The Impacts of Off-Balance Sheet Types and Investment Positions on Investors' Ability in Correcting Off-Balance Sheet Financing

Huda Wongyim[1], Runglaksamee Rodkam[2]
[1]Huda Wongyim, Lecturer, Faculty of Management Science,
Suan Sunandha Rajabhat University, Bangkok, Thailand
E-mail: huda.wo@ssru.ac.th
[2]Runglaksamee Rodkam, Lecturer, Faculty of Management Science,
Suan Sunandha Rajabhat University, Bangkok, Thailand
E-mail: runglaksamee.ro@ssru.ac.th

Abstract

The objective of this research is to examine the effect of off-balance sheet financing types and investment position on investors' correction ability. This research use experimental research approach. The research provides evidence that (1) off-balance sheet types significantly influenced the investors' ability to correct the off-balance sheet financing transactions, given the investors' knowledge of creative accounting (2) the investment position did not influence investors' correction ability (3) investors' knowledge of creative accounting is positively correlated with their correction ability.

Keywords: Off-balance sheet financing, Investment position, Investors' judgments

Introduction

Off-balance sheet financing is one kind of creative accounting that have long been tools employed by management to hide financial risks. Financial managers and financial consultants unscrupulously structure the financial transactions such that liabilities do not appear on the financial statements without violating of financial reporting standard. The biggest problem with off-balance sheet finance is its lack of visibility. Although firms are required by regulations to disclose information about their activities on leasing or related parties in the footnote, investors oftentimes find it difficult to make proper judgment of a company's underlying economic circumstances because firms often provide obscure and limited disclosure. For example, Enron formed several limited partnerships to hide the activities but its disclosure about these related-party transactions were cryptic and obscure, thereby making it very difficult, if not impossible, for a reader of the financial statements to discern their true nature (Ketz, 2003). The disclosures made by Enron did not give any indication of the problems they had been experiencing until 2002.

The inability to detect hidden financial risk could misdirect investment and thus incur great costs on investors. If investors underestimated the risk of a company, the company's stock would likely be overvalued. Bardos, Golec, and Harding (2011) provided evidence that investors had been misled by mistakes in the reported earnings at the time of initial earnings announcements of the incorrect earnings which were subsequently restated. Enron, which was found to create over 3,000 off-balance sheet special-purpose entities (SPEs), was one of the most notorious examples involved in such a dishonest practice (Klee and Butler, 2002). Following the collapse of Enron, investors' trust in the publically available financial reports has eroded and the stock markets plunged due to accounting manipulation. Auditors were criticized for failing to perform their duty of blowing the whistle on those managers who were complicit in the fraudulent financial statements. Unethical accounting is however still practiced by corporate managers as they have an array of tools and techniques by which they can conceal the liabilities of their firms.

Ketz (2003) categorized off-balance sheet techniques into two groups according to their available disclosures. The first group consists of those methods by which users of financial statements could use relevant footnote disclosures to reconcile the accounting numbers by reintroducing debts to the balance sheet (e.g. making analytical adjustment). The accounting techniques under this group are the equity method and lease accounting since it is compulsory that disclosures pertinent to these accounting items be provided in the footnote and this information in turn enables the investors to make adjustments to the reported numbers. The second group comprises those methods without disclosures to assist users of financial statements with analytical adjustment. The accounting techniques belonging to the second group include debt hiding through asset securitization, special purpose entity (SPE) borrowing and synthetic lease since firms employing these complicated techniques rarely make available adequate information to aid investors in analytical adjustment.

This research focuses on two types of off-balance sheet financing belonging to the first group (i.e. operating lease and equity method) since the disclosures pertinent to both OBS types are available for users of financial statements to make analytical adjustment but vary in the complexity of the disclosure content. Operating lease is the most common path by which firms use to avoid posting debt on the balance sheet. Corporate managers could deceive investors and creditors by reporting leases as operating leases and pretending that the firms had no lease obligations (Ketz, 2003). Equity method is one of several accounting mechanisms that firms employ to hide liabilities. When a company has a significant control over the operation of another entity, it tends to structure the voting power or percentage of shareholding in ways that avoid consolidation and at the same time resort to the equity method of accounting. In general, the information in operating lease disclosure is easier to understand than that relevant to the equity method.

Extensive research suggested that investors relied on footnote information for off-balance sheet transactions. Davis-Friday, Folami, Liu, and Mittelstaedt (1999) suggested that the value of obligation information contained in the footnote is a less ideal substitute for the obligation recognized on balance sheet. Lander and Auger (2008) noted that off-balance sheet accounting could mislead users of financial statements and thereby urged the relevant regulatory bodies to ensure more transparency related to off-balance sheet accounting. The usefulness of disclosure with regard to off-balance sheet transactions is of particular interest in this research paper. In the study, two types of OBS arrangements, i.e. operating lease and equity method, were respectively used as proxies for less complex and more complex OBS. Therefore, the first objective of this research aims to examine the effect of off-balance sheet financing types on investors' correction ability.

In addition, this research work investigates the effect of investment position on investors' correction ability. Previous studies suggest that evaluation of financial information may be biased by investment position. The amount of scrutiny given to information depends on whether the information is seen as preference consistent or not, given the investor's preferences. Investors, whether long or short, will be quick to accept information that implies a gain on their investment and will take more time and more skepticism to accept information that implies a loss on their investment (Hales, 2007; Han & Tan, 2010; Thayer, 2011). According with psychology literatures, skepticism is induced and scrutiny to information processing of decision makers ensues when they are faced with preference inconsistency but skepticism is reduced when faced with preference consistency (Ditto & Lopez, 1992; Ditto, Munro, Apanovitch, Scepansky, & Lockhart, 2003; Ditto, Scepansky, Munro, Apanovitch, & Lockhart, 1998). Therefore, the second objective of this research aims to explore how this mechanism affects investors' ability to rectify the accounting information when dealing with off-balance sheet accounting.

Research Objectives

1. To examine the effect of off-balance sheet financing types on investors' correction ability.
2. To examine the effect of investment position on investors' correction ability

Scope of research

1. The Participants used in the research were 106 MBA students and 80 Master of accounting students of a Thai leading university. Elliott et al (2007) suggested that MBA students were able to detect different accounting policies which consequently led to different financial performance and that they also adjusted key financial ratios according to their findings.
2. The experiment was conducted in four sessions. Results are not affected by session (p = 0.97). In total, 199 participants completed the experiments, but 13 were removed from the analysis because they provided incorrect response to manipulation check question[1]. Thus, final sample is equal to 186 participants.

[1]All results do not change when responses from those who failed the manipulation check are included.

Research Methodology

1. Research Methodology

This research employed a 2 x 2 + 2 between-subjects design that manipulates: (1) the types of off-balance sheet financing (operating lease vs. equity method) and (2) the participants' investment positions (short vs. long). To test, the participants will be randomly assigned to a long, a short or a neutral position and to face either equity method or operating lease accounting. More details of manipulation are provided in the next section. Participants will be randomly assigned to each of the six groups as follows:

Table 1: Classification of groups by types of OBS and investment positions

Investment Position \ Types of OBS	Equity method	Operating lease
Short (S)	SEQ (G1)	SOL (G3)
Long (L)	LEQ (G2)	LOL (G4)
Neutral (N)	NEQ (G5)	NOL (G6)

2. Research process

Research began with a pre-experimental training session to ensure that the participating subjects developed a correct understanding of the experiment. In general, the information includes overview of the company, financial statements, key financial ratios, analysts' report containing analysts' consensus of EPS forecast and some analysts' comments. All participants will be presented with the same information about the firm except for information related to OBS transaction and investment position which would vary. Afterward, the participants were asked to adjust debt to equity ratio to determine the participants' ability to correct off-balance sheet financing. The experiment ended with the participants completing their demographic profiles and answering additional questions on their use of financial statements and their understanding in creative accounting. The participants were finally asked to answer the manipulation check questions

3. Data analysis

The researchers use descriptive statistic which include mean, standard deviation, mean and the explanation of variable influences on Investors' correction ability by using analysis of variance (ANOVA).

Research Finding

Participants reported taking an average of 1.4 accounting classes, as well as having an average of 5.9 years of total work experience. Their mean investment experience was 0.6 years and 28% had invested in the stock market. It was found that the investors' knowledge of creative accounting is positively correlated with their correction ability (Pearson's correlation = 0.137, p = 0.09). The MBA participants' correction ability (mean = 34.25) is significantly lower than that of the masters of accounting participants (mean = 47.73; p = 0.04). By comparison, those highly knowledgeable of creative accounting exhibit a higher ability to correct off-balance sheet financing than those less knowledgeable. Thus, to control for the participants' knowledge background, the participants were divided into the high and low knowledge groups using the mean knowledge level as the cut-off point (mean = 4.61) when performing the ANOVA test. The descriptive statistics of split sample are tabulated in Table 2.

Table 2: Descriptive statistics for correction ability (split sample)

Panel A : For high knowledge group (N=106)a

Condition	Equity method	Operating	Row mean
Short	30.48	61.20	48.13
Long	34.35	52.33	44.03
Neutral	44.66	32.52	39.20
Column Mean	35.08	53.40	44.93

Panel B : For low knowledge group (N=80)a

Condition	Equity method	Operating	Row mean
Short	41.31	37.48	39.73
Long	31.50	28.63	29.79
Neutral	17.42	38.76	29.61
Column Mean	34.36	33.63	33.99

[a] *participating subjects were divided into the highly knowledgeable and low knowledgeable groups using the mean knowledge level as the cut-off point*

Panels A, B and C of Table 3 respectively present the ANOVA results of the participants in all conditions, those in the high knowledge group and those in the low knowledge group.

Table 3: ANOVA results for correction ability (D/E ratio)

Panel A: ANOVA results for all conditions

Source of variation	SS	df	MS	F	p
Model	268747.90	4	67186.97	41.01	0.00
OBS	5915.95	1	5915.95	3.612	0.05
Position	2043.80	1	2043.80	1.24	0.26
OBS * Position	810.54	1	810.54	0.49	0.48
Error	242434.86	148	1638.07		
Total	511182.77	152			

Panel B: ANOVA results for high knowledge group

Source of variation	SS	df	MS	F	p
Model	198489.24	4	49622.31	29.36	0.00
OBS	12467.51	1	12467.51	7.38	<0.01
Position	131.06	1	131.06	0.08	0.78
OBS * Position	854.63	1	854.63	0.51	0.48
Error	138612.70	82	854.63		
Total	337101.94	86	1690.40		

Panel C: ANOVA results for low knowledge group

Source of variation	SS	df	MS	F	p
Model	83600.22	4	20571.39	13.89	0.00
OBS	290.92	1	179.28	0.12	0.73
Position	1663.49	1	1387.04	0.94	0.34
OBS * Position	31.64	1	3.60	0.00	0.96
Error	90449.70	61	1480.57		
Total	174049.92	65			

The results show that

1. The off-balance sheet financing types influenced on investors' correction ability. Panel A and B of Table 3 indicates that the type of off-balance sheet financing is statistically significant in the case of all sample ($p = 0.05$) and in the high knowledge group ($p < 0.01$).

Independent sample t-test also shows that the investors under the operating lease condition (mean = 53.40) exhibit a higher correction ability than those under the equity method condition (mean = 35.08; one–tailed p = 0.01). However, the result is inapplicable to the low knowledge group (p = 0.73), as shown in Panel C of Table 3. Thus, the findings are conditioned on knowledge level of participants.

2. The investment position did not influence investors' correction ability. Table 3 indicate that the investment position is insignificant in all sample (p = 0.26), the high (p = 0.78) and low knowledge groups (p = 0.34). The results suggest that the short investors' correction ability is not statistically significant in relation to the long investors.

Results and Discussion

From the study found that:

1. It was found that off-balance sheet types significantly influenced the investors' ability to correct the off-balance sheet financing transactions, consistent with the researcher's prediction. Given their knowledge of creative accounting, the investors under equity method condition were less likely to detect OBS and possessed a lower ability to make analytical adjustments than those under the operating lease condition since an equity-method transaction is typically more complex in terms of both the nature of the transaction and the relevant disclosures in comparison with that of operating lease. Consistent with Breton and Taffler (1995), analysts facing the practice of hiding debt with non-consolidated subsidiary, a complex form of off-balance sheet technique, had a lower correction rate than creating profit via asset disposal.

2. No significant difference was found in the correction ability between the short and long investors. The results indicated that preference-inconsistence failed to make the short investors more skeptical nor led them to outperform the long and neutral investors

However, it was found that the investors' knowledge of creative accounting is positively correlated with their correction ability. This is consistent with Nelson and Tayler (2007), who provided evidence that only relatively more knowledgeable users likely attempt the reconciliation and adjust lease obligation amounts in the footnote. Thus, this could be the reason that the investors with high degree of knowledge in creative accounting in this research exhibit a higher correction ability in comparison with those with relatively low knowledge. Several studies using auditors, relatively high knowledge in accounting manipulation, as participants indicate that skepticism or suspicion affects individuals' ability to detect fraud and creative accounting. Fathil and Schmidtke (2010) suggested that conscientiousness, suspicion and integrity are related to individuals' ability to detect fraud. The results showed that suspicious participants exhibited higher ability to detect fraud in the manipulated financial statements. Similar results were obtained by Popova (2013), who conducted an experimental study with 82 audit students and found that participants who were more skeptical were more sensitive to fraud evidence in the evidence evaluation stage. Rose (2007) suggested that more-skeptical auditors had higher sensitivity to aggressive reporting than did less-skeptical auditors.

Taken together, results suggest that the investors' correction ability is influenced more by their knowledge of creative accounting than by their investment preferences. Overall, the results from this study suggest that only high knowledgeable investors are able to exhibit their skepticism in correcting off-balance sheet financing and the ability of investors to recognize and correct manipulated financial statement is conditional on the complexity level of the accounting manipulation techniques and their background knowledge.

Suggestions

This research is expected to offer useful insights to researchers, regulators and investors as follows:

1. To researchers, this research would contribute to the existing research body on the comparative benefits of information disclosed in the footnote vis-à-vis that recognized on the financial statement. The finding suggests that a certain level of accounting knowledge is a necessary condition that dictates the investors' willingness to reconcile the information in the footnote of a financial statement. Therefore, knowledgeable investors could make use

of relevant disclosures in the footnote to account for the off-balance sheet financing arrangements.

2. To regulators, this study discovered that the complexity of OBS type plays a significant role in the investors' correction abilities. The results suggest that the complex OBS transactions require more effortful use of knowledge and calculation in making analytical adjustments. The implication of the findings is for the relevant regulatory bodies to revisit the disclosure format related to complex OBS (i.e. equity method) so as to lessen the complexity burden borne by the investors.

3. To investors, this finding could serve as a caution for financial investors that investment preference could undermine their rationale. Moreover, this research is expected to raise investors' awareness on the usefulness of disclosure information in the footnote section.

Suggestions for the future research

The researchers have suggestions for the future research as follows:

1. No measurement of investors' skepticism was taken following their being presented with favorable (unfavorable) financial information for the long (short) investors. Future research should thus seek to gauge investors' skepticism and incorporate it as a mediating variable to examine the influence of directional preference on their ability to correct creative accounting.

2. This research deliberately used a positive performance setting to manipulate the long investors facing favorable information and short investors facing unfavorable information. However, future research could investigate these effects in a negative performance setting to see the significance of the firm's poor performance.

3. In this current research, the participating MBA and Master of accounting students were proxies of non-professional investors, rendering the research findings less applicable to more experienced investors, e.g. investment analysts. Future research should endeavor to generalize the results through more experienced analysts or other groups of financial practitioners.

4. Future research should attempt to identify mechanisms that could potentially lower the directional preference bias in the long and short investors. In addition, other than the operating lease and equity method, there exist several other contexts pertinent to the financial statements that could be the focus of future research, e.g. revenue recognition management and asset securitization.

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