

# A STUDY ON THE CORRELATION BETWEEN ASSETS IMPAIRMENT AND EARNINGS MANAGEMENT

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## Abstract

In this paper we explored the correlation between assets impairment and earning management of publicly listed companies in Taiwan and analyzed that in addition to assets impairment, whether companies would apply discretionary accruals as agency variable in earnings management. Results of the study found that companies' scale and discretionary accruals are negatively correlated in significant level, indicating that assets impairment can also have effect on companies' earnings management. In addition, there is no evidence showing correlation between reversal of asset impairment and earnings management.

**Keywords:** assets impairment; earnings management; discretionary accruals

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## INTRODUCTION

International Financial Reporting Standards (IFRS) regulate that the main purpose of proceeding assets value impairment on fixed assets, obsolete assets, identifiable intangible assets, goodwill, and investment via equity method, etc. is to make value of companies' long-term assets more transparent and provide more fair and justified information to users. However, many scholars have doubt about the regulation, claiming that recognition and measurement of assets impairment can easily allow companies to manipulate earnings. In another words, although assets impairment makes information transparent, it can also bring about malpractice, twisting purpose of assets impairment and let earnings to achieve pursued objectives. Such notion means that the management is more likely to use assets impairment to satisfy speculative reporting purposes.

## LITERATURE REVIEW AND HYPOTHESIS

### Related Literature on Assets Impairment

The reasons to recognize assets impairment can be classified into two categories: one for the speculative reporting purpose of management and two for demonstration of company's economic essence. From the perspective of opportunism, scholars pointed out that the statement of assets impairment entrusts too much subjective judgement and accounting choice flexibility to the management, thus has fallen to be a tool of management's earning manipulation.[1][2] For those publicly listed companies that apply Statement No.35 timely, their assets impairment amount recognized is related to management's reporting motives and business operating factors.[3][4] Assets impairment is an infrequent loss. When managers recognize infrequent expenses based on certain incentives, such recognitions no only would not damage their personal bonus and analysts' prediction, they can even benefit from the rising of core earnings in the future. [5] Companies that applied Statement No.35 ahead of time would use discretionary accruals to transmit private information about companies' true value. They mechanically hypothesized that "better governing mechanism would induce companies to apply assets impairment statement ahead of time or restrain recognized amount of assets impairment", thus overlooked companies' operating characteristics and the main reason that managers recognize assets impairment is for "Big-bath Charges."1 A study shows that those apply Statement No.35 ahead of time have lower earnings management incentives and better governing mechanism. [6]

With the above reviews, the study predicts that when companies' governing mechanism is more effective, companies' management would take into consideration the

negative effect of "twisted assets impairment numbers" on managers and enhance supervising managers to recognized impairment numbers based on "economic essence" to avoid damaging shareholders' wealth. The better corporate governance companies have, companies' management would more be able to examine accountants' role based on efficiency perspective before-hand and can realize the effect obtained by recognizing assets impairment according to economic essence. Management would be more than likely to request fellow managers to recognize assets impairment based on economic essence.

### Earnings Management

For profit-seeking companies, earnings management is one accounting policy with abstract performance of economic results. When company managers choose different accounting policies, they would choose the accounting policy that has maximum effect or can maximize companies' market values.[7]

Earnings management is that management purposely involve in preparing process of financial statements, and, within legal range, would apply generally accepted accounting principles (GAAP) to achieve their expected earnings objectives. [8]

In viewing long-term effect, earnings management would not increase or decrease companies' actual profits, but only change actual profits reflected in reports of different accounting periods. When companies are in financial difficulties or have other objectives, high level management may be induced to use discretionary accounts receivable and inventories to manipulate earnings to cover up truth of companies' financial difficulties, in which earnings management behavior will increase. [9] On the other hand, another type of earnings management is earnings aggressiveness. When earnings fluctuate more or certainties are higher, companies would reduce capital cost to decrease financial market risk to obtain higher market evaluation, [10] making reported earnings to be stable, not in highly fluctuating conditions. However, there would also be Big Bath phenomena, meaning that when recognizing loss in current period, why not recognize large volume of loss at once for relaunch in next period.

### Assets Impairment and Earnings Management

Recognizing assets impairment is a way of earnings management. When companies choose to use recognizing assets impairment as a tool of earning management, they mean to make impairment amount higher to manipulate downward earnings management. Thus the study predicts

that recognizing assets impairment is negative correlated to discretionary accruals, forming hypothesis 1.

Hypothesis 1: Recognition of assets impairment is negatively correlated to earnings management

Reversal of recognized assets impairment is for obtaining short- term net income, manipulating assets impairment and reversal profit to drive up earnings. Thus, the study predicts that recognition of assets impairment is positively correlated to discretionary accruals, forming hypothesis 2.

Hypothesis 2: Recognition of assets impairment reversal is positively correlated to earnings management.

**RESEARCH METHOD**

**Sample and Period of Study**

The study applied regression method to examine hypotheses proposed in this study and used discretionary accruals (DAit) of Kothari, Andrew and Wasely Model [11] as agency variable of earnings management. Based on Hypothesis 1 and Hypothesis 2 proposed in previous section, Model (1) is established as follows:Title and Authors

$$DAit = \theta_0 + \theta_1 SUPERit + \theta_2 DUALit + \theta_3 INDBit + \theta_4 WOTAit + \theta_5 RWOTAit + \theta_6 SIZEit + \theta_7 SALESit + \epsilon it$$

(1) Definition and measurement of dependent variable

Kothari, Andrew and Wasely Model  
DAit = TAIT - NDAit

Variable measurement:

DA it firm i's year t discretionary accruals Tait firm i's year t total assets

NDA it firm i's year t nondiscretionary accruals

Variable measurement:

ASSETSit-1 firm i's year t-1 total assets at the end of year

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ΔSALE it the change in firm i's sales from year t-1 to t scaled by beginning total assets

ΔAR it the change in firm i's accounts receivable from year t-1 to year t scaled by beginning total assets

PPE it firm i's year t total plants and equipment scaled by beginning of total assets

ROA it firm i's year t return on assets

Variable measurement:

ΔCA it the change in firm i's current assets from year t-1 to year t

ΔCASH it the change in firm i's cash and cash equivalents

from year t-1 to year t

ΔCL it the change in firm i's current liabilities from year t-1 to year t

ΔLL it the change in firm i's long-term liabilities due within one year from year t-1 to year t

DEP it firm i's year t depreciation and amortization

ROA it firm i's year t return on assets

(2) Definition and measurement of independent variable

The study set assets impairment (WOTAit) and reversal of assets impairment (RWOTAit) as agency variables.

i. Agency variables of assets impairment

WOTA it agency variable of assets impairment; firm i's year t assets impairment amount scaled by beginning of total assets, used to examine Hypothesis 1

RWOTA it agency variable of reversal of assets impairment; firm i's year t assets impairment amount scaled by beginning of total assets, used to examine Hypothesis 2

(3) Definition and measurement of controlling variable

In order to eliminate effect of moderating factors, the study controls factors through regression model, by applying firm size (SIZE it)

[12] and sales (SALES it) as agency variables of firm scale and independent director (SUPER it), director of boards serving as general manager (DUAL it) and ratio of the number of independent directors (INDB it) as agency variables of corporate governance.

i. Agency variables of firm size

SIZE it firm scale; take log of firm i's year t beginning total assets, expected to have positive effect on DA

SALES it sales; firm i's year t sales scaled by beginning of total assets, expected to have positive effect on DA

ii. Agency variables of corporate governance

SUPER it establishing independent director; 1 if firm i has established independent director in year t, 0 if not, expected to have negative effect on DA

DUAL it director of the board serving as general manager; 1 if firm t's director of the board serving as general manager, 0 if not, expected to have positive effect on DA

INDB it ratio of the number of independent directors; firm i's number of independent directors divided by number of total directors, expected to have negative effect on DAReferences

**Statistical Result Analysis**

**Descriptive Statistics**

Table 1 shows descriptive statistics of every variable in this study. In the sample there are 67% with independent directors(SUPER), with number of independent directors averaging 22% and 35% of firms have directors of the board serving as general managers (DUAL). There are a bigger standard deviation in both ratio of the number of independent directors (INDB) and firm scale (SIZE), revealing the in sample of the study large variations exist between ratio of the numbers of independent directors and firm scale.

**Table 1 Description statistics of variables**

Variab le	Averag e	Std. Dev.	Minimum	Maximu m	Mediu m
DA	-0.001	0.1383	-2.3919	5.6085	-0.0025
WOTA	0.0024	0.1289	-0.0053	0.4243	0.0000
RWOTA	-.0002	0.0049	-3.6617	0.0000	0.0000
SUPER	0.67	0.472	0	1	1

DUAL	0.35	0.476	0	1	0.00
INDB	22.2873	17.2578	0.00	80.00	28.5714
SIZE	15.1198	1.4428	9.80	21.68	14.9243
SALES	0.9758	0.7558	0.00	25.99	0.8331

Note: DA is discretionary accruals; WOTA is agency variable of assets impairment; ROWA is agency variable of reversal of assets impairment; SUPER is establishing independent directors; DUAL is director of the board serving as general manager; INDB is ratio of the number of independent directors; SIZE is firm scale; SALES is sales.

**Correlational Analysis**

Table 2 show that firms recognized assets impairment have average discretionary accruals of -0.0102, significantly larger than 0.0024 (T=4.698); firms with reversal of assets impairment have average discretionary accruals of 0.00084, significantly larger than -0.0006 (T=1.874).

**Table 2 Deviation test on average discretionary accruals**

Variable	Sample Size	Average	Std. Dev.	t Value
Impairment recognized	3319	-0.0102	0.1462	-4.698***
Impairment unrecognized	12880	0.0024	0.1361	
Impairment reversed	869	0.0084	0.1043	-1.874*
Unreversed impairment	15330	-0.0006	0.1400	

\*\*\*means achieving 1% level of significance; \*\*means achieving 5% level of significance; \*means achieving 10% level of significance

Table 3 shows that there is significant correlation between discretionary accruals and every independent variable, indicating correlation between independent and dependent variables. To prevent existence of collinearity from influencing test result, the study applied Pearson correlation coefficient matrix to examine collinearity between dependent

and independent variables, and among all independent variables. The study found that other than that correlation coefficient is higher between ratio of number of independent directors and establishing independent directors, the correlation coefficient is not high among each explaining variables, thus no major collinearity exists.

**Table 3 Correlation coefficient matrix among variables**

	DA	WOTA	RWOTA	SUPER	DUAL	INDB	SIZE	SAL
DA	1	-0.075***	-0.025**	-0.011	-0.010	-0.014*	0.007	-0.001
WOTA	-0.092***	1	0.005	-0.029***	0.004	-0.051***	0.162***	-0.093***
RWOTA	-0.013*	-0.001	1	0.086***	0.021***	0.093***	-0.098***	0.042***
SUPER	0.002	0.004	0.037***	1	0.033***	0.838***	-0.129***	0.064***
DUAL	0.002	0.010	0.002	0.033***	1	0.066***	-0.141***	-0.033***
INDB	-0.001	0.002	0.036***	0.915***	0.055***	1	-0.158***	0.074***
SIZE	-0.005	-0.047***	0.032***	-0.097***	-0.142***	-0.125***	1	-0.049***
SAL	0.045**	-0.073***	0.012	0.053***	-0.019**	0.062***	-0.044***	1

Note: 1.DA is discretionary accruals; WOTA is agency variable of assets impairment; ROWA is agency variable of reversal of assets impairment; SUPER is establishing independent directors; DUAL is director of the board serving as general manager; INDB is ratio of the number of independent directors; SIZE is firm scale; SALES is sales.

2. The lower left corner is Pearson correlation coefficient; the upper right corner is Spearman correlation coefficient.
3. \*\*\*means achieving 1% level of significance; \*\* means achieving 5% level of significance; \* means

achieving 10% level of significance.

**Empirical Analysis Result**

Table 4 shows that there is negative correlation between firm size and discretionary accruals (coefficient is -0.001; t value if -0.949), indicating that firm size can have effect on firm's earning management, which is influencing variables of firm size and assets impairment, supporting Hypothesis 1.

In addition, there is no evidence in coefficient and t value statistical result showing correlation between reversal of assets impairment and ratio of the number of independent directors, thus Hypothesis 2 is not supported.

**Table 4 Simple linear regression analysis result**

DAit=θ0+θ1SUPERit+θ2DUALit+θ3INDBit+θ4WOTAit+θ5RWOTAi θ6SIZEit+θ7SALESit+εit					
Variabl e	Coefficient	Expect ed sign	Estimated Coefficient	Std. Dev.	t Value
Intercept	θ0	?	0.006	0.012	0.483
WOTA	θ0	-	-0.965	0.084	-11.456 * **
RWOTA	θ0	+	0.385	0.222	-1.738*
SUPER	θ0	+	0.005	0.006	0.904
DUAL	θ0	+	0.001	0.002	0.329
INDB	θ0	+	0.000	0.000	-1.011
SIZE	θ0	+	-0.001	0.001	-0.949
SALES	θ0	+	0.007	0.001	4.958
Sample size	16199				
F value	24,169***				
Adj. R <sup>2</sup>	0.01				

Note: 1.DA is discretionary accruals; WOTA is agency variable of assets impairment; ROWA is agency variable of reversal of assets impairment; SUPER is establishing independent directors; DUAL is director of the board serving as general manager; INDB is ratio of the number of independent directors; SIZE is firm scale; SALES is sales.

- 2.\*\*\*means achieving 1% level of significance; \*\* means achieving 5% level of significance; \* means achieving 10% level of significance.

**CONCLUSION**

Because interest, technology, supply and demand, and inflation level are continuously changing, assets value is also changing continuously. Firms take advantage of assets evaluation in earning management. Firms can

reevaluate overrated assets when expanding their scales and use assets impairment to reflect actual assets condition. More than half of the management would use earnings management to recognize assets impairment. In the past some scholars denied the value of financial standard totally, just because it allows managers opportunities to use arbitrary space granted by financial standard on assets impairment on earnings management and even propose returning to old accounting method. The study believes that such notion completely overlooks that the financial standard on assets impairment has moved toward value reporting improvement and strengthen firms` conservative information effectiveness. An appropriate recognition of assets impairment can make information more concise and actual. However, because assets impairment is closely correlated to earnings management, intentional manipulation can cause earnings management problem. Therefore, the authority must pay close attention to this issue to maintain investors` interests.

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