The Modified Jones and Yoon Models in Detecting Earnings Management in Palestine Exchange (PEX)

Bahaaeddin Alareeni and Omar Aljuaidi

Department of Accounting,
University College of Applied Sciences,
Gaza, Palestine

ABSTRACT: This study attempts to find out if the Modified Jones (1995) and Yoon et al., (2006) models are effective in detecting earnings management in an emerging economy as Palestine. The study also compares the Modified Jones (1995) model with the Yoon et al., (2006) model. That is to give an overview of the best model in detecting earnings management practiced by listed companies in the PEX. The study results shows that the Yoon et al., (2006) model is better than the Modified Jones (1995) model in detecting earnings management in the Palestinian's context, and the Modified Jones (1995) model is very poor. Additionally, the results proves that the effectiveness of the Yoon et al., (2006) model is also weak compared to other studies done in other countries (Yoon and Miller, 2006; Yoon et al., 2006; Islam et al., 2011). Consequently, developing new models is vital to be used in detecting earnings management in Palestinian's context.

KEYWORDS: earnings management, discretionary and non-discretionary accruals, effectiveness, efficacy, the explanatory power

1   INTRODUCTION

Financial reporting should provide useful information to enable investors and creditors and other users in making rational investment, credit and other decisions. The main aim of financial reporting is information about company's position provided by measures of earnings and its components. An understanding of earnings management is vital to accountants, auditors and other financial statements users. Because it provides better understanding of the usefulness of net income, both for reporting to investors and for contracting. Net income is one of the issues that cause a reduction in risk imposed on managers. Hence, managers have a strong interest in accounting policy choice. Since companies' managers can use accounting policies from a set of policies reported by Generally Accepted Accounting Principles (GAAP), since mangers are expected to use policies that maximize their own interests. This is called earnings management.

Most the models used to detect earnings management have been developed and applied in the US and European countries and few other countries. The most commonly used model is the Modified Jones (1995) model. Prior research reported that the Modified Jones (1995) model is effective in detecting earnings management in mostly developed economies (Dechow et al., 1995). Recently an empirical research revealed that the Modified Jones (1995) model was not effective in detecting earnings management in the context of Korea and Bangladesh (Yoon and Miller, 2002; Yoon et al., 2006; Islam et al., 2011). It is therefore possible that the Modified Jones model (1995) is not effective also to other countries as Palestine in today's context. Yoon et al., (2006) developed a model to detect earnings management for Korean firms. He found that the model works effectively and better than the Jones model modified in 1995. Therefore, in this paper, we investigate the effectiveness of the Modified Jones (1995) model in PEX. And we second employ the Yoon et al., model developed in 2006. We want to find out if the two models detect earnings management as well as they did in the US and other countries. We also compare the Modified Jones (1995) model with the Yoon et al., (2006) model. Our aim here is to give an overview of the best model in detecting earnings management practiced by Palestinian listed companies.

We conduct this study to shed light on whether earnings management is practiced in industrial and service Palestinian listed companies. In addition, our study provides empirical evidence about the effectiveness of the existing Modified Jones (1995) and Yoon et al., (2006) models to the Palestinian context. To the best of our knowledge, only a very limited number of studies focused on emerging markets in general, and on Palestine in particular. We provide further evidence about the predictive power of the two models for emerging markets and, more specifically for Palestine. To the best of our knowledge, this is the first study that uses multiple regression analysis to test the effectiveness of both models for listed companies in Palestine. Finally, our results can help financial statements' users such as investors, creditors, practitioners, academics to get an overview about the efficacy of the two models in the Palestinian environment. It may also contribute to the earnings management literature in Palestine.

The remainder of this paper includes six other sections. In the next section, we provide a brief literature review. In section three, we present an overview of Palestine Exchange (PEX). In section four, we develop the study problem. In section five, we describe data and methodology. In section six, we discuss the results. In the final section, we report our conclusions.

2   LITERATURE REVIEW

Over the past few decades, earnings management has become a concern throughout the world. Earnings management occurs when managers use judgment in financial reporting and in organizing transactions to modify the financial reports. Managers' aims are here to either mislead some investors about the financial position of a company or to influence contractual outcomes that rely on accounting information (Healy and Wahlen, 1999). GAAP reported that managers may choose among accounting policies that influence reported income differently (Islam, 2011).

Some studies were carried out in the US and European countries to study management's choices of accounting methods, while other studies has focused on accrual management. For example, Cormier and Magnan (1996) supported the economic and financial theory assumption that managers make accounting choices to maximize their interests. Schipper (1989) reported that earnings management is a purposeful intervention in the financial reporting process with the purpose of obtaining some personal gains. As DuCharme et al. (2000) reported that earnings management techniques available to managers are divided into three categories: (1) choice of accounting methods, (2) acceleration of deferral of revenues and expenses and, (3) revision of accounting estimates.

It could be managers believe that they are acting in the firm's best interest. Therefore, they can accelerate the recognition of certain revenues and defer the recognition of some expenses. Additionally, Cormier and Magnan (1996) reported that managers are by nature, rational and opportunistic in the pursuit of their personal interests. These interests are determined by the terms set out in contracts between managers and the company, in addition to in contracts among the firm and other external parties such as creditors, lenders, governments and regulators. A lot of these contracts are based on some incentives. Therefore, regulators and investors have raised concerns that certain management incentives could lead to earnings management, decreasing the informativeness of financial reporting and contributing to recent business scandals (Levitt 1998; Knowledge at Wharton 2003). For example, senior managers often get incentives based on accounting income; and debt often has contracts that state minimum working capital amounts, make maximum debt-to-equity ratios (Islam, 2011).

Previous studies addressed the reasons that prompt managers to choose accounting policies. Such policies include capitalizing versus expensing interest payments, using accelerated depreciation rather than the straight-line method, and determining on whether to capitalize research and development costs.

In general, some studies support the assumption that managers make accounting choices to maximize their personal interests and well-being. Dechow and Skinner (2000) highlight capital market incentives that encourages earnings management. Cheng and Warfield (2005) find equity incentives, in the form of stock-based compensation and stock ownership, lead to earnings management because in such situations manager have more incentives to carry out earnings management to inflate the value of these shares to be sold in future. Bartov and Mohanram (2004) find that private information used by senior executives to time abnormally large stock option awards involve earnings management in order to increase cash payout from these awards, hence, proposing that such stock option awards need to be supervised by the directors. Baker et al. (2003) find that through downward earnings management managers decrease earnings in order to inflate the value of stock option grants. Roychowdhury (2006) finds evidence that firms use multiple real earnings management tools in order to meet certain financial reporting benchmarks to avoid reporting annual losses.

Research examined whether managers use accruals (the difference between net earnings and cash flow) to achieve their interests (Yoon et al., 2006). Other research in financial economics, for example, Bertrand and Schoar (2003) find that managers have a significant impact on the firm's investment, financing and operating decisions and firm's position. However,

accruals are a smart tool for managers to manage earnings because they usually do not need disclosure and often will not be tested by auditor.

It is worth referring that, it is not possible to observe earnings management directly. Therefore, studies have investigated two ways for earnings management, the choice of accounting methods and the management of accruals. Previous research on accruals focused largely for the fiscal year of the firms. DuCharme et al. (2000) reported that accruals models are preferred because this approach captures the income management techniques used to avoid detection by financial statements users. Accruals not only reflect the choice of accounting methods but also the effect of recognition timing for revenues and expenses, asset write-downs and changes in accounting estimates.

Previous research in their attempt to study accruals use two methods: Healy (1985) and DeAngelo (1986) use total accruals as a proxy for earnings management while Jones (1991), Dechow, Sloan and Sweeney (1995), Teoh et al. (1998a) and Teoh et al. (1998b) use discretionary accruals as a measure of earnings management.

The discrimination between discretionary and non-discretionary components of accruals is significant. In earnings management, it is accruals that change as a result of management's accounting decisions that are of interest, which are discretionary accruals. Discretionary accruals represent managerial interventions into financial reporting process.

Several methods have been used by researchers in order to calculate the discretionary accruals like DeAngelo (1986) model, Healy (1985) model, Jones (1991) model, Modified Jones (1995) model and Yoon et al. (2006) model. The most commonly used discretionary model is Jones (1991) model. This model can separate accruals into discretionary and non-discretionary accruals. In 1995, Dechow, Sloan and Sweeney Modified the Jones (1991) model, and they replaced the change in receivables instead of changes in sales. That is to decrease the measurement error of discretionary accruals when discretion is applied over sale. They found that the Modified Jones model (1995) provides the most powerful examination of earnings management compared to Healy, DeAngelo and Jones (1991) models.

Additionally, Guay et al. (1996) concluded that the Modified Jones (1995) model provide reliable estimates of discretionary accruals. Also Peasnell, Pope and Young (2000) found that the Modified Jones (1995) model are able to generate powerful tests for earnings management and are more powerful for the revenue and bad debt manipulations than non-bad debt manipulations.

However, most the models have been developed for and tested in developed countries (e.g., the US and European countries and few other countries i.e., Malaysia, Taiwan, and India etc.). There is no guarantee that these models are as effective in different industries, economic and political environments and/or in different time periods. The outcomes of the models may not be generalisable to other countries. For example, Yoon et al., (2006) and Islam et al., (2011) documented that the Modified Jones (1995) model is not effective in measuring discretionary accruals for Korean and Bangladeshi firms.

Therefore, this study attempt to find out if the Modified Jones (1995) and Yoon et al., (2006) models are effective in detecting earnings management in an emerging economy as Palestine. We also compare the Modified Jones (1995) model with the Yoon et al., (2006) model. That is to give an overview of the best model in detecting earnings management practiced by listed companies in the PEX.

3   PALESTINE EXCHANGE – AN OVERVIEW

Palestine Exchange (PEX) was established in 1995 to promote investment in Palestine. The PEX was fully automated upon establishment-a first amongst the Arab Stock Exchanges. The PEX operates under the supervision of the Palestinian Capital Market Authority. There are 48 listed companies on the PEX as of 31/03/2014 with market capitalization of about $ 3 billion across five main economic sectors; banking and financial services, insurance, investments, industry, and services1. Most of the companies are profitable and trade in Jordanian Dinar, while others trade in US Dollars. Only stocks are currently traded on the PEX. In 2009, the PEX ranked thirty third amongst the worldwide security markets, and regionally comes in second in terms of investor protection.

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[1] Palestine Exchange: http://www.pex.ps

4 STUDY PROBLEM

The most commonly used model in detecting earnings management is the Modified Jones (1995) model. Prior research documented that the model is effective in detecting earnings management in mostly developed countries (Dechow et al., 1995). Recently an empirical research revealed that the Modified Jones (1995) model does not fit for Asian and Bangladeshi firms (Yoon and Miller, 2002; Yoon et al., 2006; Islam et al., 2011). It is therefore possible that the Modified Jones (1995) model is not effective also to other countries as Palestine in today's context. Yoon et al., (2006) proposed a model to be employed in detecting earnings management in Bangladesh capital market. Yoon et al., (2006) showed that the model was effective in detecting earnings management with less error rates.

Therefore, in this paper, we investigate the effectiveness of the Modified Jones (1995) and Yoon et al., (2006) model in PEX. We want to find out if the two models detect earnings management effectively. We also compare the Modified Jones (1995) model with the Yoon et al., (2006) model. That is to determine the best model in detecting earnings management practiced by Palestinian listed companies in the PEX from the period of 2006 - 2011.

5 DATA AND METHODOLOGY

The population of this study includes all listed companies in the PEX. It includes listed companies in all sectors such as banking, industry, insurance, investments and services. The study sample was selected on the basis of the following main conditions: (1) The company must be classified as an industrial or services company; (2) its annual financial reports are available for six years (balance sheets and income statements); (3) its shares must have been publicly traded; (4) its fiscal year ends on 31 December. This selection approach resulted in a sample of 26 listed industrial and services companies from the period 2006-2011. The data was derived from companies' financial reports. We collected six financial reports for each company. Therefore, 156 financial reports were obtained for the study purposes.

As we mentioned above, we are looking for an appropriate model to the Palestinian environment; we want to use it to detect earnings management practiced by listed companies in the PEX. Based on that, we first applied the Modified Jones (1995) model for the study sample (see Appendix 1). We second employed the Yoon et al., (2006) model (see Appendix 2). That is to analyze the effectiveness of these two models in detecting earnings management in the context of Palestine. Besides, we used the multiple regression analysis to compare the explanatory power and models fitness between the two models to determine the best model in detecting earnings management in the PEX.

Through applying the two models, we utilized the discretionary accruals as a proxy to state the extent of earnings management. In addition, we found discretionary accruals by subtracting non-discretionary accruals from total accruals. Non-discretionary accruals were valued by using a regression model.

THE MODIFIED JONES (1995) MODEL IS DESCRIBED IN THE FOLLOWING EQUATION:

$$\frac{TA_t}{A_{t-1}} = \beta1\left(\frac{1}{A_{t-1}}\right) + \beta2\left(\frac{\Delta REV_t - \Delta REC_t}{A_{t-1}}\right) + \beta3\left(\frac{\Delta PPE_t}{A_{t-1}}\right) + \varepsilon$$

TAt (Total accruals) = accounting earnings – CFO

Ai,t-1 = total asset in year t - 1

ΔREV i,t = the difference of operating revenue

ΔREC i,t = the difference of account receivable.

ΔPPEi,t = the difference of gross property plant and equipment.

THE YOON ET AL., (2006) MODEL IS DESCRIBED AS THE FOLLOWING EQUATION:

$$\frac{TA_t}{REV_t} = \beta1\left(\frac{\Delta REV_t - \Delta REC_t}{REV_t}\right) + \beta2\left(\frac{\Delta EXP_t - \Delta PAY_t}{REV_t}\right) + \beta3\left(\frac{\Delta DEP_t - \Delta RET_t}{A_{t-1}}\right) + \varepsilon$$

TA (Total accruals) = accounting earnings – CFO

REV = net sales revenue

REC = receivables

EXP = sum of cost of goods sold and selling and general administrative expenses excluding non-cash expenses.

PAY = payables

DEP = depreciation expenses

RET = retirement benefits expenses

Δ = change operator.

The Yoon et al., (2006) model posits that total accruals will normally depend on changes in cash sales revenue, changes in cash expenses and some non-cash expenses including depreciation expenses and retirement benefits expenses. Therefore, to get the discretionary accruals, non-discretionary accruals will be subtracted from the total accruals for each observation.

6   RESULTS

Firstly, we applied the two models to the study sample. We found that the Modified Jones (1995) model could detect 56 of listed companies practice earnings management (e.g., %36 of the study sample) (see Appendix 1). And Yoon et al., (2006) model detected that 80 of listed companies practice earnings management (e.g., 52% of the study sample). Thus, this result proves that Yoon et al., (2006) model has the ability to classify companies practicing earnings companies much more than the Modified Jones (1995) model.

Correspondingly, we used the multiple regression analysis to compare the explanatory power and models fitness between the two models. It can be observed that Modified Jones (1995) model's goodness of fit is very poor compared to the Yoon et al, (2006) model for industrial and service companies as presented in Table1. R^2 is only 17% as compared to 34% in the Yoon et al., (2006) model for industrial companies. In addition, all the three explanatory variables of the Modified Jones (1995) model are not significant explanatory variables. On the other hand, two variables of Yoon et al., (2006) model are consistent and significant (e.g, Y_1 and Y_2). As for services companies, R^2 is only 10% as compared to 41% in the Yoon et al., (2006) model, but the two models have two significant variables (e.g., X_1, X_2, Y_1, Y_2).

Table 1.   Comparison between the Modified Jones (1995) Model and Yoon et al, (2006) for industrial and service companies.

		Modified Jones (1995) Model				Yoon et al., (2006) Model			
		X_1	X_2	X_3	R^2	Y_1	Y_2	Y_3	R^2
Industry	**B**	-10644.95	-0.060	-0.056	0.17	0.076	-0.099	0.264	0.34
	Sig.	0.972	0.665	0.089		0.012	0.037	0.562	
Services	**B**	79717.19	0.184	0.005	0.10	-1.00	-0.942	-0.147	0.41
	Sig.	0.013	0.038	0.838		0.000	0.000	0.940	

Notes: X_1 = 1/Ai,t-1; X_2 = (ΔREVi,t–ΔRECi,t)/Ai, t-1; X_3 = PPEi,t / Ai ,t-1.

Y_1 = (ΔREVi – ΔRECi)/ REVi ; Y_2 = (Δ EXPi – ΔPAYi)/REVi; Y_3 = (DEPi + RETi)/REVi

R^2 = R squared, indicates how well data points fits a statistical model.

Then, these results are consistent with application results in our study presented in the appendices 1 and 2. Both prove that the Yoon et al., (2006) model is better than the Modified Jones (1995) model in detecting earnings management practiced by targeted companies. In general, these results are consistent with Yoon and Miller, 2002; Yoon et al., 2006; Islam et al., 2011.

Furthermore, Table 1 shows R^2 of both models are weak compared to other studies (Yoon and Miller, 2002; Yoon et al., 2006; Islam et al., 2011). R^2 must be greater than what was resulted in the application of both models to the study sample (e.g. 34% for industrial and 41% for service companies in Yoon et al., (2006) model). Therefore, we suggest in a future research developing a new model by incorporating new variables to be used in detecting earnings management in Palestine.

7 CONCLUSION

Most previous studies using the Modified Jones (1995) and Yoon et al., (2006) models have been done in USA, UK and a few of developed countries. Only a very limited number have been carried out in emerging markets. It is therefore possible that these models do not work effectively in other countries as Palestine.

In this paper, we have focused on Palestine as an example of emerging markets to test the effectiveness of the Modified Jones (1995) and Yoon et al., (2006) models. Our application results of the two models showed that Yoon et al., (2006) model can detect companies practicing earnings companies more effectively than the Modified Jones (1995) model. Furthermore, the multiple regression analysis proves as well that the Yoon et al., (2006) model is better than the Modified Jones (1995) model in detecting earnings management in the Palestinian's context.

Additionally, the results proves that the effectiveness of the Yoon et al., (2006) model is also weak compared to other studies done in other countries (Yoon and Miller, 2006; Yoon et al., 2006; Islam et al., 2011). Consequently, developing new models is imperative to be used in detecting earnings management in Palestinian's context. The inclusion of other variables will significantly increases the explanatory power in detecting earnings management practiced by industrial and services Palestinian firms.

REFERENCES

[1] Yoon, S., G. Miller & Jiraporn P., "Cash from Operations and Earnings Management in Korea," *Journal of International Financial Management and Accounting*, pp.85-109, 2006.

[2] Baker, T., D. Collins, and A. Reitenga., "Stock option compensation and earnings management incentives," *Journal of Accounting, Auditing and Finance*, Vol. 18 Issue 4, p557, 2003.

[3] Bartov, E., Mohanram, P. 2004, "Private Information, Earnings Manipulations, and Executive Stock Option Exercises, *Available at SSRN*: http://ssrn.com/abstract=492302.

[4] Bertrand, M., Schoar, A., "Managing with Style: The Effect of Managers on Firm Policies," *The Quarterly Journal of Economics*, 118 (4): pp. 1169-1208, 2003.

[5] Cheng, Q. & Warfield T., "Equity Incentives and Earnings Management," *Accounting Review*, Vol. 80, Issue 2, pp. 441-480, 2005.

[6] Cormier, D. & Magnan, M., " Decision, decisions, CA Magazine," 129(7), 38, 1996.

[7] DeAngelo, L., "Accounting numbers as Market Valuation Substitutes: A Study of Management Buyouts of Public Stockholders," *The Accounting Review*, July, pp. 400-420, 1986.

[8] Dechow, P.M., R.G. Sloan & A.P. Sweeney., "Detecting Earnings Management," *The Accounting Review*, 70, pp. 193-225, 1995.

[9] DuCharme, L.L., P.H. Malatesta, & S.E. Sefcik., "Earnings Management: IPO Valuation and Subsequent Performance," *Working paper*, University of Washington, 2000.

[10] Guay, W., S.P. Kothari, & R.L. Watts., "A Market-Based Evaluation of Discretionary Accruals Model," *Journal of Accounting Research*, 34, pp. 83-105, 1996.

[11] Healy, P. & Wahlen, J.M., "A Review of the Earnings Management Literature and its Implications for Standard Setting," *Accounting Horizon*, 13(4), pp. 365-384., 1999.

[12] Healy, P.M., "The Effect of Bonus Schemes on Accounting Decisions," *Journal Accounting and Economics, April*, pp. 85-107, 1985.

[13] Islam, Md., R. Ali & Ahmed Z., "Is Modified Jones Model Effective in Detecting Earnings Management? Evidence from A Developing Economy," *International Journal of Economics and Finance*, Vol. 3, No. 2, pp.116-125, 2011.

[14] Jones, J., "Earnings Management during Import Relief Investigations", *Journal of Accounting Research*, 29, pp. 193-228, 1991.

[15] Peasnell, K. Pope, P. & Young, S., "Detecting Earnings Management using Cross-Sectional Abnormal Accruals Models," *Accounting and Business Research*, 30(4), pp. 313-326, 2000.

[16] Roychowdhury, S., Earnings Management through Real Activities Manipulation," *Journal of Accounting and Economics*, 42: pp. 335-370, 2006.

[17] S.P. Kothari, Andrew J. Leone & Charles E. Wasley., "Performance Matched Discretionary Accrual Measures, Sloan School of Management*," Massachusetts Institute of Technology*, 2004.

[18] Schipper, K., "Earnings Management", *Accounting Horizons*, 3 (4), pp. 91-102, 1089.

[19] Sloan, R., "Do Stock Prices Fully Impound Information in Accruals About Future Earnings?," *Accounting Review*, 71, pp. 289-315, 1996.

[20] Soon Suk Yoon, Gary Miller & Pornsit Jiraporn., "Earnings Management Vehicles for Korean Firms," *Journal on International Financial Management and Accounting* 17/2. New York, 2006.

[21] Teoh, S.H., I. Welch &T.J. Wong., "Earnings Management and the Long Run Market Performance of Initial Public Offerings", *The Journal of Financial LIII* (6), pp. 1935-1974, 1998b.

[22] Teoh, S.H., I. Welch, & T.J. Wong., "Earnings Management and the Under Performance of Seasoned Equity Offerings", *The Journal of Financial Economics*, 50, pp. 63-99, 1998a.

APPENDIX 1: APPLICATION OF THE MODIFIED JONES (1995) MODEL TO THE STUDY SAMPLE

Years	TACC	ΔREV	ΔREC	$TACC_{i,t}/A_{i,t-1}$	$1/A_{i,t-1}$	$(ΔREV_{i,t} - ΔREC_{i,t})/A_{i,t-1}$	$PPE_{i,t}/A_{i,t-1}$	$a'1(1/A_{i,t-1})$	$a'2(ΔREV_{i,t} - ΔREC_{i,t})/A_{i,t}$	$a'3(PPE_{i,t}/A_{i,t-1})$	non discretionary accruals	DA	Practicing/ Non Practicing
2006	1243771	555556	564356	0.888464	0.9888330	0.3898	0.4767892	0.98999	0.8787878	-0.989898	0.03	0.08	
2007	887108	553500	270858	0.11244777	0.0000001	0.03582705	0.1915504	0.00912	0.002702827	-0.0051837	0.03	0.08	NO
2008	4299311	1208628	317663	0.47450799	0.0000001	0.09833436	0.1817767	0.00794	0.007418439	-0.0049192	0.03	0.44	YES
2009	2284751	424629	833182	0.19526501	0.0000001	-0.03491676	0.1537272	0.00615	-0.002634154	-0.0041601	0.02	0.17	YES
2010	-213288	1.4E+07	928732	-0.0153079	0.0000001	0.95173197	0.5189782	0.00516	0.071799579	-0.0140444	0.09	-0.10	NO
2011	41329	2569817	755591	0.0026128	0.0000001	0.11469432	0.4325466	0.00455	0.00865265	-0.0117054	0.03	-0.02	NO
2006	-2E+06	-1.7E+07	4129241	-0.1050941	0.0000001	-1.38162295	0.4611864	0.00464	-0.104230971	-0.0124805	-0.09		
2007	-1E+06	489690	494043	-0.0164929	0.0000000	-6.9258E-05	0.1031992	0.00114	-5.22488E-06	-0.0027927	0.02	-0.04	NO
2008	3908964	314497	-1471399	0.05576922	0.0000000	0.02547939	0.3367056	0.00103	0.00192219	-0.0091118	0.02	0.04	NO
2009	-3E+06	2941625	1985010	-0.0452073	0.0000000	0.01271481	0.5326536	0.00096	0.000959217	-0.0144145	0.01	-0.06	NO
2010	1.7E+07	1.7E+07	8624265	0.21517283	0.0000000	0.10246279	0.0270863	0.00089	0.007729892	-0.000733	0.03	0.18	YES
2011	1.7E+07	777170	7603714	0.18810749	0.0000000	-0.07747802	0.0334098	0.00082	-0.005845017	-0.0009041	0.02	0.17	YES
2006	-3E+06	-2.3E+07	-8312938	-0.0341384	0.0000000	-0.1504151	0.0030246	0.00075	-0.011347461	-8.185E-05	0.01		
2007	-6E+06	524383	-479873	-0.027559	0.0000000	0.00497269	0.0014145	0.00036	0.000375144	-3.828E-05	0.02	-0.05	YES
2008	-901469	-391775	-1.3E+07	-0.0043973	0.0000000	0.05938752	0.0557592	0.00035	0.004480252	-0.0015089	0.03	-0.03	YES
2009	-2E+06	73876	-48965	-0.0419796	0.0000000	0.00234589	0.2306466	0.00137	0.000176976	-0.0062417	0.02	-0.06	YES
2010	-2E+07	2898046	1096407	-0.307928	0.0000000	0.03322831	0.2203733	0.00133	0.002506776	-0.0059637	0.02	-0.33	NO
2011	-2E+07	4123018	3896819	-0.2540332	0.0000000	0.00365223	0.1930076	0.00116	0.000275528	-0.0052231	0.02	-0.27	NO
2006	1.9E+07	-6529296	-8119049	0.2602837	0.0000000	0.02127239	0.0005172	0.00096	0.00160481	-1.4E-05	0.03		
2007	1328211	-51600	188387	0.04344024	0.0000000	-0.00784897	0.0073899	0.00235	-0.000592134	-0.0002	0.03	0.02	NO
2008	1.2E+07	2938672	-289496	0.30040075	0.0000000	0.07936022	0.01033	0.00177	0.005987012	-0.0002795	0.03	0.27	YES
2009	6170377	3240417	3412085	0.1216394	0.0000000	-0.00338417	0.0540426	0.00142	-0.000255305	-0.0014625	0.02	0.10	YES
2010	-472558	87917	-2325067	-0.009068	0.0000000	0.04630338	0.0491986	0.00138	0.003493172	-0.0013314	0.03	-0.04	NO
2011	1246757	-951764	4247128	0.02481939	0.0000000	-0.10349519	0.0494019	0.00143	-0.007807777	-0.0013369	0.02	0.01	NO
2006	-16013	-6264545	-5260802	-0.0003106	0.0000000	-0.01946878	0.014153	0.00140	-0.001468744	-0.000383	0.02		
2007	7652	61180	116896	0.00082449	0.0000001	-0.00600332	0.0970242	0.00775	-0.000452896	-0.0026256	0.03	-0.03	YES
2008	-16084	674881	62616	-0.0016606	0.0000001	0.0632134	1.027454	0.00743	0.00476888	-0.0278046	0.01	-0.01	YES
2009	-863545	42304	311240	-0.8872961	0.0000010	-0.27633288	10.824838	0.07393	-0.020846819	-0.2929381	-0.22	-0.67	NO
2010	-122678	117223	205498	-0.1201943	0.0000010	-0.08648782	10.42754	0.07049	-0.006524724	-0.2821866	-0.19	0.07	YES
2011	-822684	-175690	56217	-0.0671388	0.0000001	-0.01892581	0.9070336	0.00587	-0.001427782	-0.0245458	0.00	-0.07	YES
2006	185791	657536	-769355	0.0147152	0.0000001	0.11301402	0.0128342	0.00570	0.008525887	-0.0003473	0.04		
2007	629344	-108560	21420	0.02451774	0.0000000	-0.00506371	0.0221928	0.00280	-0.000382011	-0.0006006	0.03	0.00	NO
2008	-364043	189898	-4626	-0.1219883	0.0000003	0.06518366	0.0569568	0.02411	0.004917518	-0.0015416	0.05	-0.17	NO
2009	-106701	-146879	-49573	-0.0026677	0.0000000	-0.00243285	0.0045041	0.00180	-0.000183536	-0.0001219	0.03	-0.03	NO
2010	6127808	43011	23643	0.16161184	0.0000000	0.0005108	0.042731	0.00190	3.85354E-05	-0.0011564	0.03	0.14	YES
2011	4669606	186689	58167	0.12060824	0.0000000	0.00331951	0.0405363	0.00186	0.000250427	-0.001097	0.03	0.10	YES
2006	782703	-1012792	119697	0.02108234	0.0000000	-0.03050394	0.0031239	0.00194	-0.002301246	-8.454E-05	0.02		
2007	947146	-50648	80791	0.04913132	0.0000001	-0.00681814	0.0071501	0.00373	-0.000514367	-0.0001935	0.03	0.02	NO
2008	5286268	-497020	424858	0.26333537	0.0000000	-0.04592334	0.0054905	0.00358	-0.003464501	-0.0001486	0.02	0.24	YES
2009	2180389	20233	-541859	0.08345684	0.0000000	0.0215147	0.0033407	0.00275	0.00162309	-9.04E-05	0.03	0.05	NO
2010	57005	521648	565514	0.00208773	0.0000000	-0.00160653	1.1103458	0.00264	-0.000121199	-0.0300478	0.00	0.01	NO
2011	1788475	3445958	-268867	0.05133913	0.0000000	0.10663603	0.8877435	0.00207	0.008044725	-0.0240238	0.01	0.04	NO
2006	7890224	6982370	6329731	0.23744161	0.0000000	0.01963996	0.0355353	0.00217	0.001481657	-0.0009616	0.03		
2007	6912636	812242	-152136	0.16490633	0.0000000	0.02300599	0.0361588	0.00172	0.001735594	-0.0009785	0.03	0.14	YES
2008	1.1E+07	2838200	771239	0.24616026	0.0000000	0.04768328	0.0348261	0.00166	0.003597273	-0.0009425	0.03	0.22	YES
2009	1.4E+07	2923191	321300	0.30269259	0.0000000	0.05593296	0.0663015	0.00155	0.004219637	-0.0017942	0.03	0.27	YES
2010	-3E+06	-1.7E+07	1918509	-0.0530258	0.0000000	-0.38857245	0.0599114	0.00146	-0.029314281	-0.0016213	-0.01	-0.05	NO
2011	-3E+06	468243	-96526	-0.0630586	0.0000000	0.01132117	0.0566399	0.00144	0.00085408	-0.0015328	0.03	-0.09	NO
2006	-557779	213431	-9293501	-0.0108579	0.0000000	0.18506495	0.0299414	0.00140	0.013961479	-0.0008103	0.04		
2007	-221603	443066	28324	-0.1118397	0.0000005	0.20931406	0.7977238	0.03631	0.015790855	-0.0215877	0.05	-0.17	NO
2008	952630	526365	56765	0.40847155	0.0000004	0.2013565	0.7000757	0.03085	0.015190529	-0.0189452	0.05	0.36	YES
2009	770669	-11295	-3005	0.30970401	0.0000004	-0.00333145	0.6599235	0.02891	-0.000251328	-0.0178586	0.04	0.27	YES
2010	-1E+06	747692	-145250	-0.3981824	0.0000004	0.34020221	0.6657584	0.02741	0.025665183	-0.0180165	0.06	-0.46	NO
2011	-866544	527217	153903	-0.2371778	0.0000003	0.10217807	0.5111235	0.01969	0.007708412	-0.0138319	0.04	-0.28	NO
2006	-8E+06	-1897455	24085940	-2.1648836	0.0000003	-6.97490062	0.3816576	0.01931	-0.526193243	-0.0103283	-0.49		
2007	1E+07	1526263	24175949	0.23825951	0.0000000	-0.53035672	0.0401312	0.00168	-0.040010623	-0.001086	-0.02	0.25	YES
2008	-4E+06	1123805	-1.4E+07	-0.0689458	0.0000000	0.24796763	0.0402711	0.00116	0.018706917	-0.0010898	0.04	-0.11	NO
2009	-2E+07	1089162	27959342	-0.2194857	0.0000000	-0.2688665	0.0306934	0.00072	-0.020283548	-0.0008306	0.00	-0.22	NO
2010	-1E+06	-49598	-6.2E+07	-0.0064671	0.0000000	0.38266342	0.0175405	0.00044	0.028868499	-0.0004747	0.05	-0.06	NO
2011	-1E+07	806117	424967	-0.0928228	0.0000000	0.00241021	0.0460048	0.00045	0.000181829	-0.001245	0.02	-0.12	NO

Year													
2006	5646341	3860249	-195818	0.0228228	0.0000000	0.01639483	0.0248236	0.00029	0.001236842	-0.0006718	0.03		
2007	7277733	1610614	103160	0.28225856	0.0000000	0.05846488	0.2708881	0.00279	0.004410647	-0.0073307	0.02	0.26	YES
2008	-5E+06	-1.1E+07	-380330	-0.1767165	0.0000000	-0.34584326	0.1844823	0.00233	-0.02609075	-0.0049924	0.00	-0.17	NO
2009	-3E+06	-574261	70184	-0.0804548	0.0000000	-0.01946277	0.1560102	0.00217	-0.00146829	-0.0042219	0.02	-0.10	NO
2010	-63960	1.6E+07	10160278	-0.0018417	0.0000000	0.16533472	0.3218433	0.00207	0.012473011	-0.0087096	0.03	-0.03	NO
2011	902116	-404848	1195380	0.02415951	0.0000000	-0.0428556	0.3029954	0.00193	-0.003233068	-0.0081996	0.01	0.01	YES
2006	8534713	-4560708	-7658845	0.21214797	0.0000000	0.07701061	0.1556669	0.00179	0.005809755	-0.0042126	0.03		
2007	1.2E+07	4012136	152867	0.71172384	0.0000001	0.23536001	0.3711629	0.00439	0.017755787	-0.0100443	0.04	0.68	YES
2008	-3E+06	-1.5E+07	-1575740	-0.134471	0.0000001	-0.66172653	0.4524986	0.00366	-0.049921289	-0.0122454	-0.03	-0.10	NO
2009	-1E+06	-22181	-364611	-0.0549713	0.0000001	0.01667818	0.4248684	0.00350	0.001258218	-0.0114976	0.02	-0.07	NO
2010	744316	7652179	1419007	0.04090549	0.0000001	0.3425574	0.5160875	0.00395	0.025842861	-0.0139662	0.04	0.00	NO
2011	-1E+06	1913963	-716265	-0.0517527	0.0000001	0.13468831	0.4729835	0.00368	0.010161016	-0.0127997	0.03	-0.08	NO
2006	132289	-8656130	-2238949	0.00738791	0.0000001	-0.35837878	0.1438745	0.00402	-0.027036442	-0.0038935	0.00		
2007	32067	421032	110962	0.00695427	0.0000002	0.06724386	0.5351052	0.01560	0.005072942	-0.0144808	0.03	-0.02	NO
2008	1473646	1033350	-370379	0.31120981	0.0000002	0.29644449	0.5218952	0.01519	0.022364059	-0.0141234	0.05	0.26	YES
2009	1744468	-378780	331317	0.37790204	0.0000002	-0.15382747	0.5122793	0.01559	-0.011604893	-0.0138631	0.01	0.36	YES
2010	1531207	-275110	-223333	0.31490468	0.0000002	-0.01064834	0.5101492	0.01480	-0.000803321	-0.0138055	0.02	0.29	YES
2011	-226783	-1191819	-270511	-0.0467685	0.0000002	-0.18999759	0.4131606	0.01484	-0.014333602	-0.0111808	0.01	-0.06	NO
2006	-422094	6873010	32562139	-0.062968	0.0000001	-3.8323028	16.581697	0.01073	-0.289112627	-0.4487283	-0.70		
2007	-9E+06	-3048006	-3850807	-0.0562204	0.0000000	0.00477018	0.6202654	0.00043	0.000359867	-0.0167854	0.01	-0.06	YES
2008	-2E+07	1922336	-1.1E+07	-0.1160337	0.0000000	0.08817924	0.6468576	0.00048	0.006652327	-0.017505	0.01	-0.13	NO
2009	-2E+07	705287	-7760685	-0.1273877	0.0000000	0.04881359	0.5231522	0.00041	0.003682544	-0.0141574	0.01	-0.14	NO
2010	8078830	2.3E+07	12995856	0.06028523	0.0000000	0.07195534	0.6253003	0.00054	0.00542838	-0.0169217	0.01	0.05	YES
2011	-1E+07	268872	-2585152	-0.1147292	0.0000000	0.02291458	0.617207	0.00058	0.001728698	-0.0167026	0.01	-0.12	NO
2006	-2E+07	-2.9E+07	-2E+07	-0.1557313	0.0000000	-0.07389955	0.0300056	0.00061	-0.005575054	-0.000812	0.02		
2007	-2E+07	75480	230801	-0.1116741	0.0000000	-0.0007461	0.0398283	0.00035	-5.62863E-05	-0.0010778	0.02	-0.14	NO
2008	-3E+07	664062	873502	-0.1287953	0.0000000	-0.00083282	0.0362827	0.00029	-6.28287E-05	-0.0009819	0.02	-0.15	NO
2009	-1E+07	-167146	-205776	-0.0570284	0.0000000	0.00018	0.044828	0.00034	1.35793E-05	-0.0012131	0.02	-0.08	YES
2010	-4E+06	1.2E+07	388760	-0.0171564	0.0000000	0.04613611	0.0223095	0.00029	0.003480553	-0.0006037	0.03	-0.04	YES
2011	50669	901450	-815040	0.00019153	0.0000000	0.00648847	0.0202947	0.00027	0.000489496	-0.0005492	0.02	-0.02	YES
2006	-21876	-1.4E+07	-227697	-8.985E-05	0.0000000	-0.05773315	0.0047003	0.00030	-0.004355445	-0.0001272	0.02		
2007	344300	-6722	-86856	0.10644139	0.0000003	0.02477367	0.3539941	0.02224	0.00186895	-0.0095797	0.04	0.07	YES
2008	-241129	-10057	-111877	-0.0815908	0.0000003	0.03445284	0.3871177	0.02435	0.002599156	-0.010476	0.04	-0.12	NO
2009	-107342	-16442	-32649	-0.0381868	0.0000004	0.00576562	0.4061569	0.02560	0.000434964	-0.0109913	0.04	-0.08	YES
2010	-381606	-12805	-661	-0.1377571	0.0000004	-0.0043839	0.4113367	0.02597	-0.000330726	-0.0111315	0.04	-0.18	NO
2011	-124577	0	3173	-0.0464711	0.0000004	-0.00118363	0.4244439	0.02684	-8.9294E-05	-0.0114862	0.04	-0.09	NO
2006	1641252	1239281	3046867	0.63660066	0.0000004	-0.70111747	5.1773109	0.02791	-0.052892979	-0.1401066	-0.14		
2007	-227905	-111223	-246189	-0.0084539	0.0000000	0.00500645	0.5819694	0.00267	0.000377691	-0.0157491	0.01	-0.02	NO
2008	-1E+06	674069	-632797	-0.043263	0.0000000	0.0420826	0.4867325	0.00232	0.003174752	-0.0131718	0.02	-0.06	NO
2009	-132227	1560281	155187	-0.0046518	0.0000000	0.04943201	6.2013721	0.00253	0.003729199	-0.1678194	-0.14	0.13	YES
2010	-68978	1.6E+07	57269	-0.0019753	0.0000000	0.45531174	0.038673	0.00206	0.034349158	-0.0010466	0.06	-0.06	NO
2011	-818283	775155	1347048	-0.0190914	0.0000000	-0.01334285	0.0039824	0.00168	-0.001006597	-0.0001078	0.02	-0.04	NO
2006	-1E+06	-1.7E+07	-2140184	-0.0241855	0.0000000	-0.34864209	0.0342662	0.00166	-0.026301896	-0.0009273	0.00		
2007	-457068	81344	-577565	-0.0560485	0.0000001	0.08079951	0.192033	0.00882	0.006095593	-0.0051967	0.03	-0.09	NO
2008	1247655	141960	-547818	0.13444241	0.0000001	0.07432777	0.1652628	0.00775	0.005607359	-0.0044723	0.03	0.10	YES
2009	-51317	249190	-61670	-0.0047147	0.0000001	0.02855992	0.1409469	0.00661	0.002154588	-0.0038143	0.03	-0.03	NO
2010	-182808	68649	785689	-0.0174885	0.0000001	-0.06859644	0.1425714	0.00688	-0.005174982	-0.0038582	0.02	-0.04	NO
2011	-759404	124882	178410	-0.0629694	0.0000001	-0.00443852	0.1203005	0.00597	-0.000334846	-0.0032555	0.03	-0.09	NO
2006	228734	-2355292	-927713	0.0181617	0.0000001	-0.11335114	0.2081868	0.00571	-0.008551319	-0.0056339	0.02		
2007	-30492	687116	240219	-0.0064995	0.0000002	0.09525859	0.5183865	0.01534	0.0071864	-0.0140284	0.03	-0.04	NO
2008	-677949	47501	89141	-0.1500214	0.0000002	-0.0092144	0.5316934	0.01592	-0.000695143	-0.0143885	0.03	-0.18	NO
2009	-424920	472947	141090	-0.1014139	0.0000002	0.07920294	0.5338536	0.01717	0.005975146	-0.014447	0.03	-0.13	NO
2010	3343098	-2150571	607320	0.79953077	0.0000002	-0.65957346	0.4843269	0.01721	-0.049758859	-0.0131067	-0.02	0.82	YES
2011	3513363	-138733	-123350	0.59108637	0.0000002	-0.00258803	0.3354027	0.01210	-0.000195243	-0.0090766	0.03	0.56	YES
2006	-3E+06	2726639	-1198746	-0.4982144	0.0000002	0.68398236	0.7349432	0.01254	0.05160029	-0.0198888	0.07		
2007	1950999	738916	119814	0.01316551	0.0000000	0.00417775	0.0282039	0.00049	0.000315174	-0.0007632	0.02	-0.01	NO
2008	5.2E+07	5259137	-291647	0.5134153	0.0000000	0.05526868	0.0648776	0.00072	0.004169522	-0.0017557	0.03	0.49	YES
2009	-5E+07	4942284	-31173	-0.2048672	0.0000000	0.01916191	0.0478428	0.00028	0.001445593	-0.0012947	0.02	-0.23	NO
2010	-6E+06	-1.3E+07	-7720	-0.0188283	0.0000000	-0.04055941	0.040154	0.00022	-0.003059841	-0.0010866	0.02	-0.04	NO
2011	-5E+07	225321	0	-0.106774	0.0000000	0.00052826	0.0451315	0.00017	3.98525E-05	-0.0012213	0.02	-0.13	NO
2006	29765	-499526	8272	6.3644E-05	0.0000000	-0.00108578	4.407E-05	0.00015	-8.19123E-05	-1.193E-06	0.02		
2007	52984	4553	-30	0.11708473	0.0000022	0.01012757	0.0542465	0.15900	0.000764034	-0.001468	0.18	-0.07	NO
2008	29707	-4551	845	0.06518996	0.0000022	-0.01184115	0.0733598	0.15789	-0.000893308	-0.0019852	0.18	-0.11	NO
2009	52754	25663	8067	0.09953059	0.0000019	0.03319825	0.0816221	0.13575	0.002504508	-0.0022088	0.16	-0.06	NO
2010	207430	94301	21930	0.33445878	0.0000016	0.11669053	0.1378274	0.11601	0.008803246	-0.0037298	0.15	0.19	YES
2011	184480	-15009	-1023	0.25338084	0.0000014	-0.01920959	0.0777023	0.09882	-0.00144919	-0.0021028	0.12	0.13	YES

Year												
2006	6373381	1.8E+08	50163981	9.98995421	0.0000016	209.067723	217.33944	0.11278	15.77227109	-5.8815663	10.03		
2007	-3E+07	4.2E+07	22081136	-0.0699748	0.0000000	0.05410395	0.3966482	0.00019	0.004081654	-0.010734	0.02	-0.09	NO
2008	-6E+07	-2.3E+08	-7.2E+07	-0.1327001	0.0000000	-0.36452947	0.0003688	0.00017	-0.027500455	-9.98E-06	0.00	-0.13	NO
2009	-74570	16028	157	-0.1788464	0.0000024	0.03806452	0.3913083	0.17256	0.002871624	-0.0105895	0.19	-0.37	NO
2010	311367	23208	6329	0.58608052	0.0000019	0.03177104	0.3579592	0.13543	0.002396838	-0.009687	0.15	0.43	YES
2011	326263	31900	10107	0.59184851	0.0000018	0.039533	0.3764242	0.13052	0.002982408	-0.0101867	0.15	0.44	YES
2006	#VALUE!	3233701	1809307	#VALUE!	0.0000017	2.47918168	7.3212263	0.12523	0.187031862	-0.1981245	0.14		
2007	-6E+07	6878537	-1875194	-0.3418585	0.0000000	0.05081193	0.0229001	0.00042	0.003833301	-0.0006197	0.03	-0.37	NO
2008	7.1E+07	-2349794	57398	0.30600138	0.0000000	-0.01033911	0.014267	0.00031	-0.000779992	-0.0003861	0.02	0.28	YES
2009	-9E+06	2078760	-3392	-0.031007	0.0000000	0.00690027	0.0112777	0.00024	0.000520563	-0.0003052	0.02	-0.06	NO
2010	2311130	8576237	30316	0.00772607	0.0000000	0.02856886	0.0131964	0.00024	0.002155263	-0.0003571	0.03	-0.02	YES
2011	6290715	-3424993	39137	0.01602012	0.0000000	-0.00882186	0.0091195	0.00018	-0.000665529	-0.0002468	0.02	-0.01	YES
2006	2646457	3.4E+07	2788146	0.00740576	0.0000000	0.08668858	0.0096041	0.00020	0.00653987	-0.0002599	0.03		
2007	-770751	748772	126488	-0.0247354	0.0000000	0.01997069	0.1395131	0.00231	0.001506608	-0.0037755	0.02	-0.05	YES
2008	774261	401261	3311528	0.02844146	0.0000000	-0.10690482	0.1644982	0.00264	-0.008065003	-0.0044516	0.01	0.01	YES
2009	-5E+06	9484139	-800168	-0.1448475	0.0000000	0.33058242	0.2102558	0.00231	0.024939457	-0.0056899	0.05	-0.19	NO
2010	-314737	1.8E+07	5588018	-0.010648	0.0000000	0.41467095	0.2202951	0.00243	0.031283177	-0.0059616	0.05	-0.06	YES
2011	-1E+06	-1.1E+07	1747723	-0.0350237	0.0000000	-0.31064142	0.1531043	0.00180	-0.023435089	-0.0041433	0.00	-0.03	YES
2006	1911198	-5.8E+07	-6913033	0.04585094	0.0000000	-1.21525092	0.0857925	0.00173	-0.091679704	-0.0023217	-0.07		
2007	-915726	-689172	223663	-0.0450306	0.0000000	-0.04488841	0.2075026	0.00354	-0.003386425	-0.0056154	0.02	-0.06	NO
2008	1624353	306715	1243789	0.08493941	0.0000001	-0.04900075	0.2465172	0.00376	-0.003696664	-0.0066712	0.02	0.07	YES
2009	-101496	2645374	1052831	-0.0042787	0.0000000	0.06713563	0.3280213	0.00303	0.005064777	-0.0088768	0.02	-0.03	NO
2010	-910359	-1.2E+07	2159672	-0.0364911	0.0000000	-0.55361835	0.4071124	0.00288	-0.041765503	-0.0110171	-0.03	-0.01	YES
2011	-2E+06	9205	513276	-0.0507214	0.0000000	-0.01694931	0.5031992	0.00242	-0.001278672	-0.0136174	0.01	-0.06	NO
2006	468154	69884	-1.1E+07	0.01323955	0.0000000	0.30805854	0.1732439	0.00203	0.023240234	-0.0046883	0.04		
2007	56040	-28937	-84607	0.00494256	0.0000001	0.00490993	0.6221493	0.00635	0.00037041	-0.0168364	0.01	-0.01	YES
2008	493777	566749	707205	0.04474669	0.0000001	-0.0127283	0.0062507	0.00652	-0.000960235	-0.0001692	0.03	0.02	YES
2009	-635208	-350534	591967	-0.0477064	0.000000	-0.07078513	0.0136742	0.00540	-0.005340099	-0.00037	0.02	-0.07	NO
2010	853897	5063126	1014167	0.06228834	0.000000	0.29535523	0.0037442	0.00525	0.022281884	-0.0001013	0.05	0.01	YES
2011	-234348	493176	1601678	-0.143612	0.000001	-0.679307	0.0317383	0.04409	-0.051247577	-0.0008589	0.02	-0.16	NO

| | | | | | | | | **Total companies practicing earnings management** | | | | 56 |

APPENDIX 2: APPLICATION OF THE YOON ET AL., (2006) MODEL TO THE STUDY SAMPLE

Years	(ΔREV-ΔREC)/REV (X1)	(ΔEXP-ΔPAY)/REV(X2)	(DEP+RET)/REV(x3)	TA/REV	a'1*(ΔREV-ΔREC)/REV	a'2*(ΔEXP-ΔPAY)/REV	a'3*(DEP-RET)/REV	non discretionary accruals	DA	practicing/non-practicing
2006	0.4444555	0.64965877	0.847635	1.746664	-0.877462	0.94883223	-0.74664092	0.3	1.54	
2007	0.463334628	1.4028232	0.9986443	1.4542349	-0.08098288	0.061407257	-3.612096474	0.20	1.26	YES
2008	0.489905946	3.06947535	0.3326867	2.3640188	-0.08562709	0.134363377	-1.203327801	2.67	-0.31	YES
2009	-0.182123539	0.60038676	0.28539715	1.0184895	0.031832045	0.026281362	-1.032281493	2.85	-1.84	NO
2010	0.80696959	0.15711769	0.0373591	-0.0129795	-0.14104433	0.006877678	-0.135127878	3.56	-3.57	NO
2011	0.095473057	0.14081127	0.04112666	0.0021749	-0.01668704	0.00616388	-0.148755126	3.67	-3.67	NO
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	-0.001985639	-0.036179	0.37627752	-0.4728549	0.000347055	-0.0015837	-1.360995794	2.47	-2.939585	NO
2008	0.712438236	-0.7535375	0.45099568	1.5593828	-0.12452188	-0.032985389	-1.63125138	2.04	-0.480821	YES
2009	0.175578426	-0.0074551	0.238104	-0.6242668	-0.03068807	-0.000326339	-0.861222162	2.94	-3.560992	NO
2010	0.3712024	-0.0382217	0.04394917	0.7795285	-0.06487976	-0.001673121	-0.158964142	3.60	-2.823917	NO
2011	-0.29478902	-0.2187529	0.05864124	0.7157129	0.051524023	-0.009575703	-0.212105367	3.66	-2.943092	NO
2006	0.4654828	-0.7777463	0.9376767	-0.0387773	0.93767637	-0.84767467	-0.937878	3.56	-8.99	
2007	1.170655283	-5.0028035	8.64991176	-6.4878663	-0.2046103	-0.218992985	-31.28673118	-27.88	21.393506	YES
2008	26.12119515	-2.9948099	2.12494341	-1.9341383	-4.56553318	-0.131094969	-7.685920406	-8.55	6.6194479	YES
2009	0.227500607	-9.5590054	1.30600286	-4.0711073	-0.03976317	-0.418436409	-4.72381241	-1.35	-2.718058	NO
2010	0.524036178	1.27033294	0.31830815	-4.8562626	-0.09159246	0.055607621	-1.15132058	2.64	-7.497919	NO
2011	0.029916454	0.26479724	0.15441257	-2.0808576	-0.00522888	0.011591248	-0.558510275	3.28	-5.357672	NO
2006	0.4444555	0.64965877	0.847635	1.746664	-0.877462	0.94883223	-0.74664092	0.3	1.54	
2007	-0.244852963	-0.627285	0.04672762	1.3551417	0.042796063	-0.027458808	-0.169013796	3.68	-2.320144	YES
2008	0.823764628	0.16557241	0.02289426	3.1181806	-0.14397981	0.007247775	-0.082808536	3.61	-0.491241	YES
2009	-0.023978603	0.02591415	0.02901058	0.8618789	0.004191045	0.001134367	-0.104931265	3.73	-2.867478	NO
2010	0.332957047	0.04132172	0.04097938	-0.0652062	-0.05819513	0.001808819	-0.148222411	3.62	-3.68956	NO
2011	-0.825828002	-0.0037073	0.05017831	0.1980435	0.144340453	-0.000162285	-0.181494962	3.79	-3.593602	NO
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	-0.605582366	3.95788227	1.06932307	0.0831703	0.105845325	0.173252548	-3.867741599	0.24	-0.16	YES
2008	0.798379157	-0.1586379	0.37203492	-0.0209732	-0.13954287	-0.006944222	-1.345650323	2.34	-2.36	YES
2009	-0.332352516	-0.5423554	0.41443717	-1.0671734	0.058089472	-0.023741093	-1.499019265	2.36	-3.43	NO
2010	-0.095286978	0.39156229	0.03041951	-0.1324227	0.016654516	0.017140268	-0.110027372	3.75	-3.89	NO
2011	-0.308911954	-0.298498	0.03808334	-1.0958571	0.053992467	-0.013066466	-0.137747437	3.73	-4.83	NO
2006	-0.478798479	-0.9847898	0.00999377	-0.4378897	0.387897894	-0.38789789	-0.37897897	3.56	-3.20	
2007	-0.100007848	-0.1497194	0.01816576	0.4842233	0.017479642	-0.006553825	-0.065705549	3.77	-3.29	NO
2008	0.130588428	-0.0044066	0.01666224	-0.2443904	-0.0228246	-0.000192893	-0.060267308	3.75	-3.99	NO
2009	-0.072469478	-0.0130809	0.02563757	-0.0794665	0.012666411	-0.000572606	-0.092731089	3.75	-3.83	NO
2010	0.013976769	0.0161417	0.04290597	4.4220857	-0.0024429	0.000706587	-0.155190885	3.67	0.75	YES
2011	0.081735316	0.48307097	0.06110593	2.9696995	-0.01428592	0.021145974	-0.221020144	3.61	-0.65	YES
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	-0.258241532	-0.8591901	-0.0445403	1.8608817	0.045136154	-0.037610233	0.16110235	4.00	-2.14	NO
2008	-77.09943966	-75.365978	-2.1257004	442.10655	13.47564871	-3.299074314	7.68865853	21.69	420.41	YES
2009	17.46169618	-4.1080149	-0.7757999	67.73498	-3.05200251	-0.179824462	2.806068407	3.40	64.33	NO
2010	-0.079203666	-3.4035693	0.46233556	0.1029272	0.013843431	-0.148988022	-1.672267727	2.02	-1.92	NO
2011	0.928753616	1.64320705	0.18282907	0.4471416	-0.16233007	0.071929833	-0.661292769	3.08	-2.63	NO
2006	0.4444555	0.64965877	0.847635	1.746664	-0.877462	0.94883223	-0.74664092	0.3	1.54	
2007	0.081765698	0.03700898	0.01765811	0.5860944	-0.01429123	0.001620033	-0.063869399	3.75	-3.17	YES
2008	0.141257184	-0.2488478	0.01498229	0.7292264	-0.02468931	-0.010893079	-0.054190949	3.74	-3.01	YES
2009	0.148206926	0.02257322	0.01621595	0.8020518	-0.02590401	0.000988122	-0.0586531	3.75	-2.94	YES
2010	-65.11119296	7.46556155	1.03468457	-8.8852798	11.38031051	0.326797886	-3.742454143	11.79	-20.68	NO
2011	0.740377708	-0.0402131	0.37367792	-4.1238811	-0.12940522	-0.001760288	-1.351593045	2.35	-6.47	YES
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	0.292214028	0.10367439	0.00264284	-0.1561344	-0.05107396	0.004538248	-0.009559136	3.77	-3.93	NO
2008	0.241355952	0.23560525	0.00650571	0.4896144	-0.04218485	0.010313396	-0.02353117	3.77	-3.28	YES
2009	-0.004285613	-0.0432206	0.00554752	0.3984064	0.000749051	-0.00189194	-0.020065368	3.81	-3.41	YES
2010	0.332930038	0.19474801	0.01984101	-0.3896709	-0.05819041	0.00852491	-0.071764937	3.71	-4.10	NO
2011	0.116322997	0.08336491	0.01965296	-0.2700113	-0.02033125	0.00364922	-0.071084747	3.74	-4.01	NO
2006	0.346786387	0.3467836	0.08788	-0.3687627	-0.378687	0.007333	-0.38798009	2.65	-4.80	
2007	-7.980591918	-2.0650894	0.09411873	3.5852321	1.394869453	-0.090397333	-0.340427462	4.79	-1.21	YES
2008	3.870490706	-2.696475	0.10785454	-1.0761657	-0.67649484	-0.118035639	-0.390109867	2.64	-3.72	YES
2009	-5.319707951	-0.4437256	0.11539571	-4.3426758	0.929792952	-0.019423668	-0.417386287	4.32	-8.66	NO
2010	12.44530033	6.65143593	0.13981243	-0.2103282	-2.17522327	0.291160308	-0.505701583	1.44	-1.65	YES
2011	0.065629723	0.10666901	0.12851717	-2.5275536	-0.01147094	0.004669335	-0.464846607	3.36	-5.88	NO

2006	0.4654828	-0.7777463	0.9376767	-0.0387773	0.93767637	-0.84767467	-0.937878	3.56	-8.99	
2007	0.133657964	0.04546646	0.07144114	0.6452781	-0.0233611	0.001990251	-0.258402616	3.55	-2.90	YES
2008	-45.97665848	34.4140825	3.91496616	-23.492823	8.035924791	1.506443869	-14.16043277	-0.79	-22.70	NO
2009	1.882850139	-4.7658727	-2.8588721	7.7832887	-0.32908964	-0.208621562	10.34054037	13.63	-5.85	YES
2010	0.369022686	-0.3715096	0.06810161	-0.0041105	-0.06449878	-0.01626248	-0.246323514	3.50	-3.51	YES
2011	-0.105589703	-0.0660642	0.06621412	0.0595254	0.018455254	-0.002891898	-0.239496462	3.61	-3.55	YES
2006	0.4444555	0.64965877	0.847635	1.746664	-0.877462	0.94883223	-0.74664092	0.3	1.54	
2007	0.264214416	0.34168827	0.01883624	0.798979	-0.04618011	0.01495708	-0.068130669	3.73	-2.93	YES
2008	-378.9743395	-265.47935	2.20694582	-77.012276	66.23816065	-11.62110734	-7.982523127	50.46	-127.48	NO
2009	28.26962767	316.812598	5.94237596	-93.176752	-4.94104203	13.86817144	-21.49357409	-8.74	-84.44	NO
2010	0.813274338	-0.3987219	0.00410031	0.0971148	-0.14214629	-0.017453673	-0.014830834	3.65	-3.56	YES
2011	0.27460409	0.25233218	0.00450082	-0.1055141	-0.04799605	0.011045602	-0.016279465	3.78	-3.88	YES
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	0.230851643	0.04276194	0.36859354	0.0238743	-0.04034887	0.001871863	-1.333202867	2.46	-2.43	YES
2008	0.590668994	0.03478088	0.23719055	0.6200891	-0.10323873	0.0015225	-0.857918225	2.87	-2.25	YES
2009	-0.355452472	-0.0124787	0.29112987	0.8732264	0.062126945	-0.000546242	-1.053016748	2.84	-1.96	YES
2010	-0.030057175	0.74192348	0.1586795	0.8888842	0.005253474	0.032476998	-0.573943749	3.29	-2.40	YES
2011	-1.735703601	-1.1052171	0.29893858	-0.4272492	0.303370973	-0.04837983	-1.081260853	3.00	-3.43	NO
2006	0.4654828	-0.7777463	0.9376767	-0.0387773	0.93767637	-0.84767467	-0.937878	3.56	-8.99	
2007	0.184306128	2.02352471	1.89759544	-2.1721926	-0.03221352	0.088577878	-6.863602774	-2.98	0.81	YES
2008	2.117692379	0.81472086	1.01921	-2.7866375	-0.370136	0.035663634	-3.686482594	-0.19	-2.59	NO
2009	1.212295113	-0.07642	1.0483565	-3.1636988	-0.21188822	-0.003345211	-3.791905508	-0.18	-2.99	NO
2010	0.325526136	-0.029914	0.23624787	0.2727305	-0.05689634	-0.001309455	-0.854508546	2.92	-2.64	NO
2011	0.09548138	-0.0194892	0.23335313	-0.4780584	-0.01668849	-0.000853123	-0.844038264	2.97	-3.45	NO
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	-0.127709241	2.16157598	3.85128777	-19.11524	0.022321367	0.094620941	-13.93010803	-9.98	-9.13	NO
2008	-0.111388258	0.65359762	2.83386588	-17.22615	0.019468741	0.028610617	-10.25009301	-6.37	-10.85	NO
2009	0.022549448	1.07800661	2.22121808	-7.1442517	-0.00394125	0.047188719	-8.034145882	-4.16	-2.98	YES
2010	0.843538343	-0.0841128	0.20450027	-0.3136826	-0.14743591	-0.003681956	-0.739677486	2.94	-3.25	YES
2011	0.119738603	-0.085823	0.236599	0.0035346	-0.02092824	-0.003756823	-0.85577859	2.95	-2.94	YES
2006	0.4444555	0.64965877	0.847635	1.746664	-0.877462	0.94883223	-0.74664092	0.3	1.54	
2007	1.808730589	4.44075027	0.36542976	7.7713073	-0.31613483	0.194389637	-1.32175945	2.39	5.39	YES
2008	2.973107133	-5.1050019	0.14643618	-7.0408795	-0.51964771	-0.223466623	-0.529659684	2.56	-9.60	YES
2009	0.91024993	-0.5509688	0.29154732	-6.028756	-0.15909595	-0.024118139	-1.054526662	2.59	-8.62	YES
2010	-2.4288	0.3696	0.5978	-76.3212	0.424512237	0.01617889	-2.162242625	2.11	-78.43	NO
2011	-0.6346	2.1092	0.3176	-24.9154	0.110917105	0.092328232	-1.148759213	2.88	-27.80	NO
2006	0.23468763	-0.362876	0.32876	-0.8783279	-0.32687687	-0.7328789	-0.32789789	2.87	-34.45	
2007	0.119116585	-2.2678274	0.11274533	-0.2011415	-0.02081952	-0.099271998	-0.407799869	3.30	-3.50	NO
2008	0.723173302	1.60249501	0.56833858	-0.7434585	-0.12639819	0.070147701	-2.055680681	1.72	-2.46	YES
2009	0.417262773	0.20708212	0.29606718	-0.0392667	-0.07293032	0.009064824	-1.070875012	2.69	-2.73	YES
2010	0.822777766	0.05494459	0.04477268	-0.0035695	-0.14380732	0.002405147	-0.161942786	3.53	-3.53	NO
2011	-0.028453308	0.20294318	0.06061863	-0.0407119	0.004973146	0.008883645	-0.219257576	3.62	-3.66	NO
2006	0.4654828	-0.7777463	0.9376767	-0.0387773	0.93767637	-0.84767467	-0.937878	3.56	-8.99	
2007	0.225879647	-0.15299	0.01937965	-0.1566868	-0.03947986	-0.006696991	-0.070096208	3.71	-3.87	NO
2008	0.225488389	0.348662	0.00125856	0.4078583	-0.03941147	0.015262349	-0.004552229	3.80	-3.39	YES
2009	0.093965655	0.15263026	0.02320667	-0.0155119	-0.01642357	0.006681245	-0.083938524	3.74	-3.75	YES
2010	-0.212338079	0.00388258	0.02984827	-0.0541352	0.037113024	0.000169956	-0.107961198	3.76	-3.81	NO
2011	-0.015286023	-0.0313893	0.00169915	-0.2168635	0.002671733	-0.001374039	-0.006145808	3.82	-4.04	NO
2006	0.4444555	0.64965877	0.847635	1.746664	-0.877462	0.94883223	-0.74664092	0.3	1.54	
2007	0.243728543	0.44583044	0.14490411	-0.0166297	-0.04259953	0.019515805	-0.524118167	3.28	-3.30	NO
2008	-0.022136149	-0.1464601	0.14120354	-0.360403	0.003869016	-0.006411151	-0.510733206	3.32	-3.68	NO
2009	0.14097381	0.13428104	0.1116913	-0.1805072	-0.02463978	0.005878025	-0.403987427	3.41	-3.59	NO
2010	-13.55482105	7.76277143	0.64999361	16.431068	2.369148305	0.339807967	-2.351026916	4.19	12.24	YES
2011	-0.237652366	1.17622704	0.02989387	54.278036	0.041537524	0.051488225	-0.108126112	3.81	50.46	YES
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.788	-1.787468	
2007	0.175368894	-0.0417839	0.08938743	0.5526465	-0.03065145	-0.00182905	-0.323314324	3.47	-2.92	NO
2008	0.631530109	0.0457095	0.35065268	5.866564	-0.11038054	0.00200089	-1.268310746	2.45	3.41	YES
2009	0.362187871	-0.0546295	0.34338183	-3.8722882	-0.06330418	-0.002391354	-1.242012095	2.52	-6.39	NO
2010	-40.08756115	-0.0515182	17.7441006	-18.60927	7.006612423	-0.00225516	-64.18041266	-53.35	34.74	YES
2011	0.402834417	2.48067272	15.0193854	-81.422404	-0.07040849	0.108589099	-54.32511754	-50.46	-30.96	NO
2006	0.4654828	-0.7777463	0.9376767	-0.0387773	0.93767637	-0.84767467	-0.937878	3.56	-8.99	
2007	0.071202187	-0.1371687	0.07754094	0.8231675	-0.01244491	-0.00600443	-0.280465575	3.53	-2.71	YES
2008	-0.090211485	0.22379002	0.09915573	0.496648	0.015767408	0.009796196	-0.35864628	3.50	-3.00	NO
2009	0.205854138	-0.0112661	0.10952526	0.6171647	-0.03597974	-0.000493161	-0.396152863	3.40	-2.78	NO
2010	0.40255536	0.07878562	0.0322229	1.1538055	-0.07035972	0.003448766	-0.116550216	3.65	-2.49	YES
2011	-0.084881957	-0.0062633	0.03393215	1.1196213	0.014835898	-0.000274169	-0.12273258	3.72	-2.60	YES

Year										
2006	0.436876837	0.3567536	0.87342894	-0.7738749	-0.6732876	5.26876872	-0.236877	2.56	-2.88	
2007	0.090236252	0.02320488	0.19484523	-0.1167061	-0.01577174	0.001015772	-0.7047552	3.11	-3.23	NO
2008	-513.8808783	318.877123	0.29069363	186.15068	89.81749058	13.95854408	-1.051438875	106.55	79.60	YES
2009	0.050369416	-177.08585	0.28687812	-0.236661	-0.0088037	-7.751765421	-1.037638165	-4.97	4.73	NO
2010	0.049893586	0.20006503	0.09331658	0.9203872	-0.00872054	0.008757657	-0.337526084	3.49	-2.57	NO
2011	0.058868179	0.0269503	0.10033766	0.8813155	-0.01028914	0.001179724	-0.362921303	3.46	-2.58	NO
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	0.835085407	0.32120428	0.09805954	-5.6183855	-0.14595849	0.014060413	-0.354681344	3.34	-8.96	NO
2008	-0.295991316	0.3900649	0.14601684	8.7603075	0.051734163	0.017074722	-0.528142926	3.37	5.39	YES
2009	0.203904576	-1.2118277	0.13010189	-0.9162656	-0.03563899	-0.053046609	-0.470578556	3.27	-4.19	NO
2010	0.454869294	0.15344204	0.29689449	0.1230133	-0.07950329	0.00671678	-1.073867365	2.68	-2.56	NO
2011	-0.225490423	-0.0375773	0.39850884	0.4094812	0.039411826	-0.001644911	-1.441406483	2.43	-2.02	YES
2006	0.748787488	-0.9989389	0.87387438	-0.8734873	-0.6747634	-0.897837487	-0.37823728	2.79	-1.787468	
2007	0.012476167	0.00051608	0.0042241	-0.0154528	-0.00218062	2.2591E-05	-0.015278577	3.81	-3.83	YES
2008	-0.057882264	0.00232992	0.00605964	0.0153993	0.010116819	0.00010199	-0.021917709	3.82	-3.80	YES
2009	0.172084221	0.17181907	0.004862	-0.0754002	-0.03007735	0.007521217	-0.017585868	3.79	-3.86	NO
2010	0.157934104	0.24607064	0.00192807	-0.0040555	-0.02760415	0.010771509	-0.006973825	3.81	-3.81	YES
2011	-0.184895292	-0.1277301	0.00360976	-0.0208462	0.0323165	-0.005591262	-0.013056485	3.84	-3.86	NO
2006	0.4654828	-0.7777463	0.9376767	-0.0387773	0.93767637	-0.84767467	-0.937878	3.56	-8.99	
2007	-0.104735365	-0.0455554	0.00408129	-0.1050671	0.01830593	-0.001994144	-0.014762015	3.83	-3.94	NO
2008	-0.103861434	-0.1204234	0.00722672	0.1800366	0.018153182	-0.005271421	-0.026139053	3.82	-3.64	NO
2009	0.136491339	0.14418933	0.00477068	-0.0086989	-0.02385633	0.006311751	-0.01725556	3.79	-3.80	NO
2010	-861.9177484	95.609336	51.0268347	-56.812219	150.6483166	4.185208135	-184.5640634	-25.90	-30.91	NO
2011	-19.9798248	54.9207658	40.5922946	-59.79036	3.492127849	2.404104509	-146.8223312	-137.10	77.31	YES
2006	0.4444555	0.64965877	0.847635	1.746664	-0.877462	0.94883223	-0.74664092	0.3	1.54	
2007	0.841241538	0.76907036	4.06819693	0.8468327	-0.14703447	0.033665327	-14.71466846	-11.00	11.85	YES
2008	-0.221915709	1.31452858	0.13078485	0.7801509	0.038787028	0.057542244	-0.473048801	3.45	-2.67	NO
2009	-3.337574498	2.13947682	0.35793988	-2.2493918	0.583350303	0.093653572	-1.294668552	3.21	-5.46	NO
2010	0.757449467	0.41898398	0.00960225	0.1597408	-0.13238907	0.018340627	-0.034731345	3.68	-3.52	NO
2011	-0.189854476	0.0547119	0.00887031	-0.0401371	0.033183279	0.002394962	-0.032083901	3.83	-3.87	NO
							Total companies practicing earnings management			**80**