONTINUED OPERATIONS			
		0	0
		0	0
FINANCING			
Interest expense and financial charges	27	-5,273,273	-5,169,191
Interest income	25	493,865	418,000
Total financing expense		-4,779,408	-4,751,191
INCOME TAX			
Income tax expense	28	-5,897,578	-4,036,133
Total income tax expense		-5,897,578	-4,036,133
Net profit		39,332,273	36,023,670
Earnings per share (in Baht)	29	32.78	30.02

The working format income statement separately presents the operating and investing results from financing activities. The investors can easily extract operating results from the results of all other activities. The operating income is one of the required subtotals in the income statement. Judging from the operating income presented, the investors would spot that the operating income is, in fact, declining (34.34 million Baht in 2006 vs. 23.66 million Baht in 2007). This information is obscured if the traditional income statement is presented.

Moreover, working format income statement (with or without by-nature disaggregation information) clearly presents investing income as a part of business income. Note that the business income is decomposed into operating income and investing income. The investors will be able to spot that the business income, which is closely resembled the EBIT, is improving is due to the fact that the investing income is tremendously increased from 10.47 million Baht in 2006 to 26.35 million Baht in 2007, which might not be sustainable in the future. Again, this information would not be easily determined in traditional income statement. The working format income statement portrays clearly the profit from operating activities and profit from investing activities, which helps investors spot the problems in the operations of the Company.

If the investors were to closely scrutinize the cause of reduction in operating profit, the working format income statement with by-nature disaggregation is highly beneficial. In working format income statement with by-nature disaggregation, by-nature disaggregation clearly displays the composition of the major expense categories such as cost of goods sold and administrative expenses. Without by-nature information, the investors would not be able to pinpoint the problems the company is facing in the current year. The by-nature information of cost of goods sold shows that the labor cost escalates the cost of goods sold and reduces the gross profit and operating income. Moreover, the by-nature information of administrative expenses reveals that even though the total administrative expenses increase during the year 2007 as compared to 2006, the Company cuts down the discretionary expenses which might be vital to future success of the Company. The Company cuts back the research and development cost, training cost, and maintenance cost during the year so as to sustain the increasing trend in net income. The by-nature information is unique for the working format income statement.

Figure 3.5: Working Format Income Statement with By-Nature Disaggregation Presented in Case Material

The AAA Company Income Statement For the Year Ended December 31, 2007 and 2006			
<i>(in Baht)</i>			
	Note	2007	2006
BUSINESS			
Operating			
Net sales	5	277,736,718	258,174,968
Cost of goods sold:			
Materials		-117,250,538	-112,548,550
Labor		-100,342,000	-72,989,649
Overhead - depreciation of building		-10,941,996	-11,543,870
Overhead - depreciation of leased asset		-1,365,000	-3,427,600
Change in inventory		2,625,260	-1,457,650
Total cost of goods sold		-227,274,274	-201,967,319
Gross profit		50,462,444	56,207,649
Selling expenses		-12,632,323	-11,648,100
Administrative expenses:			
Salary, wages and contribution to defined contribution plans, and other employee benefits		-9,227,652	-6,378,314
Research and development		-1,220,000	-2,418,000
Employee training and development		-1,261,000	-1,590,000
Advertising and publication		-562,000	-791,000
Depreciation and amortization expense		-807,000	-491,000
Repair and maintenance		-403,000	-766,000
Early retirement expense		-2,396,000	0
Others		-579,000	-35,000
Total administrative expenses		-16,455,652	-12,469,314
Directors' remuneration	24	-83,020	-83,116
Other operating income:			
Gain on disposal of scrap and others		518,000	456,000
Gain on fixed assets		1,238,000	707,000
Rental income		118,000	141,000
Others		494,823	1,030,229
Total other operating income		2,368,823	2,334,229
Total operating income		23,660,272	34,341,348
Investing			
Share of profits from investments accounted for using the equity method		16,243,084	10,736,618
Gain (loss) on sales of investments, allowance for impairment of investments and others	4	7,623,903	-1,758,972
Other investing income		2,482,000	1,492,000
Total other investing income		2,482,000	1,492,000
Total investing income		26,348,987	10,469,646
Total business income		50,009,259	44,810,994
DISCONTINUED OPERATIONS			
		0	0
		0	0
FINANCING			
Interest expense and financial charges			
Interest - local loans		-4,939,273	-4,681,191
Interest - abroad loans		-334,000	-488,000
Total interest expense and finance charges		-5,273,273	-5,169,191
Interest income			
Interest income from financial institutions		439,865	363,000
Income from delay payment		54,000	55,000
Total interest income		493,865	418,000
Total financing expense		-4,779,408	-4,751,191
INCOME TAX			
Income tax expense	28	-5,897,578	-4,036,133
Total income tax expense		-5,897,578	-4,036,133
Net profit		39,332,273	36,023,670
Earnings per share (in Baht)	29	32.78	30.02

3.2.3. Experimental Questionnaire

3.2.3.1. Pre-experimental Questionnaire

Pre-experimental questionnaire in the first envelop solicit self-rated knowledge questions. The questions on accounting and investment issues as well as knowledge on financial statement analysis are asked at the early stage of experimental procedure to avoid contaminating the preexisting business and investment knowledge that investors bring to the experiment with newly presented financial statement presentation format. When the investors are not familiar with the working format financial statements, they might perceive that they do not possess high investment and accounting knowledge.

3.2.3.2. Experimental Questionnaire

Experimental questionnaire contains the question set on performance evaluation which will be solicited after the participants examine the comparative financial statements. Mainly, the participants are required to give their perceptions on firm operating performance evaluation, earnings measures, future earnings potential, and other aspects on financial positions. Moreover, the participants are asked to calculate certain financial ratios from the financial information given in the case materials. Also, they are asked to rate the difficulty level they find when they perform the task.

3.2.3.3. Post-Experimental Questionnaire/Debriefing Questionnaire

Debriefing questionnaire in the third envelop includes the manipulation check questions and demographic questions. The manipulation check questions assess whether the manipulation of independent variables in all experimental conditions is accomplished. Moreover, the general understanding of the case materials and the attentiveness of experimental participants can also be observed. The analysis on information acquisition and information integration can also be solicited in the debriefing session. The participants are solicited to recall major totals and subtotals on income statement without referring back to the case materials in the second envelop. In the debriefing session, participants are also required to respond to the

demographic information. These questions include indirect test of knowledge by asking number of business-related courses taken by the participants and also number of years in working experience in business field. The knowledge information can also be used as a control variable in the main analysis to control for the impact of preexisting knowledge level of the participants.

3.3. Research Participants

The participants in my study are the master-degree students with varying level of finance and accounting knowledge. The master in business students are chosen as proxies for nonprofessional investors. Most of the prior experimental studies use M.B.A students as proxies for non-professional investors (see Elliott, 2006, Krische, 2005, Maines and McDaniel, 2000, Hirst et al., 1999 and Frederickson and Miller, 2004, for example).

Elliott et al. (2007) propose that using M.B.A. students as representatives for non-professional investors in experimental research is an appropriate research methodological alternative, even though non-professional investors and master in business students are different in how they acquire and accumulate knowledge⁴³. Non-professional investors acquire investment-related knowledge thru their direct experience, while the master students acquire the investment-related knowledge thru formal educational training.

I do believe that master in business students are appropriate pool of research participants in my study. Due to the complication and newness of proposed financial statements, the participants in my study should possess a certain level of knowledge in financial statement analysis. Thus, I only recruited master degree students who are specialized in Finance or who have taken or are taking the financial statement analysis

⁴³ Elliott et al. (2007) further suggest that, for low-integrative-complexity task, M.B.A. students and non-professional investors form similar judgments on firm financial performance evaluation and future potentials of the firm. However, M.B.A. students who have completed only core courses and have not yet studied financial statement analysis course do not make similar investment decisions when compare to those of non-professional investors and M.B.A. students who have completed the financial statement analysis course. For high-integrative-complexity task, the M.B.A. students with no financial statement analysis knowledge fail to integrate the acquired information in a similar manner as the non-professional investors and M.B.A. students with financial statement analysis knowledge. Thus, synchronizing the task's integrative complexity with appropriate subject group is critical to the external validity of the research.

course. The purpose of this study is to examine the judgments of nonprofessional investors with varying levels of knowledge and experience that are formed when they are introduced with new proposed format of financial statements.

The participants are randomly assigned to all experimental conditions. Indeed, this methodological design choice increases the realism of the experiment because the capital market comprises large numbers of investors with varying amount of experience and knowledge. This experimental design choice biases against getting the results because the investors with higher level of investment and risk management knowledge are less likely to engage in systematic bias induced by different disclosure formats. During the experiment, the participants are asked to assume the role of shareholders of the company so as to increase their attentiveness when they examine the case materials.

Next, the experimental results from the two experiments are discussed in turn.