Taiwanese banking earnings management

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ABSTRACT

This article tries to explore earnings management of Taiwanese banking industry. It adjusts the Shen (2008) Model to measure loan loss provision earnings management of banks, and following Jones Model (1991) and Dechow Model (1995) reclassifies non-discretionary and discretionary items to detect accrued earnings management of banks. The empirical results show that banks downward earnings are different to pre-reclassifying discretionary earnings management, and banks employ loan loss provision earnings management upward earnings. Furthermore, different research purposes may adopt different measures to measure the degree of Taiwanese banking industry earnings management.

Keywords: accrual earnings management, Loan Loss Provisions, Jones Model, Modified Jones Model, Loan Loss Provisions earnings management

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1 Introduction

The banking industry is different from general business, most of the funding comes from people and the financial markets, there are great employment and high associated with the government. In the economic system, financial institutions through effective resources allocation to promote economic growth. Banks are the key members of financial institutions and the lifeblood of the modern economy (Aziz, 2012). Therefore, government's norms in the banking industry are more than the general business. Banks take the important tasks in financial intermediation that is the source to grow each economy. The economic growth and development depend on the integrity and stability of the banks industry (Kamau, 2011). Any country's economy depends on banking industry (Draghi et al., 2012), thence, it is necessary to examine the banking operating efficiency.

Operating efficiency is reflected in earnings. After Healy (1985) finds earnings

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management, many researches on manager's discretions impact reported earnings. Lots of views to explain for the evidence and motive of manipulated earnings. Some literatures believe the evidence of earnings management can be categorized as the relationship between earnings management and bonds maturity structure[3] as well as profitability or corporate governance[4] and so on. Financial literatures believe that loans are the most volume of banking business, managers manipulate loans loss provisions in order to achieve earnings management, so to measure earnings management for loans loss provisions. Previous literatures focus on manager manipulate accounting earnings by increase or decrease loans loss provisions (Robb, 1998). Therefore, Ibrahim (2009) thinks literatures ignore that managers may use one or more accrued earnings management tools to manipulate accounting earnings.

Accounting literatures focus on the earnings management, that is often used Jones model and modified Jones model to measure earnings management. Dechow et al. (1995) points out both of which are measures of accrual earnings management. However, the finance observations had been excluded from past study samples. Onalo et al. (2013) adjust Modified Jones model for the banking industry to detect banking industry earnings management. Thence, the study attempt to modify Onalo et al. (2013) model for the banking industry to detected accrued earnings management, not only manipulating loans loss provisions.

Finally, this study adopts Shen (2008) model to detect non-performance loan earnings management unlike the previous literature. To Modify Shen (2008) model detecting loan loss provisions earnings management and reclassify non-discretionary and discretionary items to detect accrued earnings management of banking earnings management phenomenon, furtherly, to observe the relationship between non-performance loan earnings management phenomenon and accrual earnings management phenomenon.

The empirical results show that banks downward earnings are different to pro-reclassifying discretionary items, and banks employ loan loss provision earnings management upward earnings. Different earnings management models effectively detected earnings management. Different research purposes adopt different measures to measure the degree of earnings management.

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[3] Shen et al. 2005;Louis et al. 2005; Fang et al. 2011;Dechow et al. 2011 ;Baber et al. 2011;Badertscher 2011;Louis et al. 2011;Hsu et al. 2011.

[4] Kothari et al. 2005;Lo 2008; Mok 2009;Ebaid 2010; Prencipe et al. 2011;Haw et al. 2011;Feng Li 2011;Hong et al. 2011;Basu et al. 2012.

Apart from the introduction of this module, the structure of this paper shows the meaning, purpose, and contribution. The rest of the paper is structured as follows. Section 2 reviews the literature around divestitures, while section 3 presents the data and methodology employed. Section 4 presents and discusses the results and section 5 concludes the paper.

2 Literature Review

Banking management earnings, more profit raise loan loss provision, whereas lower profit decrease loan loss provision. Banks earnings fails to evaluate the performance (Shen, 2005). Shen and Chih (2005) finds that banks in more than two-thirds of the 48 countries sampled are found to have managed their earnings. Banks manage income downward by accelerating provisions for loans losses (Liu et al., 2006). Akindayomi (2012) finds that banks generally show a positive association between earnings before taxes and provisions for loan loss and loan loss provisions. However, Defond et al. (1997) believe that earnings stability causes stock price stability.

Operating efficiency is reflected in earnings. Shen (2008) points out that banks earnings failed to evaluate the performance, because banks earnings is affected by overdue non-performing loan and banks' provision for loan loss, and non-performing loan is the result in accumulated bad debts, not reaction of current operating efficiency. Then, Shen (2008) puts out the total loan loss provisions (LLPs) from new overdue loans and the lack of demand bad debts allowance of the year for the banks. This study modifies Shen (2008) model to observe loan loss provisions earnings management for Taiwan banks industry.

High levels of current earnings increase loan loss provisions, low levels of current earnings decrease loan loss provisions. Apart from the loan loss reserves to reach the target of earnings management, managers can also use different earnings management tool to achieve management objectives. McVay (2006) points out that managers opportunistically shifting expenses from core expenses (cost of goods sold and selling, general, and administrative expenses) to special items. Through exchange differences to avoid variations in operating profit by dealing with them in profit after tax (Brayshaw et al.,1989). Managers employ the earnings management tools of expense shifting, discretionary accruals as substitutes and increasing core earnings through shifting expenses (Haw et al.,2011).

Managers manipulate Expense transfer and discretionary accrual such as alternative earnings management tools. Ibrahim (2009) according to Securities and

Exchange Commission (SEC) litigations, indicates that managers use either one or more than one component of accruals simultaneously, in a consistent way to manipulate bottom-line earnings in a given direction. In order to avoid ignore managers use one or more accrued earnings management tools, this research modify Onalo et al. (2013) model and view accrual earnings management of Taiwan banks industry. Onalo et al. (2013) modifies the Jones model to investigate the quality of earnings in both economies and a comparative analysis of the different country banks related accounting standard is equally made.

Dechow et al. (1995) simulation analysis indicated that Jones model and modified Jones model at the company's annual patterns of random samples can effectively detect earnings management. Both of which is a measure of accrual earnings management and study samples are often excluded the financial sector. Bernard and Skinner (1996) study Modified Jones Model (Dechow et al.,1995), suggest specific industries should reclassify non-discretionary and discretionary items.

Banking is an important financial institution, as a source of funds for financial intermediaries, deposits have steadily diminished in importance (Edwards and Mishkin,1995). Bank assets are mainly loan business, interest income from loan business is the main income, interest income essentially corresponds to the sales revenue in manufacturing. Bank liability is mainly deposits, deposit interest rate is the finance cost, interest fees essentially corresponds in the cost of goods sold of trading and manufacturing.

Interest rate is non-discretionary that result in different supply and demand for loanable funds over time, therefore, the Bank's interest income and interest expenses determined by market supply and demand (Madura,1998). Receivables in the Modified Jones Model is non-discretionary projects, in the banking specific model, the receivables can be transformed into discretionary accruals through agreement or contract. Personnel costs are a major component of the finance cost of the banking, should be included in the discretionary items. Other components include profit and loss included in the discretion.

3 Research Methodology

3.1 Data

The samples include banks from Taiwan between 2005 and 2013. Data is acquired from the Bankscope (Bureau van Dijk) database and Taiwan Economic Journal database (TEJ). The original samples consist of 36 banks, the total sample of

36 banks accounts for a total of 324 firm-year observations.

3.2 **Methodology**

Refer Dechow et al. (1995) to investigate the estimates of discretionary accruals produced by the models, firm-years are selected to have either extreme earnings performance or extreme cash from operations performance. All firm-years are separately ranked on each performance measure. A “high” and a “low” sample is formed for each of the performance measures, resulting in a total of two samples. For each measure, firm-years are assigned in equal numbers to decile portfolios based on their ordered ranks. Then, basing on restatement fiscal statement or not, sample is divided into two groups. These samples are formed using the following procedure. Each of the performance measures is standardized by lagged total assets. Further, sort simulation observations by year and compare to whole sample.

3.2.1. Loan Loss Provisions Model

Shen (2008) points out that banks earnings failed to evaluate the performance, because banks earnings is affected by overdue non-performing loan and banks’ provision for loan loss and so on, and non-performing loan is the result of accumulated bad debts, not reaction of current operating efficiency, puts out the total loan loss provisions (LLPs) from new overdue loans and the lack of demand bad debts allowance of the year for the banks. Following Shen (2008), NPL loan loss provisions are estimated during the event period as:

$$NPL_{i,t} = NPL_{i,t-1} + newNPL_{i,t} - Writeoff_{i,t} - Recovery_{i,t} - Selloff_{i,t} \quad (1)$$

where $NPL_{i,t-1}$ is non-performing loan in year t-1, $newNPL_{i,t}$ is non-performing loan in year t minus non-performing loan in year t-1, Write $off_{i,t}$ is write off bad debts in year t, $Recovery_{i,t}$ is repayment for bad debts in year t, Sell $off_{i,t}$ is non-performing loan sell-off to asset management corporation in year t. newNPL is estimated as

$$newNPL_{i,t} = NPL_{i,t} - NPL_{i,t-1} + Writeoff_{i,t} + Recovery_{i,t} + Selloff_{i,t} \quad (2)$$

If $newNPL_{i,t} < 0$, newNPL is estimated as

$$newNPL_{i,t} = Min\left(\frac{newNPL_i}{Totalloan_i}\right) \times Totalloan_{i,t}$$
$$t = 1,2,3,...,T \quad (3)$$

$$LLR_{i,t} = LLR_{i,t-1} + LLP_{i,t} \quad (4)$$

where $LLR_{i,t-1}$ is loan loss Reserve in year t-1, $LLP_{i,t}$ is loan loss provisions in year t.

Base on managers taking into the economic environment and risk tolerance, habitually maintained the previous year loan loss coverage ratio. This study assumes previous year loan loss coverage ratio estimates as

$$k = \frac{LLR_{i,t-1}}{NPL_{i,t-1}} \quad (5)$$

$$EL_{it,1} = Expectedloss_{it,1} = newNPL_{it,1} \times k \quad (6)$$

where k is loan loss coverage ratio in t-1 year, $EL_{it,1}$ is addition loan loss provisions in year t.

$$EL_{it,2} = Expectedloss_{it,2} = k \times NPL_t - \left(LLR_{i,t-1} + EL_{it,1}\right) \quad (7)$$

where $EL_{it,2}$ is a need fill of loan loss reserve in year t.

If $EL_{it,2} < 0$, it implies sufficient loan loss provisions in current period, do not need a fill of loan loss reserve in current period, and assumes $EL_{it,2}$ to be zero. Then, $EL_{it,1}$ plus $EL_{it,2}$ are banks need fill of loan loss provisions in year t.

$$ECOST_{i,t} = RCOST_{i,t} - LLP_{i,t} + \left(EL_{it,1} + EL_{it,2}\right) \quad (8)$$

where $ECOST_{i,t}$ is economic cost in year t, estimated from cost presented in statement in year t, $RCOST_{i,t}$ is cost presented in statement in year t.

The model for normal loan loss provisions is estimated as

$$ECM_{i,t} = \frac{ECOST_{i,t} - RCOST_{i,t}}{TA_{i,t}} \quad (9)$$

where $ECM_{i,t}$ is discretionary loan loss provisions for bank i in year t scaled by total assets at the end of the year, $TA_{i,t}$ is total asset at the end of the year t. This study define Equation (9) $ECM_{i,t}$ as the banks discretionary loan loss provisions.

3.2.2. Pre-reclassifying Discretionary Earnings Management

Dechow et al. (1995) evaluates alternative accrual-based models for detecting earnings management, the models considered appear to produce reasonably well specified tests for a random sample of even-years, and the Modified Jones model (Dechow et al.,1995) exhibits the most power in detecting earnings management. Bernard and Skinner (1996) study Modified Jones Model (Dechow et al.,1995),

suggest specific industries should reclassify non-discretionary and discretionary items. Onalo et al. (2013) estimate total accruals and subsequently modifies and employs the Modified Jones Model to decompose the total accruals into its discretionary and nondiscretionary components. Thus, this study attempt to modify and employ the Modified Jones Model to detect discretionary accruals.

Banks take the important tasks in financial intermediation, capital demand from households, businesses, Governments and foreign, and capital supply from depositors and monetary institutions. Equilibrium interest rate consists of both supply and demand for loanable funds, and the rate is different over time, therefore, the Bank's interest income and interest expenses are determined by market supply and demand (Madura,1998), so interest income and interest expenses are non-discretionary items.

The Modified Jones Model decompose receivables into its non-discretionary projects, therefore, in the banking specific models, the receivables can be reclassified into discretionary accruals through agreement or contracting. Personnel costs are a major component of the total banking operating costs, that should be included in the discretionary accruals. Other components include income and expenses should be included in discretion accruals. Accordingly, this research adjusts Modified Jones Model starting from Jones model to expand Banks measure earnings management models. This study estimates Total Accruals using details from cash flow statements and income statements of banks. $PBTE_{i,t}$ is estimated as

$$PBTE_{i,t} = OCF_{i,t} + TAC_{i,t} \tag{10}$$

where $PBTE_{i,t}$ is profit before tax and extraordinary items in year t, $OCF_{i,t}$ is operating cash flows taken directly from cash flow statement in year t, $TAC_{i,t}$ is total accruals of bank in year t.

$$TAC_{i,t} = PBTE_{i,t} - OCF_{i,t} \tag{11}$$

To decompose the total accruals into its discretionary and nondiscretionary components.

$$TAC_{i,t} = NDAC_{i,t} + DAC_{i,t} \tag{12}$$

where $TAC_{i,t}$ is total accruals of bank in year t, $NDAC_{i,t}$ is nondiscretionary components in year t, $DAC_{i,t}$ is discretionary components in year t.

$TAC_{i,t}$ is estimated as

$$\frac{TAC_{i,t}}{TA_{i,t-1}} = \alpha_0 \frac{1}{TA_{i,t-1}} + \alpha_1 \frac{\Delta REV_{i,t}}{TA_{i,t-1}} + \alpha_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{13}$$

where $TA_{i,t-1}$ is total asset at the beginning of the year t , $\Delta REV_{i,t}$ is revenue in year t minus revenue in year t-1, $PPE_{i,t}$ is gross property, plant, and equipment in year t. $\varepsilon_{i,t}$ is the error term or residual indicating discretionary accruals, that is pre-reclassifying discretionary earnings management.

3.2.3. Post-reclassifying Discretionary Earnings Management

Dechow et al. (1995) base on the reasoning that it is easier to manage earnings by exercising discretion over the recognition of revenue on credit sales than it is to manage earnings by exercising discretion over the recognition of revenue on cash sales, modified version of the Jones Mode as

$$\frac{TAC_{i,t}}{TA_{i,t-1}} = \alpha_0 \frac{1}{TA_{i,t-1}} + \alpha_1 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} + \alpha_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{14}$$

where $\Delta REV_{i,t}$ is revenue in year t minus revenue in year t-1, $\Delta REC_{i,t}$ is receivables in year t minus receivables in year t-1, $PPE_{i,t}$ is gross property, plant, and equipment in year t.

The measures of earnings management based on the Jones (1991) model need to be modified for banks that are not engaged in sales-based businesses (Cohen et al., 2012). modified $TAC_{i,t}$ is estimated as

$$\frac{TAC_{i,t}}{TA_{i,t-1}} = \alpha_0 \frac{1}{TA_{i,t-1}} + \alpha_1 \frac{\Delta OI_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} + \alpha_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{15}$$

where $\Delta OI_{i,t}$ is operating income in year t minus operating income in year t-1, $\Delta REC_{i,t}$ is receivables in year t minus receivables in year t-1, $PPE_{i,t}$ is gross property, plant, and equipment in year t.

Further, Manufacturing and trading sales goods, banks sell loan, loan is likely to generate non-performing loan, taking away non-performing loan from total loans to calculate net loans, that is, *Net Loan = Total Loan –* (*Non-Performing Loan*). This study modifies $TAC_{i,t}$ is estimated as

$$\frac{TAC_{i,t}}{TA_{i,t-1}} = \alpha_0 \frac{1}{TA_{i,t-1}} + \alpha_1 \frac{\Delta OI_{i,t} - \Delta NL_{i,t}}{TA_{i,t-1}} + \alpha_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{16}$$

where $\Delta NL_{i,t}$ is net loan in year t minus net loan in year t-1.

$$NDAC_{i,t} = \alpha_0 \frac{1}{TA_{i,t-1}} + \alpha_1 \frac{\Delta OI_{i,t} - \Delta NL_{i,t}}{TA_{i,t-1}} + \alpha_2 \frac{PPE_{i,t}}{TA_{i,t-1}} \tag{17}$$

$$DAC_{i,t} = \varepsilon_{i,t} = \frac{TAC_{i,t}}{TA_{i,t-1}} - NDA_{i,t} \tag{18}$$

where $TAC_{i,t}$ is total accruals of bank in year t, $NDAC_{i,t}$ is nondiscretionary components in year t scaled by total assets at the end of the year t-1, $DAC_{i,t}$ is discretionary components in year t scaled by total assets at the end of the year t-1. The equation (18) is post-reclassifying discretionary earnings management.

Accounting literatures focus on the earnings management, that is often used Jones model and modified Jones model to measure accrued earnings management. This study defines Jones model as pre-reclassifying discretionary earnings management and modified Jones model as post-reclassifying discretionary earnings management. On accounting theory inference, accrued earnings management is one of the items to be including loan loss provisions earnings management.

4 Results

4.1 Descriptive Statistics

Table 1 is a distribution of earnings management table, and table 2 is a descriptive statistic. In table 1 and table 2, to show the banks tend to downward accrued earnings management different from to pre-classification earnings management, and the banks adopt loan loss provisions earnings management to upward earnings. Most banks manipulate accounting earnings operate with banks loan loss provisions. Banks manipulate the degree of positive loan loss provisions earnings management is large than accrued items, negative loan loss provisions earnings management is small than accrued items.

Table 1. Distribution of earnings management

Earnings Management	Jones		Modified Jones		Grouped Jones		Grouped Modified Jones		LLP earnings management	
	N	%	N	%	N	%	N	%	N	%
Negative	157	48.5	168	51.9	155	47.8	167	51.5	41	12.7
Positive	167	51.5	156	48.1	169	52.2	157	48.5	283	87.3
Sum	324	100	324	100	324	100	324	100	324	100

Table 2. Descriptive statistics

	N	Min	Max	Mean	Median	SD
Jones	324	-20.404	21.301	0.005	0.060	3.331
Modified Jones	324	-20.498	21.376	-0.022	-0.061	3.380
Grouped Jones	324	-20.350	20.330	0.002	0.078	3.302

Grouped Modified Jones	324	-20.683	19.921	-0.034	-0.055	3.328
LLP earnings management	324	-4.350	172.409	3.464	0.823	12.762

4.2 Coefficient Relational Analysis

Table 3 is a correlation coefficient matrix table. In table 3, two kinds of accrual earnings management have a very high degree of significant relationality. However, loan loss provisions earnings management and accrual earnings management have insignificant correlation.

Table 3. correlation coefficient matrix

	Jones	Modified Jones	Grouped Jones	Grouped Modified Jones	LLP earnings management
Jones	1				
Modified Jones	.979**	1			
Grouped Jones	.967**	.952**	1		
Grouped Modified Jones	.938**	.965**	.966**	1	
LLP earnings management	-.077	-.104	-.074	-.102	1

**, * indicate significance at the 1%, and 10% levels respectively.

4.3 Analysis of Pair T test

Table 4 is an analysis of pair t test table. In table 4, to show the bank earnings management has insignificant difference in pair T test, included accrual earnings management and loan loss provisions earnings management. Banks pre-reclassifying discretionary earnings management and post-reclassifying discretionary earnings management have a very high degree of significant relationality, grouped samples and non-grouped samples can detect earnings management and the earnings management have a very high degree of significant relationality. Therefore, all earnings management are insignificant different. It perhaps implies all earnings management tools presence the loan loss provisions, and accrual earnings management presence virtually the same mode of operation.

Table 4. Analysis of Pair T test

		N	Mean	Correlation	Paired Differences Mean	Paired Differences T test
Pair 1	Jones	324	0.005	0.979***	0.027	0.692
	Modified Jones	324	-0.022			
Pair 2	Grouped Jones	324	0.002	0.966***	0.036	0.756
	Grouped Modified Jones	324	-0.034			
Pair 3	Jones	324	0.005	0.967***	0.003	0.043
	Grouped Jones	324	0.002			
Pair 4	Modified Jones	324	-0.022	0.965***	0.012	0.237
	Grouped Modified Jones	324	-0.034			
Pair 5	Jones	324	0.005	-0.077	-0.03	-0.162

	LLP earnings management	324	0.035			
Pair 6	Modified Jones	324	-0.022	-0.104	-0.057	-0.301
	LLP earnings management	324	0.035			
Pair 7	Grouped Jones	324	0.002	-0.074	-0.033	-0.175
	LLP earnings management	324	0.035			
Pair 8	Grouped Modified Jones	324	-0.034	-0.102	-0.069	-0.368
	LLP earnings management	324	0.035			

***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

Table 5 is an analysis of grouped t test. In table 5 panel A group samples into the tow group by financial restatements, panel B group samples into the tow group by ranked by net profit after tax more than 50% or less than 50%, panel C group samples into the tow group by Ranked by operating cash flow more than 50% or less than 50%. In table 5 panel D group samples into the tow group by net profit after tax more than zero or less than zero, panel E group samples into the tow group by operating cash flow more than zero or less than zero.

In table 5 panel B, two grouped samples' accrual earnings management and loan loss provisions earnings management significantly different, that is ranked by net profit after tax more than 50% different to less than 50%, and top 50% samples' mean value is positive and last 50% samples' mean value is negative. In table 5 panel C, grouped by operating cash flow have the same situation, top 50% samples' mean value is negative and last 50% samples' mean value is positive, panel E result in the same. Therefore, loan loss provisions earnings management is only effected by net profit after tax. In table 5 panel A, none is effected by financial restatements.

Net profit after tax indicate banks' Efficiency. It implies banks comparably efficiently and inefficiently effect the degree of earnings management, efficient banks upward earnings management and inefficient banks downward earnings management. Less operating cash flow indicate more accrued items, more accrued items representing more amount can manipulate upward, thence, less operating cash flow manipulate upward and more operating cash flow manipulate downward. Besides, to restate report not because banks manipulate earnings management.

In table 5 panel D, two grouped samples' accrual earnings management significantly different, that is the same result in panel B, therefore, loan loss provisions earnings management becomes insignificantly different. That is loan loss provisions earnings management is affected by the bank's operating efficiency but not bank profitability. It means that efficiency banks less non-performance loan have unnecessary loan loss provisions amount to manipulate earnings, banks decrease loan loss reserve still sufficient loan loss provisions so that upward earnings.

表 5. Analysis of Grouped T test

Panel A：Financial restatements		N	Mean	T test	Mean Difference
Jones	No Restated	289	0.002	-0.013	-0.008
	Restated	35	0.010		
Modified Jones	No Restated	289	-0.032	0.032	0.019
	Restated	35	-0.051		
LLP earnings management	No Restated	289	0.037	0.955	0.022
	Restated	35	0.015		
Panel B：Ranked by net profit after tax					
Jones	Top 50%	162	0.550	2.985***	1.092
	Last 50%	162	-0.541		
Modified Jones	Top 50%	162	0.584	3.276***	1.212
	Last 50%	162	-0.628		
Grouped Jones	Top 50%	162	0.486	2.659***	0.967
	Last 50%	162	-0.481		
Grouped Modified Jones	Top 50%	162	0.474	2.772***	1.015
	Last 50%	162	-0.541		
LLP earnings management	Top 50%	162	1.984	-2.099**	-2.96
	Last 50%	162	4.945		
Panel C：Ranked by operating cash flow					
Jones	Top 50%	162	-1.591	-9.808***	-3.19
	Last 50%	162	1.600		
Modified Jones	Top 50%	162	-1.644	-9.835***	-3.245
	Last 50%	162	1.600		
Grouped Jones	Top 50%	162	-1.570	-9.741***	-3.145
	Last 50%	162	1.575		
Grouped Modified Jones	Top 50%	162	-1.583	-9.457***	-3.099
	Last 50%	162	1.516		
LLP earnings management	Top 50%	162	4.184	1.014	1.438
	Last 50%	162	2.745		
Panel D：net profit after tax					
Jones	More than zero	265	0.432	4.104***	2.347
	Less than zero	59	-1.915		
Modified Jones	More than zero	265	0.398	4.004***	2.309
	Less than zero	59	-1.910		
Grouped Jones	More than zero	265	0.416	3.972***	2.272
	Less than zero	59	-1.856		
Grouped Modified Jones	More than zero	265	0.344	3.640***	2.074
	Less than zero	59	-1.730		
LLP earnings management	More than zero	265	2.348	-1.651	-6.130
	Less than zero	59	8.478		
Panel E：operating cash flow					
Jones	More than zero	235	-1.107	-11.600***	-4.045
	Less than zero	89	2.939		
Modified Jones	More than zero	235	-1.148	-11.579***	-4.100
	Less than zero	89	2.952		
Grouped Jones	More than zero	235	-1.091	-11.488***	-3.982
	Less than zero	89	2.891		
Grouped Modified Jones	More than zero	235	-1.117	-11.212***	-3.945
	Less than zero	89	2.828		
LLP earnings management	More than zero	235	3.837	0.854	1.358
	Less than zero	89	2.480		

***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

5 Conclusion

This article explores earnings management of Taiwanese banking industry. The empirical results show that the banks downward earnings are different to pro-reclassifying earnings management, and banks employ loan loss provision earnings management upward earnings.

Efficient banks upward earnings management and inefficient banks downward earnings management. Less operating cash flow manipulate upward and more operating cash flow manipulate downward. Besides, to restate report not because banks manipulate earnings management. Less operating cash flow indicate more accrued items, more accrued items representing more amount can manipulate upward. Efficiency banks less non-performance loan have unnecessary loan loss provisions amount to manipulate earnings, banks decrease loan loss reserve still sufficient loan loss provisions so that upward earnings.

Furthermore, different research purposes may adopt different measures to measure the degree of Taiwanese banking industry earnings management.

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