5. Result

Table 1 shows descriptive statistics of firm characteristics, firm performance and corporate governance in Panel A, B and C, respectively. On average, firm age is about 12 years and their market value is approximately 13,000 million baht with debt to assets at approximately 0.26 and market to book value about 1.3. Firm size of non-financial firms significantly grows from about 10,000 million baht in pre-CG period to 14,000 million baht in post-CG period. Firm leverage (i.e. debt to assets) of both non-financial firms and financial firms significantly decreases from about 0.30 in pre-CG period to 0.24 in post-CG period.

With regard to firm performance, non-financial firms report ROA at approximately 10% on average, while financial firms report about 7%. The unmanaged ROA tends to have similar pattern for all proxies of discretionary accruals. Non-financial firms have unmanaged ROA about 13%, whereas financial firms have unmanaged ROA only about 5%. ROA of non-financial firms is in downward trend as their ROA significantly drop from 12% in pre-CG period to 9% in post-CG period. Likewise, the reported ROA of financial firms decreases from 9% in pre-CG period to 5.5% in post-CG period. However, the unmanaged ROA in both period are not significant different.

For corporate governance practice, board of directors in Thai listed firms contains approximately 11 directors on average. Generally, Thai listed firms split the positions of chairman and CEO (74%) for both non-financial and financial firms. The split is more common in the Post-CG period than and significantly different from that in the pre-CG period for non-financial firm. Moreover, after implementing the Principles of Corporate Governance, both non-financial and financial firms have significantly more independent directors and more directors with accounting and financial background. Shares held by directors are approximately 20% on average. The largest family owns about 36% for non-financial firms and 41% for financial firms. Shareholdings of the largest shareholder significantly increase in case of non-financial firms. Further, the largest shareholder typically has a representative on board (89% for non-financial firms and 78% for financial firms). The shareholders with greater than 25% ownership are more common in non-financial firms and their presence significantly rises after the corporate governance reform (59% in pre-CG period and 65% in post-CG period). Family firms, which is defined as a firm that the shareholder with greater 25% ownership involves the management as a board of director, exist more in non-financial firms (64%) than financial firms (44%) and their existence significantly increases from 60% in the pre-CG

period to 65% in the post-CG period. Committee size is about 3 for both non-financial and financial firms. Additionally, financial firms hire more big4-audit firms than non-financial firms do.

Earnings quality

Previous literature suggests earnings quality can be measured by the degree to which insiders smooth earnings or reduce the variability of reported earnings, such as Ball et al. (2000), Lang et al. (2003a, 2003b) and Machuga and Teitel (2009). In this study, we use two proxies to capture earning quality: the variability of earnings and the ratio of the variability of earnings to cash flows from operations. The higher (lower) variability of reported earnings and the ratio of earnings to cash flows from operation indicate the higher (lower) earnings quality.

Table 2 presents the results of income smoothing measures of earnings quality. Earnings quality measures of non-financial firms are more likely to indicate better earnings quality those of financial firms. The variability of net income is approximately 0.0014 for non-financial firms and 0.0012 for financial firms. Likewise, the ratios of variability of net income to cash flows from operation are 0.0374 and 0.0352 for non-financial firms and financial firms, respectively.

Surprisingly, both groups of firms decrease the variability of change in net income and the ratio of change in net income to change in cash flows from operation from the pre- to post-CG periods. The variability and ratio are significantly different between two sub-periods, indicating diminishing earnings quality. It is, thus, important to further investigate the earnings management phenomenon and the factors affecting earnings management in details.

Earnings management

As several measurements are developed to capture earnings management practice, this study uses four models to identify discretionary accruals from total accruals. Average values of total accruals and discretionary accruals are shown in Table 3.

Total accruals and discretionary accruals are all negative and significant difference between pre- and post-CG periods for non-financial firms. This is similar to previous studies, for example Chayavoradech and Srijunpetch (2008) and Machuga and Teitel (2009). On the contrary, the direction of total accruals and discretionary accruals by all measurements goes up for financial

firms and differences between pre- and post- CG reform are significant. Concerning only the magnitude of discretionary accruals, discretionary accruals range about 3-4%. The size of discretionary accruals is significantly lower after the corporate governance reform for financial firms.

Earnings management and corporate governance

This section provides the tests of relationship between earnings management and corporate governance mechanisms. Earnings management is measured by the absolute value of discretionary accruals from four models. As the regressions of all proxies of earning management are qualitatively similar, this paper will display the results generated by Jones (1991)'s model only. We firstly examine the correlation matrix of absolute value of discretionary accruals, firm characteristics, firm performance and corporate governance in the full sample analysis. The correlation matrix is shown in Table 4 Panel A for non-financial firms and Panel B for financial firms. Then, we will do regression of the absolute value of discretionary accruals and hypothesized explanatory variables in equation 10. The results of regression are reported in Table 5.

From Table 3 Panel A, variables that have significant correlation with earnings management in case of non-financial firms are firm performance (reported ROA), firm size (market value of equity), firm leverage (total debt to total assets) and some corporate governance variables including board size, fraction of independent directors on board, the split of chairman and CEO and the number of audit committee. However, the number of auditor committee has significantly high correlation with board size as well. In case of financial firms, the common variables that show significant correlation with earnings management are reported earnings and fraction of independent directors on board. Besides, firm age, market to book value of equity dummy if family firm and dummy if multiple large shareholders also present significant correlation with earnings management. Nevertheless, dummy if multiple large shareholder has high correlation with fraction of independent directors as well.

Taking into account the multivariate analysis, the regression between earnings management and tentative explanatory variables is further examined. In case of non-financial firms, the factors that have significantly positive relationship with earnings management are firm leverage for all periods, reported ROA for pre-CG period, board size for full sample and post-CG period, the fraction of independent directors on board for full sample and post-CG period and the interaction of dummy if

family firm and fraction of directors with accounting or financial expertise. Nevertheless, some corporate governance mechanisms- the fraction of directors with accounting or financial expertise, dummy if splitting chairman and CEO positions and the interaction of dummy if family firm and reported ROA, can reduce the use of earnings management in line with the tested hypothesis. In case of financial firms, reported ROA, dummy if family firm and the interaction of dummy if family firm and the fraction of directors with accounting or financial expertise are positively related with earnings management. The effective corporate governance mechanisms to restrict earnings management are board size and the fraction of independent directors,

In sum, some corporate governance mechanisms have an impact on earnings management as expected. Additionally, corporate governance mechanisms do not consistently reduce the use of earnings management in sub-samples and sub-period.

Descriptive statistics on insider trading

Mean and median of insider transaction characteristics are reported in Table 6. In overview, number of shares traded in case of buy is higher than that in case of sell. However, this pattern is different between financial firms and non-financial firms. The number of shares bought is about four times that of shares sold for financial firms, whereas that of shares bought is about half of that of shares sold for non-financial firms.

In general, transaction price in case of buy is lower than that in case of sell for both financial and non-financial firms. With regard to transaction value, the amount bought is typically higher than the amount sold. Firms that engage in insider buy are smaller than those in insider sell.

Table 7 presents net shares traded and number of firms. The negative sign for NST indicates that the relative number of shares sold is higher than that of shares bought. The majority of insider trades are negative; indicating that relative number of shares sold is higher than that of shares bought. This pattern is similar to the US (Seyhum, 1998; Beneish and Vargus, 2002) and Hong Kong (Jaggi and Tsui, 2007). There are only three years that have positive net shares traded: 2002, 2006 and 2010 for financial firms and 2004-2005 and 2010 for non-financial firms. Interestingly, insider trades are all sells in financial crisis year (2008) and a year prior to the crisis (2007) for both financial and non-financial firms.

Descriptive statistics on firm characteristics and corporate governance practice

Summary statistics of firm characteristics and corporate governance variables are reported in Table 8. With regard to firm performance, we consider both reported ROA and unmanaged ROA. Reported ROA of non-financial firms is higher than that of financial firms. Both reported ROA and unmanaged ROA are higher when insiders are net buyers than when insiders are net sellers. Firm age is approximately 12 years in our sample. Financial firms are typically bigger than non-financial firms. In general, firm leverage is about 27% and market to book value is about 1.3.

With regard to board characteristics, there are about 11 directors on board. The proportion of non-executive directors in financial firms is about 40% and that in non-financial firms is about 38%. Likewise, the proportion of financial expert on board in financial firms (34%) is slightly higher than that in non-financial firms (28%). The split between chairman and CEO is about 74%. Director ownership is quite high (30%) in financial firms and much higher in case of positive NST (40%) than that in negative NST (16%), whereas directors own approximately 20% in non-financial firms. Both financial and non-financial firms have family shareholdings at least 80% and the involvement of family members on board is common, especially in non-financial firms. Also, there appear multiple shareholders in both types of firms. Majority shareholdings are still pronounced in both financial and non-financial firms at approximately 60%. With regard to auditors, audit committee contains 3 people on average. Financial firms hire more big4 auditors (71%) than non-financial firms do (57%).

Association between insider trading and earnings management

Both absolute terms of and signed discretionary accruals are used as proxy of earnings management. The absolute terms of discretionary accruals indicate the size of managed earnings. The signed discretionary accruals can indicate the upward adjustment of reported earnings for positive discretionary accruals and the downward adjustment of reported earnings for negative discretionary accruals. We firstly conduct univariate test separately on financial and non-financial firms as well as abnormal insider buying and selling for each proxy of discretionary accruals (Table 9). Then, we run regression test for which discretionary accruals are dependent variables (Table 10).

The results of univariate test show that financial firms with abnormal insider buying and abnormal insider selling do not have significantly difference of absolute discretionary accruals. By contrast, non-financial firms with abnormal insider buying have significantly lower absolute discretionary accruals than those with normal insider buying, no matter the proxy is used. Non-financial firms with abnormal insider selling have higher absolute discretionary accruals than those with normal insider selling. When taking into account the sign of discretionary accruals, firms with abnormal insider buying show significantly higher upward adjustment of discretionary accruals than firms with normal insider buying in case of the proxy is measured by Xie's model only. The rest do not show significant upward/downward adjustment between abnormal insider trading and discretionary accruals.

For absolute discretionary accruals, the proxy of earnings management is Dechow et al. (1995) in case of non-financial firms and Jones (1991) in case of financial firms according to their highest adjusted r-square. For non-financial firms, absolute discretionary accruals are significantly positive related to firm size, firm leverage and the proportion of non-executive directors. Large firms have more flexibility in managing reported earnings. Also, the firms are more likely to make more discretionary accruals when they have high debt. Split of chairman and CEO is the only corporate governance practice that restricts earnings management. Neither insider abnormal buy nor insider abnormal sell has an impact on the size of discretionary accruals in case of non-financial firms. For financial firms, the higher abnormal insider buying reduces the size of discretionary accruals. When abnormal insider buying is interact with high ROA, the size of discretionary accruals increases. This may suggest executives are more likely to manage earnings to increase reported ROA to signal to market so that share price would go up from their buying behavior. With regard to the big4 auditor's role, the size of discretionary accruals tends to be higher in the presence of big4. However, when big4 is appointed in the higher proportion of non-executives; the size of discretionary accruals decreases. With regard to corporate governance practice, split is an important mechanism to decrease the size of discretionary accruals in non-financial firms, while the appointment of big 4 auditor and non-executives effectively drive the monitoring effect toward earnings management.

For the signed discretionary accruals, the adjustment of reported earnings is positively associated with firm leverage, reported ROA, abnormal insider selling and the proportion of financial expert on board in case of non-financial firms. Executives tend to make upward adjustment to reported

earnings to maximize gain on insider selling. However, abnormal insider selling in conjunction with the increase of ROA tends to associate with the downward adjustment to reported earnings. Among corporate governance variables, the proportion of financial experts on board does not increase the effectiveness of restricting earnings management. Interestingly, non-executive directors and the involvement of family on board have downward discretionary accruals, probably to be more conservative or make earnings smooth. In case of financial firms, the signed discretionary accruals are positively associated with reported ROA, but negatively related to firm size and the proportion of financial experts on board. Insider trading does not have a significant role on upward/downward adjustment of reported earnings in case of financial firms.

Insider exploitation of asymmetric information as characterized by earnings quality measures

To identify possible insider trading gain and earnings management, we run regression for portfolios formed by the criteria of abnormal trading and discretionary accruals. The intercept and factor loadings from three Fama-French factor model is reported in Table 11. The interest is with Jensen's alphas as a measure of excess returns after controlling for the Fama and French risk factors.

All intercepts in case of abnormal insider buying the high discretional accruals are higher that incase of abnormal insider buying the low discretional accruals. We can expect positive excess returns by long the abnormal insider buying the high discretional accruals portfolio and short the abnormal insider buying the low discretional accruals portfolio. However, it is not all of the cases that we can expect positive excess returns by long the abnormal insider selling the low discretional accruals portfolio and short the abnormal insider selling the high discretionary accruals. However, this is based on the assumption that insider trading gains are positively correlated with his/her firm's exposure to the systematic component of asymmetric information risk.

6. Conclusion and Discussion

This paper examines earnings management in publicly traded companies in Thailand as a case of emerging markets. The sample covers both non-financial firms and financial firms in the period of 2002-2011 and two sub-periods (2002-2005 and 2006-2011) according to the implementation year

of Principles of Corporate Governance in 2006. The sub-periods allow us to examine the impact of corporate governance on earnings management.

Using various measures of earnings management, the study suggests that income smoothing can be found even after the implementation of Principles of Corporate Governance in both non-financial firms and financial firms. Further empirical evidence can both support and cast doubt on the beneficial impact of some corporate governance mechanisms on earnings management. Some corporate governance mechanisms plays role in earnings management in either non-financial firms or financial firms. Specifically, the fraction of directors with accounting or financial expertise, the split of chairman and CEO positions and the interaction of family firm and reported ROA are effective mechanisms to reduce earnings management in case of non-financial firms; whereas board size and independent directors can restrict the use of earnings management in case of financial firms.

In order to examine whether Thai listed firms report managed earnings to maximize benefits on directors' trading, to rectify the stock price via their trading or to signal to market. Empirical evidence shows a positive association between insider selling and size of discretionary accruals in case of non-financial firms. It is more likely that positive discretionary accruals are used to indicate higher earnings management when insiders sell their shareholdings to maximize their private gain. Split of chairman and CEO can enhance monitoring effectiveness of corporate board by restricting the size of earnings management. For financial firms, the contemporaneous abnormal insider buying and the conjunction between non-executive directors and big 4 auditor are effective practice to reduce the size of discretionary accruals.

Taking into account the sign of discretionary accruals, only abnormal insider selling shows a monitoring effect on upward adjustment to reported earnings in case of non-financial firms. Abnormal insider trading is not associated with the adjustment of reported earnings in case of financial firms.

Further, we form portfolios by abnormal insider trading and earnings management. Possible excess returns are expected for establishing hedge portfolios that use earnings management as the proxy for information asymmetries exploited by insider buying. It is likely that insiders can exploit information advantage on earnings.

Table 1 Descriptive statistics on firm characteristics, firm performance and corporate governance variables

This table reports summary statistics of firm characteristics, firm performance and corporate governance. The sample covers both non-financial and financial Thai listed firms between 2002 and 2011 in the full sample. Pre-CG sub-period covers the sample between 2002 and 2005 and represents the pre-implementation of Principles of Corporate Governance. Post-CG sub-period covers the sample between 2002 and 2005 and represents the post-implementation of Principles of Corporate Governance. Firm characteristics variables include firm age (the number of years from incorporation year to the financial report year), market value (market value of equity in million baht), debt to asset (total debt divided by total assets), and market to book value (market value of equity divided by book value of equity). Firm performance variables include reported ROA and unmanaged ROA (reported ROA - discretionary accruals), in which the discretionary accruals are measured by four models: Jones (1991), Dechow et al. (1995), Kasznik (1999) and Xie 2001). Corporate governance variables include board size (the number of directors on board), fraction of independent directors (the proportion of independent directors on board), fraction of directors with financial expertise (the proportion of directors with accounting or financial background on board), split of chairman and CEO (dummy variable equal to 1 if the positions of chairman and CEO are held by different person, and 0 otherwise.), director ownership (direct and indirect shareholdings of directors and their spouses), largest family ownership (direct and indirect shareholdings of the largest shareholder), dummy if largest shareholder on board (dummy variable equal to 1 if the largest shareholder is a director on board, and 0 otherwise.), dummy if multiple large shareholders (dummy variable equal to 1 if the firm has many shareholders with greater than 25% ownership, and 0 otherwise.), dummy if family firms (dummy variable equal to 1 if the largest shareholder has greater than 25% ownership and is one of the directors), audit committee size (the number of audit committee) and dummy if big 4 auditor (dummy variable equal to 1 if the audit firm is one of the big 4 audit firms, and 0 otherwise.)

	Non-financial				Financial			
	Full	Pre CG	Post CG	t-diff	Full	Pre CG	Post CG	t-diff
A. Firm characteristics								
Firm age	12.8194	11.1798	13.7082	-8.9	11.6143	10.881	11.9619	-1.89
Market value	12693.2	10259.36	14018.07	-1.98	12529.4	10667.44	13427.42	-1.23
Debt to asset	0.2595	0.2984	0.2358	5.78	0.2622	0.2878	0.2471	2.11
Market to book value	1.34	1.5688	1.2148	1.21	1.2843	1.3967	1.224	1.48
B. Firm performance								
Reported ROA	0.1036	0.1207	0.094	2.54	0.0676	0.09	0.0552	2.98
Unmanaged ROA								
Jones (1991)	0.1283	0.1361	0.124	1.15	0.0539	0.0654	0.0475	1.28
Dechow et al. (1995)	0.1284	0.1362	0.124	1.15	0.0569	0.0678	0.0509	1.01
Kasznik (1999)	0.1286	0.1364	0.1243	1.13	0.0583	0.0696	0.052	1.03
Xie (2001)	0.1284	0.1362	0.124	1.16	0.0538	0.0653	0.0475	1.3
C. Corporate governance variables								
Board size	10.7686	11.0124	10.6389	2.98	10.2245	9.4919	10.4165	-3.08
Fraction of independent directors	0.3708	0.3168	0.3992	-15.31	0.4046	0.3462	0.4193	-6.24
Fraction of directors with financial expertise	0.2672	0.1105	0.3492	-32.17	0.4065	0.0852	0.4886	-24.84
Split of chairman and CEO	0.7441	0.6962	0.7691	-4.07	0.7423	0.7193	0.7479	-0.61
Director ownership	20.6204	20.7327	20.5609	0.19	19.4152	16.4096	20.2079	-0.57
Largest family ownership	36.6574	35.1444	37.4733	-2.58	29.716	28.4075	30.4277	-1.13
Dummy if largest shareholder on board	0.8928	0.8919	0.8933	-0.1	0.7785	0.8253	0.753	2.21
Dummy if multiple large shareholders	0.6293	0.5893	0.6509	-3.02	0.5431	0.5415	0.5439	-0.06
Dummy if family firms	0.6353	0.6075	0.6503	-2.11	0.4446	0.4498	0.4418	0.2
Audit committee size	2.3942	2.5994	2.2855	7.56	2.0885	2.3065	2.0316	2.36
Dummy if big 4 auditor	0.5499	0.6127	0.5198	4.54	0.6224	0.6296	0.6207	0.17

Table 2 Income smoothing

This table reports the results of assessing income smoothing measures of earnings quality: variability of cash flows from operations and net income. The sample covers both non-financial and financial Thai listed firms between 2002 and 2011 in the full sample. Pre-CG sub-period covers the sample between 2002 and 2005 and represents the pre-implementation of Principles of Corporate Governance. Post-CG sub-period covers the sample between 2002 and 2005 and represents the post-implementation of Principles of Corporate Governance. * represents the significant difference between Pre CG and Post CG periods at 95% confidence level.

	Non-financial				Financial			
	Full	Pre CG	Post CG		Full	Pre CG	Post CG	
Variability of change in CFO	0.00460	0.00462	0.00458		0.0058	0.0061	0.0057	
Variability of change in NI	0.00140	0.00151	0.00134		0.0012	0.0015	0.0011	*
Ratio of change in NI/change in CFO	0.03740	0.03890	0.03660	*	0.0352	0.0388	0.0326	*

Table 3 Earnings management measurements

This table reports mean statistics of total accruals, discretionary accruals and absolute value of discretionary accruals. The sample covers both non-financial and financial Thai listed firms between 2002 and 2011 in the full sample. Pre-CG sub-period covers the sample between 2002 and 2005 and represents the pre-implementation of Principles of Corporate Governance. Post-CG sub-period covers the sample between 2002 and 2005 and represents the post-implementation of Principles of Corporate Governance. Total accruals are defined as earnings before interest and tax minus cash flows from operations. Discretionary accruals are measured by four models: Jones (1990), Dechow et al. (1995), Kasznik (1999) and Xie 2001).

	Non-financial				Financial			
	Full	Pre CG	Post CG	t-diff	Full	Pre CG	Post CG	t-diff
Total accruals	-0.025	-0.0158	-0.0303	3.92	0.0051	0.0187	-0.0028	2.62
Discretionary accruals								
Jones (1991)	-0.0246	-0.0155	-0.0298	8.3	0.0202	0.0344	0.0121	7.17
Dechow et al. (1995)	-0.0246	-0.0155	-0.0297	9.42	0.0237	0.0429	0.013	8.84
Kasznik (1999)	-0.025	-0.0162	-0.0299	7.71	0.0223	0.0413	0.0119	6.97
Xie (2001)	-0.0246	-0.0155	-0.0298	8.15	0.0202	0.0344	0.0121	7.04
Absolute discretionary accruals								
Jones (1991)	0.0409	0.0416	0.0406	0.96	0.0332	0.0451	0.0264	8.2
Dechow et al. (1995)	0.0361	0.037	0.0356	1.39	0.0341	0.0495	0.0257	8.81
Kasznik (1999)	0.0428	0.0411	0.0437	-1.27	0.0432	0.0499	0.0395	3.23
Xie (2001)	0.0413	0.042	0.0408	1.08	0.0328	0.0448	0.026	7.84

Table 4 Correlation

This table presents the correlation matrix of discretionary accruals, firm characteristics, firm performance and corporate governance for non-financial firms and financial firms in Panel A and B, respectively. The sample covers both non-financial and financial Thai listed firms between 2002 and 2011 in the full sample. Pre-CG sub-period covers the sample between 2002 and 2005 and represents the pre-implementation of Principles of Corporate Governance. Post-CG sub-period covers the sample between 2002 and 2005 and represents the post-implementation of Principles of Corporate Governance. Total accruals are defined as earnings before interest and tax minus cash flows from operations. Discretionary accruals are measured by Jones (1991)'s model. Firm characteristics variables include firm age (the number of years from incorporation year to the financial report year), market value (market value of equity in million baht), debt to asset (total debt divided by total assets), and market to book value (market value of equity divided by book value of equity). Firm performance variables include reported ROA. Corporate governance variables include board size (the number of directors on board), fraction of directors with financial expertise (the proportion of directors with accounting or financial background on board), split of chairman and CEO (dummy variable equal to 1 if the positions of chairman and CEO are held by different person, and 0 otherwise.), director ownership (direct and indirect shareholdings of directors and their spouses), largest family ownership (direct and indirect shareholdings of the largest shareholder), dummy if largest shareholder on board (dummy variable equal to 1 if the largest shareholder is a director on board, and 0 otherwise.), dummy if multiple large shareholders (dummy variable equal to 1 if the firm has many shareholders with greater than 25% ownership, and 0 otherwise.), dummy if family firms (dummy variable equal to 1 if the largest shareholder has greater than 25% ownership and is one of the directors), audit committee size (the number of audit committee) and dummy if big 4 auditor (dummy variable equal to 1 if the audit firm is one of the big 4 audit firms, and 0 otherwise.)

A. Non-financial firms

	Abdacc	rroa	fage	mv	td_ta	mtbv	bsize	ptned	ptfnexp	split	pt_diown	pt_famown1	ddr_fam1	dum_mls	no_aud
rroa	0.03777														
fage	-0.00957	-0.0341													
mv	0.04617	0.06791	0.00977												
td_ta	0.09098	-0.11221	-0.08764	0.03556											
mtbv	-0.03016	0.04224	-0.00085	0.03323	-0.01698										
bsize	0.05091	0.02204	0.28419	0.15237	-0.03902	0.03111									
ptned	0.11991	-0.0185	0.01366	0.11121	-0.03552	-0.05123	-0.2237								
ptfnexp	0.00131	-0.03334	0.0687	-0.00081	-0.0039	0.00914	-0.1842	0.20992							
split	-0.04624	0.00393	0.0403	0.0894	-0.04065	0.00025	0.10456	0.005	0.04997						
pt_diown	-0.006	0.08508	-0.14792	-0.14212	-0.0647	0.02174	-0.18798	-0.01995	-0.02414	-0.13775					
pt_famown1	0.03945	0.09687	-0.06505	0.01394	0.02695	0.00907	-0.11271	0.04888	0.05231	-0.03561	0.38668				
ddr_fam1	-0.00167	0.07763	-0.00697	0.01513	0.05427	0.04954	0.01533	-0.02827	-0.01162	-0.08355	0.27757	0.34132			
dum_mls	-0.01362	-0.04883	-0.04082	-0.2332	-0.08257	-0.0179	-0.15178	0.03813	0.02639	-0.00879	0.20619	-0.09913	-0.00189		
no_aud	-0.04864	-0.00871	0.00551	-0.06281	-0.04089	-0.02519	0.6911	-0.04706	-0.19045	-0.05694	0.07467	0.00932	-0.00777	0.07934	
daudit_big4	0.01165	0.08836	0.06522	0.02448	0.00524	0.02047	0.11411	0.00714	0.02006	0.07661	-0.2055	-0.1257	-0.05744	-0.24176	-0.09978

B. Financial firms

	Abdacc1	rroa	fage	mv	td_ta	mtbv	bsize	ptned	ptfnexp	split	pt_diown	pt_famown1	ddr_fam1	dum_mls	no_aud
rroa	0.2542														
fage	-0.09996	-0.20745													
mv	0.02119	-0.04061	0.45331												
td_ta	0.01337	0.08337	-0.19446	-0.13132											
mtbv	0.14178	0.61189	-0.03029	0.12528	-0.08268										
bsize	-0.06184	0.08669	0.27188	0.26647	-0.28404	0.03802									
ptned	-0.1205	-0.00604	0.13524	0.08388	-0.12129	0.00245	-0.05134								
ptfnexp	-0.04587	-0.06441	0.15671	0.10166	-0.16145	0.00612	0.00757	0.19596							
split	-0.04947	-0.02478	0.02384	0.12891	0.00275	0.03315	0.19455	-0.03545	0.0909						
pt_diown	0.02461	-0.00508	-0.0307	-0.03358	0.00221	-0.01615	-0.01951	-0.01233	0.01888	0.0125					
pt_famown1	-0.0301	0.02129	-0.20899	-0.00923	-0.13121	0.01774	-0.12237	-0.0075	-0.03834	0.07454	0.11452				
ddr_fam1	0.11214	0.17071	-0.3061	-0.06187	-0.08569	0.08733	0.07321	0.00892	-0.16962	-0.55060	0.07769	0.26844			
dum_mls	0.08991	0.00707	-0.01035	-0.19713	-0.01405	0.01355	-0.18219	-0.05712	-0.13259	0.00395	0.06451	0.06161	-0.01336		
no_aud	-0.0006	-0.08911	-0.07757	0.07937	-0.01402	0.02543	0.12852	-0.09162	-0.1093	-0.15436	-0.05528	-0.12473	0.00662	0.1615	
daudit_big4	-0.00992	0.02234	0.06359	0.12119	0.03753	0.14255	0.13115	-0.03549	0.14858	0.03981	0.02392	-0.12247	-0.10075	-0.18299	-0.0633

Table 5 Determinants of earnings management measures

This table reports the regression results of discretionary accruals and explanatory variables. The sample covers both non-financial and financial Thai listed firms between 2002 and 2011 in the full sample. Pre-CG sub-period covers the sample between 2002 and 2005 and represents the pre-implementation of Principles of Corporate Governance. Post-CG sub-period covers the sample between 2002 and 2005 and represents the post-implementation of Principles of Corporate Governance. Discretionary accruals are measured by Jones (1991)'s model. Explanatory variables include lnmv (natural logarithm of market value of equity in million baht), dta (total debt divided by total assets), rroa (EBIT divided by total assets), lnbsize (national logarithm of the number of directors on board), daudit_big4 (dummy variable equal to 1 if the audit firm is one of the big 4 audit firms, and 0 otherwise.), ptned (the proportion of independent directors on board), ptfinexpert (the proportion of directors with accounting or financial background on board), split (dummy variable equal to 1 if the positions of chairman and CEO are held by different person, and 0 otherwise.) and dfamfirm (dummy variable equal to 1 if the largest shareholder has greater than 25% ownership and is one of the directors), audit committee size (the number of audit committee)

	Non-financial			Financial		
	Full	Pre CG	Post CG	Full	Pre CG	Post CG
intercept	0.0105	0.0215	0.0032	0.0694	0.0930	0.0401
	(1.56)	(1.31)	(0.42)	(4.26)	(1.41)	(2.63)
lnmv	0.0004	0.0005	0.0003	0.0000	-0.0041	0.0007
	(0.79)	(0.61)	(0.57)	(0.05)	(-1.33)	(0.80)
dta	0.0115	0.0168	0.0085	-0.0039	-0.0162	0.0006
	(4.26)	(3.51)	(2.55)	(-0.61)	(-0.72)	(0.11)
rroa	0.0008	0.0472	-0.0189	0.0818	0.0707	0.0574
	(0.10)	(2.59)	(-1.88)	(3.83)	(1.40)	(2.56)
lnbsize	0.0079	-0.0000	0.0121	-0.0158	-0.0025	-0.0099
	(3.07)	(0.00)	(4.04)	(-2.29)	(-0.10)	(-2.54)
daudit_big4	0.0008	0.0034	-0.0008	0.0007	0.0010	-0.0009
	(0.60)	(1.34)	(-0.52)	(0.25)	(0.13)	(-0.35)
ptned	0.0240	0.0178	0.0244	-0.0230	-0.0094	-0.0215
	(6.32)	(1.16)	(6.43)	(-2.55)	(-0.19)	(-2.80)
ptfinexpert	-0.0098	0.0003	-0.0089	-0.0023	-0.0749	0.0103
	(-2.43)	(0.02)	(-1.99)	(-0.40)	(-1.86)	(1.82)
split	-0.0027	-0.0013	-0.0031	0.0007	-0.0126	0.0037
	(-2.01)	(-0.53)	(-2.01)	(0.22)	(-1.38)	(1.31)
dfamfirm	0.0003	0.0044	0.0008	0.0008	0.0085	0.0023
	(0.12)	(1.19)	(0.28)	(2.16)	(2.78)	(2.45)
dfamfirm * rroa	-0.0230	-0.0825	0.0007	0.0135	0.0291	0.0045
	(-2.17)	(-3.79)	(0.06)	(0.43)	(0.44)	(0.13)
dfamfirm * ptfinexpert	0.0124	0.0200	0.0090	0.0012	0.1330	0.0055
	(2.50)	(1.22)	(1.56)	(0.14)	(2.02)	(0.64)
f-test	8.58	3.61	7.88	3.7	1.74	3.18
	<.0001	<.0001	<.0001	<.0001	0.079	0.0005
adj r square	0.039	0.0414	0.0517	0.0777	0.0849	0.0834

Table 6 Descriptive statistics of insider transactions

The table reports summary statistics of insider transactions in the sample period of 2002-2010. The statistics are mean in the first line and the median in the second line. Tnumber is transaction number of shares traded. Tprice is transaction price. Tvalue is transaction value in baht. MV is market value in thousand baht.

	Purchases			Sales		
	Full	Financial	Non-financial	Full	Financial	Non-financial
Tnumber	1,614,899	5,333,576	507,150	1,206,185	1,224,053	1,200,292
	24,000	50,000	20,000	13,000	18,500	10,750
Tprice	31.72	14.09	36.97	40.94	19.08	48.15
	12.10	7.80	14.60	13.39	13.00	13.50
Tvalue	4,772,812.51	6,775,607.52	4,176,685.33	5,027,772.35	3,523,163.74	5,523,704.79
	304,500.00	376,372.50	282,987.00	265,355.00	288,000.00	260,000.00
MV	23,546,150.27	16,386,586.29	25,698,188.06	52,770,519.76	21,989,970.22	62,921,597.87
	1,946,500.00	3,589,296.25	1,480,488.32	5,428,678.80	5,791,089.04	5,217,746.10

Table 7 Summary statistics of net shares traded by insider trading

The table reports summary statistics of net shares traded by insider trading in the sample period of 2002-2010. The statistics are mean in the first line and the median in the second line. NST = $\sum(SharesPurchased/SharesOutstanding) - \sum(SharesSold/SharesOutstanding)$ summed over the year. M

	Financial			Non-financial		
	nst	no.of firms nst > 0	no.of firms nst <= 0	nst	no.of firms nst > 0	no.of firms nst <= 0
2002	4.58E-03	6	16	-3.73E-04	58	41
	1.40E-05			2.13E-05		
2003	-4.02E-03	4	33	-1.09E-02	49	74
	-2.50E-04			-3.91E-04		
2004	-7.08E-03	11	28	1.12E-03	83	30
	1.40E-04			3.90E-05		
2005	-2.37E-03	7	30	7.12E-05	61	56
	-5.53E-04			-7.79E-06		
2006	1.39E-02	11	27	-6.88E-03	61	65
	3.50E-05			-4.37E-05		
2007	-2.76E-02	-	33	-2.22E-02	-	98
	-1.24E-06			-1.13E-06		
2008	-1.39E-03	-	27	-1.15E-02	-	111
	-2.49E-07			-1.59E-06		
2009	-2.93E-03	1	25	-1.35E-02	5	104
	-2.29E-06			-5.98E-07		
2010	1.70E-03	5	27	6.18E-03	66	71
	-3.90E-06			-5.90E-05		

Table 8 Firm characteristics, firm performance, corporate governance and net shares traded by insider trading

This table reports summary statistics of firm characteristics, firm performance and corporate governance. The sample covers both non-financial and financial Thai listed firms between 2002 and 2010 in the full sample. Firm characteristics variables include firm age (the number of years from incorporation year to the financial report year), market value (market value of equity in million baht), debt to asset (total debt divided by total assets), and market to book value (market value of equity divided by book value of equity). Firm performance variables include reported ROA and unmanaged ROA (reported ROA – discretionary accruals), in which the discretionary accruals are measured by four models: Jones (1991), Dechow et al. (1995), Kasznik (1999) and Xie 2001). Corporate governance variables include board size (the number of directors on board), fraction of independent directors (the proportion of independent directors on board), fraction of directors with financial expertise (the proportion of directors with accounting or financial background on board), split of chairman and CEO (dummy variable equal to 1 if the positions of chairman and CEO are held by different person, and 0 otherwise.), director ownership (direct and indirect shareholdings of directors and their spouses), largest family ownership (direct and indirect shareholdings of the largest shareholder), dummy if largest shareholder on board (dummy variable equal to 1 if the largest shareholder is a director on board, and 0 otherwise.), dummy if multiple large shareholders (dummy variable equal to 1 if the firm has many shareholders with greater than 25% ownership, and 0 otherwise.), dummy if family firms (dummy variable equal to 1 if the largest shareholder has greater than 25% ownership and is one of the directors), audit committee size (the number of audit committee) and dummy if big 4 auditor (dummy variable equal to 1 if the audit firm is one of the big 4 audit firms, and 0 otherwise.)

	Financial			Non-financial		
	all	firms with nst > 0	firms with nst <= 0	all	firms with nst > 0	firms with nst <= 0
A. Firm characteristics						
fage	11.4582	12.3608	10.5939	12.5009	12.8884	12.3412
mv	17006.7983	14030.8967	19857.2101	12728.9486	13670.9919	12306.3954
td_ta	0.2819	0.3019	0.2626	0.2647	0.2520	0.2724
mtbv	1.2200	1.1383	1.2983	1.2906	1.4643	1.2005
B. Firm performance						
rroa	0.0694	0.0786	0.0600	0.0985	0.1110	0.0925
uroa_jones	0.0475	0.0574	0.0374	0.1210	0.1304	0.1165
uroa_dss	0.0494	0.0597	0.0394	0.1217	0.1305	0.1175
uroa_kasz	0.0518	0.0635	0.0404	0.1217	0.1300	0.1177
uroa_xie	0.0475	0.0573	0.0375	0.1212	0.1305	0.1167
C. Corporate governance						
bsize	9.7760	9.6579	9.9487	10.7489	11.1007	10.5933
ptned	0.3927	0.3960	0.3880	0.3732	0.3677	0.3755
ptfnexp	0.3376	0.2774	0.4253	0.2729	0.2657	0.2767
split	0.7283	0.7593	0.6842	0.7526	0.7638	0.7486
pt_diown	30.2466	39.5034	16.1764	19.1679	21.0027	18.2668
pt_famown1	28.1826	29.9816	26.0837	35.4877	37.0292	34.8093
ddr_fam1	0.7738	0.8319	0.7059	0.8831	0.8733	0.8874
dum_mls	0.6109	0.6723	0.5392	0.6122	0.6773	0.5808
dfamfirm	0.4208	0.3950	0.4510	0.6117	0.6013	0.6170
no_aud	2.2383	2.1316	2.3924	2.3743	2.3898	2.3628
daudit_big4	0.7072	0.6636	0.7703	0.5616	0.5838	0.5508

Table 9 Abnormal insider trading and abnormal discretionary accruals

The table reports summary statistics of earnings management measures by abnormal insider trading in the sample period of 2002-2010. The statistics are mean in the first line and the median in the second line. Discretionary accruals are abaccru_jones by Jones (1991), abaccru_dss by Dechow et al. (1995), abaccru_kasz by Kasznik (1999) and abaccru_xie by Xie (2001). Abbuy is dummy variable equal to 1 if NST is greater than the median of all buying firm, and 0 otherwise. Absell is dummy variable equal to 1 if NST is lower than the median of all selling firm, and 0 otherwise

A. Absolute form of discretionary accruals

	Financial						Non-financial					
	abbuy=0	abbuy=1	t diff	absell=0	absell=1	t diff	abbuy=0	abbuy=1	t diff	absell=0	absell=1	t diff
abdacc_jones	0.0327	0.0361	-0.8464	0.0347	0.0290	1.5175	0.0414	0.0376	2.7039	0.0405	0.0413	-0.7143
	0.0268	0.0282		0.0282	0.0243		0.0386	0.0338		0.0373	0.0399	
abdacc_dss	0.0344	0.0401	-1.2214	0.0360	0.0332	0.6619	0.0376	0.0343	2.4447	0.0369	0.0373	-0.3458
	0.0291	0.0335		0.0298	0.0292		0.0343	0.0301		0.0327	0.0350	
abdacc_kasz	0.0409	0.0456	-0.8469	0.0418	0.0416	0.0323	0.0435	0.0409	1.7051	0.0422	0.0449	-2.2698
	0.0346	0.0340		0.0346	0.0333		0.0395	0.0349		0.0371	0.0423	
abdacc_xie	0.0324	0.0367	-1.0158	0.0347	0.0283	1.5858	0.0416	0.0375	2.8933	0.0408	0.0411	-0.2394
	0.0276	0.0244		0.0279	0.0253		0.0389	0.0326		0.0374	0.0397	

B. Level form of discretionary accruals

	Financial						Non-financial					
	abbuy=0	abbuy=1	t diff	absell=0	absell=1	t diff	abbuy=0	abbuy=1	t diff	absell=0	absell=1	t diff
abdacc_jones	0.0201	0.0301	-1.9000	0.0209	0.0263	-1.0800	-0.0226	-0.0218	-0.3600	-0.0225	-0.0225	-0.0200
	0.0189	0.0233		0.0173	0.0229		-0.0279	-0.0249		-0.0267	-0.0286	
abdacc_dss	0.0254	0.0350	-1.6200	0.0258	0.0314	-1.0400	-0.0225	-0.0206	-0.9600	-0.0228	-0.0211	-1.0600
	0.0270	0.0334		0.0263	0.0292		-0.0261	-0.0249		-0.0260	-0.0252	
abdacc_kasz	0.0231	0.0320	-1.1400	0.0230	0.0302	-1.0200	-0.0228	-0.0195	-1.3400	-0.0223	-0.0220	-0.1600
	0.0221	0.0288		0.0224	0.0267		-0.0281	-0.0251		-0.0269	-0.0295	
abdacc_xie	0.0197	0.0315	-2.1700	0.0209	0.0258	-0.9300	-0.0227	-0.0221	-0.2400	-0.0228	-0.0222	-0.3500
	0.0184	0.0212		0.0182	0.0241		-0.0280	-0.0249		-0.0273	-0.0274	

Table 10 Regression results of earnings management, insider trading and corporate governance

This table reports the regression results of earnings management, insider trading and corporate governance. The sample covers both non-financial and financial Thai listed firms between 2002 and 2010. Discretionary accruals are abaccru_jones by Jones (1991), abaccru_dss by Dechow et al. (1995), abaccru_kasz by Kasznik (1999) and abaccru_xie by Xie (2001). Explanatary variables are lnmv (natural logarithm of market value of equity in million baht), td_ta (total debt divided by total assets), abt (dummy variable of abnormal insider trading equal to 1 if NST is greater than the median of all buying firm or lower than the median of all selling firms, and 0 otherwise), rroa (EBIT divided by total assets), daudit_big4 (dummy variable equal to 1 if the audit firm is one of the big 4 audit firms, and 0 otherwise.), ptned (the proportion of independent directors on board), nedbig (the interaction terms of ptned and daudit_big4), ptfinexpert (the proportion of directors with accounting or financial background on board), split (dummy variable equal to 1 if the positions of chairman and CEO are held by different person, and 0 otherwise.) and dfamfirm (dummy variable equal to 1 if the largest shareholder has greater than 25% ownership and is one of the directors).

A. Absolute form of discretionary accruals

		Intercept	lnmv	td_ta	rroa	abbuy	absell	abbroa	absroa	daudit_big4	ptned	nedbig	ptfnexp	split	dfamfirm	Adj r-square
abaccru_dss	Financial	0.0391	-0.0016	-0.0066	0.0928	-0.0057	0.0016	0.1467	-0.0898	0.0195	0.0130	-0.0421	-0.0078	-0.0091	0.0041	0.0625
		(1.91)	(-0.76)	(-0.46)	(2.16)	(-0.49)	(0.19)	(1.39)	(-0.94)	(1.24)	(0.50)	(-1.15)	(-0.87)	(-1.52)	(0.74)	
	Non-financial	0.0134	0.0019	0.0115	0.0016	0.0004	0.0014	-0.0253	-0.0108	-0.0003	0.0201	0.0036	-0.0033	-0.0031	0.0018	0.0491
		(3.50)	(4.28)	(4.21)	(0.19)	(0.17)	(0.84)	(-1.57)	(-0.97)	(-0.09)	(4.26)	(0.51)	(-1.43)	(-2.27)	(1.42)	
abaccru_jones	Financial	0.0360	-0.0014	-0.0212	0.0982	-0.0333	0.0052	0.4331	-0.0261	0.0312	0.0165	-0.0699	0.0053	-0.0080	0.0060	0.2543
		(2.12)	(-0.88)	(-1.84)	(2.63)	(-3.23)	(0.67)	(4.59)	(-0.30)	(2.27)	(0.70)	(-2.21)	(0.68)	(-1.53)	(1.27)	
	Non-financial	0.0296	0.0008	0.0097	-0.0171	-0.0038	-0.0010	0.0098	0.0099	-0.0011	0.0124	0.0079	-0.0028	-0.0023	0.0025	0.0204
		(7.43)	(1.65)	(3.41)	(-1.93)	(-1.53)	(-0.58)	(0.58)	(0.85)	(-0.38)	(2.52)	(1.11)	(-1.14)	(-1.62)	(1.98)	
abaccru_kasz	Financial	0.0378	-0.0034	-0.0144	0.0223	-0.0251	-0.0005	0.3978	0.0620	0.0093	0.0514	-0.0273	0.0096	-0.0020	0.0170	0.0800
		(1.49)	(-1.33)	(-0.81)	(0.42)	(-1.77)	(-0.05)	(3.04)	(0.52)	(0.47)	(1.58)	(-0.60)	(0.86)	(-0.27)	(2.49)	
	Non-financial	0.0256	0.0009	0.0135	0.0129	-0.0010	0.0031	-0.0025	-0.0006	-0.0058	0.0106	0.0180	0.0001	-0.0006	0.0019	0.0268
		(5.86)	(1.74)	(4.35)	(1.32)	(-0.35)	(1.62)	(-0.13)	(-0.05)	(-1.79)	(1.97)	(2.29)	(0.05)	(-0.37)	(1.31)	
abaccru_xie	Financial	0.0338	-0.0012	-0.0201	0.0867	-0.0328	-0.0036	0.4245	-0.0251	0.0287	0.0149	-0.0657	0.0047	-0.0063	0.0065	0.2316
		(2.00)	(-0.74)	(-1.77)	(2.35)	(-3.21)	(-0.47)	(4.54)	(-0.30)	(2.11)	(0.64)	(-2.10)	(0.60)	(-1.21)	(1.40)	
	Non-financial	0.0271	0.0011	0.0099	-0.0173	-0.0034	-0.0017	0.0061	0.0156	0.0004	0.0139	0.0040	-0.0028	-0.0030	0.0027	0.0225
		(6.76)	(2.38)	(3.46)	(-1.94)	(-1.39)	(-0.99)	(0.36)	(1.32)	(0.14)	(2.82)	(0.55)	(-1.16)	(-2.13)	(2.08)	

B. Level form of discretionary accruals

		Intercept	lnmv	td_ta	rroa	abbuy	absell	abbroa	absroa	daudit_big4	ptned	nedbig	ptfnexp	split	dfamfirm	Adj r-square
abaccru_dss	Financial	0.0294	-0.0039	-0.0029	0.1586	-0.0101	0.0132	0.3739	-0.0366	0.0138	0.0194	-0.0513	0.0052	-0.0027	-0.0049	0.1733
		(1.21)	(-1.66)	(-0.18)	(2.98)	(-0.69)	(1.19)	(2.77)	(-0.30)	(0.70)	(0.58)	(-1.14)	(0.47)	(-0.37)	(-0.73)	
	Non-financial	-0.0188	-0.0010	0.0086	0.0952	0.0014	0.0048	0.0074	-0.0391	-0.0009	-0.0226	-0.0073	0.0088	0.0034	-0.0072	0.0509
		(-3.08)	(-1.36)	(1.98)	(7.01)	(0.36)	(1.79)	(0.29)	(-2.18)	(-0.21)	(-3.01)	(-0.66)	(2.36)	(1.59)	(-3.67)	
abaccru_jones	Financial	0.0595	-0.0064	-0.0001	0.1269	0.0077	0.0154	0.1242	-0.0873	0.0219	0.0305	-0.0703	-0.0200	-0.0039	-0.0038	0.1174
		(2.34)	(-2.49)	(-0.01)	(2.38)	(0.54)	(1.42)	(0.95)	(-0.74)	(1.12)	(0.94)	(-1.55)	(-1.79)	(-0.53)	(-0.56)	
	Non-financial	-0.0066	-0.0014	-0.0003	0.0446	0.0050	0.0032	-0.0164	-0.0114	-0.0014	-0.0256	-0.0041	0.0056	0.0028	-0.0062	0.0277
		(-1.18)	(-2.17)	(-0.06)	(3.56)	(1.44)	(1.31)	(-0.69)	(-0.69)	(-0.34)	(-3.70)	(-0.40)	(1.62)	(1.42)	(-3.44)	
abaccru_kasz	Financial	0.0663	-0.0092	-0.0037	0.1195	-0.0161	0.0124	0.3833	-0.0078	0.0352	0.0351	-0.1018	-0.0106	-0.0026	0.0089	0.0841
		(1.89)	(-2.57)	(-0.15)	(1.62)	(-0.82)	(0.83)	(2.11)	(-0.05)	(1.30)	(0.78)	(-1.62)	(-0.68)	(-0.25)	(0.94)	
	Non-financial	-0.0025	-0.0015	0.0053	0.0125	0.0057	-0.0000	-0.0106	0.0145	-0.0018	-0.0268	-0.0046	0.0018	0.0030	-0.0072	0.0167
		(-0.37)	(-1.84)	(1.08)	(0.81)	(1.34)	(0.00)	(-0.37)	(0.72)	(-0.35)	(-3.17)	(-0.37)	(0.43)	(1.24)	(-3.25)	
abaccru_xle	Financial	0.0333	-0.0043	-0.0071	0.1526	-0.0101	0.0152	0.3715	-0.0306	0.0112	0.0161	-0.0420	0.0065	-0.0012	-0.0044	0.1805
		(1.40)	(-1.91)	(-0.44)	(2.93)	(-0.70)	(1.39)	(2.82)	(-0.26)	(0.58)	(0.49)	(-0.95)	(0.50)	(-0.17)	(-0.66)	
	Non-financial	-0.0108	-0.0021	0.0064	0.0984	0.0012	0.0054	0.0058	-0.0395	-0.0033	-0.0243	-0.0005	0.0096	0.0040	-0.0069	0.0518
		(-1.77)	(-2.96)	(1.46)	(7.23)	(0.30)	(2.02)	(0.22)	(-2.20)	(-0.72)	(-3.23)	(-0.04)	(2.59)	(1.84)	(-3.48)	

Table 11 Insider exploitation of asymmetric information as characterized by earnings management measures

The table reports the regression results of Fama-French three factor model. The sample covers both non-financial and financial Thai listed firms between 2002 and 2010. Discretionary accruals are abaccru_jones by Jones (1991), abaccru_dss by Dechow et al. (1995), abaccru_kasz by Kasznik (1999) and abaccru_xie by Xie (2001). Abnormal buy is firm having NST greater than the median of all buying firm. Abnormal sell is firm having NST lower than the median of all selling firm. High (low) discretionary accruals are firms having discretionary accruals greater (less than) median

A. Abnormal buy and low discretionary accruals

		Intercept	rm_rf	ret_smb	ret_mtb	adj r-square
abaccru_dss	Financial	0.1908	0.7269	3.8276	0.4648	0.1901
		(2.37)	(2.71)	(3.35)	(0.73)	
	Non-financial	0.0508	1.1316	1.6488	0.8921	0.2243
		(1.70)	(12.26)	(3.79)	(3.65)	
abaccru_jones	Financial	0.4083	1.1944	2.5388	1.0169	0.3209
		(7.59)	(6.40)	(3.34)	(2.36)	
	Non-financial	0.0948	1.0839	2.0900	1.4103	0.2399
		(3.39)	(11.57)	(4.68)	(5.27)	
abaccru_kasz	Financial	0.3774	1.5168	1.1518	0.6485	0.3401
		(6.78)	(7.97)	(1.40)	(1.34)	
	Non-financial	0.0741	1.3105	1.8944	0.8937	0.2578
		(2.52)	(13.54)	(4.45)	(3.78)	
abaccru_xie	Financial	0.4551	1.3446	1.8309	1.0489	0.3161
		(7.87)	(6.57)	(2.22)	(2.40)	
	Non-financial	0.0942	1.2583	1.8682	1.3092	0.2776
		(3.32)	(12.90)	(4.05)	(4.92)	

B. Abnormal buy and high discretionary accruals

		Intercept	rm_rf	ret_smb	ret_mtb	adj r-square
abaccru_dss	Financial	0.3891	1.2068	4.9045	3.9764	0.4190
		(6.79)	(8.00)	(2.58)	(1.93)	
	Non-financial	0.1192	0.9724	2.8382	1.1639	0.2794
		(5.36)	(13.97)	(9.07)	(6.68)	
abaccru_jones	Financial	0.4600	0.8569	0.9463	5.3779	0.3087
		(0.71)	(4.70)	(0.43)	(2.34)	
	Non-financial	0.0951	1.0231	2.5686	0.9024	0.2629
		(3.97)	(14.70)	(8.08)	(5.33)	
abaccru_kasz	Financial	0.3970	0.2702	5.3625	12.2411	0.3399
		(0.43)	(1.11)	(1.75)	(3.69)	
	Non-financial	0.1164	0.8644	2.7399	1.1772	0.2642
		(5.20)	(13.16)	(8.76)	(6.74)	
abaccru_xie	Financial	0.4600	0.8569	0.9463	5.3779	0.3087
		(0.71)	(4.70)	(0.43)	(2.34)	
	Non-financial	0.0946	0.9327	2.6738	0.9603	0.2442
		(4.02)	(13.71)	(8.62)	(5.67)	

C. Abnormal sell and low discretionary accruals

		Intercept	rm_rf	ret_smb	ret_mtb	adj r-square
abaccru_dss	Financial	0.0748	1.4059	1.8669	1.9329	0.4320
		(2.56)	(16.96)	(3.53)	(6.24)	
	Non-financial	0.0074	0.8739	1.5754	0.4829	0.2594
		(0.51)	(23.00)	(5.33)	(2.55)	
abaccru_jones	Financial	0.1641	1.4295	4.3076	3.4613	0.4490
		(4.67)	(13.79)	(6.53)	(7.88)	
	Non-financial	0.0002	0.8560	1.6313	0.3925	0.2505
		(0.01)	(23.01)	(5.34)	(1.95)	
abaccru_kasz	Financial	0.1339	1.4635	2.4139	2.3208	0.4770
		(5.08)	(20.45)	(4.74)	(7.22)	
	Non-financial	0.0310	0.8694	1.8612	0.7178	0.2325
		(2.10)	(22.29)	(6.29)	(3.97)	
abaccru_xie	Financial	0.1481	1.5025	3.8801	3.2948	0.4643
		(4.03)	(14.27)	(5.71)	(7.31)	
	Non-financial	0.0195	0.8374	1.5204	0.5796	0.2211
		(1.33)	(22.10)	(4.90)	(2.88)	

D. Abnormal sell and high discretionary accruals

		Intercept	rm_rf	ret_smb	ret_mtb	adj r-square
abaccru_dss	Financial	0.0334	1.3182	0.3403	1.2422	0.5266
		(1.54)	(22.59)	(0.60)	(2.70)	
	Non-financial	0.0419	0.7752	2.0019	1.3930	0.2285
		(2.92)	(20.71)	(6.47)	(6.59)	
abaccru_jones	Financial	0.0368	1.3224	0.0510	0.1671	0.5190
		(2.14)	(26.60)	(0.13)	(0.60)	
	Non-financial	0.0366	0.7555	1.8157	1.4074	0.2299
		(2.52)	(19.89)	(6.10)	(7.14)	
abaccru_kasz	Financial	0.0279	1.2676	1.2004	2.0845	0.5763
		(1.45)	(22.59)	(2.48)	(5.48)	
	Non-financial	0.0026	0.7579	1.6409	1.2155	0.2481
		(0.19)	(21.24)	(5.21)	(5.15)	
abaccru_xie	Financial	0.0479	1.3008	0.1250	0.0510	0.5018
		(2.82)	(26.26)	(0.31)	(0.19)	
	Non-financial	0.0136	0.8026	2.0578	1.2918	0.2756
		(0.97)	(21.77)	(7.14)	(6.63)	