

Table 1 Sample Selection

Description	Number of observations
Initial sample (667 x 6 years)	4,002
(-) missing data of f-score due to missing data of financial variables	(2,838)
(-) non-disclosure of risk management activities	(89)
(-) non-disclosure of risk management committee	(361)
(-) missing data of control variables	(163)
(-) Outliers	(294)
Final Sample	257

(Source: Authors' own work)

Table 2 Operational definition of Variables

Variables	Symbol	Operationalization
Dependent variable		
Potential fraudulent financial reporting	F-SCORE	Calculation of Dechow F-Score developed by Dechow et al. (2011)
Independent variables		
Disclosure of risk operation and activities disclosed by the companies	RISK_ACTIVITIES	A dummy variable with a value of one if the company conduct risk activities and 0 otherwise
The existence of risk management committee	RISK_COMM	A dummy variable with a value of one if the company have established risk management committee and 0 if otherwise
Panel B: Control variables (Board Structure)		
Board size	BOARD_SIZE	Number of board of directors
Number of independent directors in board	INDEP_BOARD	Percentage of independent board over number of board of directors
Number of accounting and finance expertise in board	PERC_ACCTG	Percentage of accounting and finance expertise over number of board of directors
Number of other expertise other than accounting and finance in board	PERC_NONACCTG	Percentage of other expertise other than accounting and finance over number of board of directors
Number of female directors in board	PERC_FEMALE	Percentage of female directors over number of board of directors
Panel C: Control Variables (Financial Indicators)		
Firm size	FIRM_SIZE	Natural log transformation of total assets
Revenue	REVENUE	Net sales over total revenue
Leverage	LEVERAGE	The ratio of total debts to total assets
Panel D: Control Variables (Institutional Variables)		
Family connection	FAMILY_CONN	A dummy variable with a value of one if the company have family connection and 0 otherwise
Political connection	POLITICAL_CONN	A dummy variable with a value of one if the company have political connection and 0 otherwise. The definition of political connection is based on Johnson & Mitton (2003)
(Source: Authors' own work)		

Table 3 **Descriptive Analysis (N=257)**

	Mean	Median	Maximum	Minimum	Std. Dev.
Panel A: Main Variables					
<i>F_SCORE</i>	0.424	0.000	1.000	0.000	0.495
<i>RISK_ACTIVITIES</i>	0.969	1.000	1.000	0.000	0.174
<i>RISK_COMM</i>	0.409	0.000	1.000	0.000	0.493
Panel B: Control Variables (Board Structure)					
<i>BOARD_SIZE</i>	7.852	8.000	15.000	5.000	2.124
<i>INDEP_BOARD</i>	50.652	50.000	100.000	33.333	12.394
<i>PERC_ACCTG</i>	0.268	0.167	0.889	0.067	0.229
<i>PERC_NONACCTG</i>	0.732	0.833	0.933	0.111	0.242
<i>PERC_FEMALE</i>	0.119	0.111	0.500	0.000	0.119
Panel C: Control Variables (Financial Indicators)					
<i>FIRMSIZE</i>	13.770	13.782	17.593	8.451	1.238
<i>REVENUE</i>	13.396	13.099	16.519	11.002	1.219
<i>LEVERAGE</i>	11.940	12.055	15.942	1.946	2.051
Panel D: Control Variables (Institutional Variables)					
<i>FAMILY_CONN</i>	0.288	0.000	1.000	0.000	0.454
<i>POLITICAL_CONN</i>	0.109	0.000	1.000	0.000	0.312

(Source: Authors' own work)

Table 4 Correlation Analysis

Correlation		1	2	3	4	5	6	7	8	9	10	11	12	13
Panel A: Main Variables														
<i>F_SCORE</i>	1	1.000	-0.073	0.056	0.033	-0.029	0.050	-0.027	-0.013	0.043	-0.048	0.014	-0.163 ***	-0.022
<i>RISK_ACTIVITIES</i>	2	-0.073	1.000	-0.079	-0.098	-0.073	-0.004	-0.002	-0.046	-0.054	-0.089	-0.076	-0.232 ***	-0.009
<i>RISK_COMM</i>	3	0.056	-0.079	1.000	0.140 **	-0.066	-0.207 ***	0.227 ***	0.089	0.164 **	0.125 **	0.141 **	-0.091	-0.011
Panel B: Control Variables (Board Structures)														
<i>BOARD_SIZE</i>	4	0.038	-0.118 *	0.129 **	1.000	-0.173 **	-0.408 ***	0.382 ***	-0.045	0.246 ***	0.160 *	0.204 **	0.097	0.014
<i>INDEP_BOARD</i>	5	-0.047	-0.058	-0.096	-0.195 ***	1.000	0.241 ***	-0.217 **	0.108	-0.057	-0.130 **	-0.048	-0.176 **	0.014
<i>PERC_ACCTG</i>	6	0.098	-0.023	-0.294 ***	-0.202 ***	0.291 ***	1.000	-0.984 ***	-0.004	-0.046	0.010	-0.001	-0.227 ***	-0.099
<i>PERC_NONACCTG</i>	7	-0.048	0.011	0.326 ***	0.152 **	-0.260 ***	-0.928 ***	1.000	0.025	0.025	-0.032	-0.019	0.194 **	0.107 *
<i>PERC_FEMALE</i>	8	-0.011	-0.003	0.076	-0.080	0.071	0.022	0.023	1.000	0.164 **	0.074	-0.019	-0.060	-0.032
Panel C: Control Variables (Financial Indicators)														
<i>FIRMSIZE</i>	9	0.060	-0.063	0.136 **	0.205 ***	-0.048	0.159 **	-0.165 **	0.158 **	1.000	0.698 ***	0.747 ***	0.007	0.028
<i>REVENUE</i>	10	-0.044	-0.104 *	0.141 **	0.136 **	-0.148 **	0.211 ***	-0.228 ***	0.126 **	0.751 ***	1.000	0.533 ***	0.159 **	0.053
<i>LEVERAGE</i>	11	0.039	-0.077	0.152 **	0.162 **	-0.046	0.146 **	-0.164 **	-0.016	0.682 ***	0.520 ***	1.000	-0.035	0.156 **
Panel D: Control Variables (Institutional Variables)														
<i>FAMILY_CONN</i>	12	-0.163 ***	-0.232 ***	-0.091	0.089	-0.174 **	-0.247 ***	0.180 **	-0.084	0.017	0.145 **	0.018	1.000	-0.057
<i>POLITICAL_CONN</i>	13	-0.022	-0.009	-0.011	0.007	0.018	-0.153 **	0.165 **	-0.017	0.002	0.013	0.119 *	-0.057	1.000

(Source: Authors' own work)

Table 5 Regression Analysis of Potential Fraudulent Financial Reporting and Risk Management Practices

Variable DV	1	2	3	4
Panel A: Main Variables				
<i>Intercept</i>	0.244	-2.465	-1.443	-0.937
	0.527	-1.290	-0.642	-0.401
<i>RISK_ACTIVITIES</i>	-0.508	-0.442	-0.574	-0.847 *
	-1.100	-0.965	-1.245	-1.739
<i>RISK_COMM</i>	0.124	0.174	0.217	0.150
	0.782	1.023	1.227	0.800
Panel B: Control Variables (Board Structures)				
<i>BOARD_SIZE</i>		0.025	0.015	0.016
		0.631	0.374	0.386
<i>INDEP_BOARD</i>		-0.009	-0.013 *	-0.014 *
		-1.295	-1.822	-1.932
<i>PERC_ACCTG</i>		3.530 **	3.571 *	3.230
		1.956	1.903	1.635
<i>PERC_NONACCTG</i>		2.708	2.539	2.452
		1.529	1.375	1.263
<i>PERC_FEMALE</i>		-0.191	-0.237	-0.388
		-0.288	-0.345	-0.548
Panel C: Control Variables (Financial Indicators)				
<i>FIRMSIZE</i>			0.256 **	0.236 *
			2.090	1.889
<i>REVENUE</i>			-0.297 ***	-0.256 **
			-2.787	-2.306
<i>LEVERAGE</i>			-0.006	-0.017
			-0.112	-0.295
Panel D: Control Variables (Institutional Variables)				
<i>FAMILY_CONN</i>				-0.416 **
				-1.968
<i>POLITICAL_CONN</i>				-0.045
				-0.166
McFadden R-squared	0.006	0.033	0.056	0.070
LR statistic	1.984	11.897	20.181	24.410
			**	**

(Source: Authors' own work)

Result of Robustness Test using actual value of F-score

Variable	Coefficient	
<u>Panel A: Main Variables</u>		
Intercept	-0.044	
	-0.800	
DISCLOSURE_RISK	-0.317	*
	-1.719	
RISK_COMM	-0.027	
	-0.298	
<u>Panel B: Control Variables (Board Structures)</u>		
BOARD_SIZE	0.237	
	3.558	
INDEP_BOARD	0.064	**
	2.273	
PERC_ACCTG	0.637	
	1.088	
PERC_NONACCTG	0.000	
	0.098	
PERC_FEMALE	-0.016	
	-0.339	
<u>Panel C: Control Variables (Financial Indicators)</u>		
FIRMSIZE	0.064	**
	2.273	
REVENUE	-0.090	***
	-4.606	
LEVERAGE	0.028	
	0.135	
<u>Panel D: Control Variables (Institutional Variables)</u>		
FAMILY_CONN	-0.016	**
	-0.242	
POLITICAL_CONN	-0.003	
	-0.412	
Adjusted R-Squared	0.054	
Prob(F-statistic)	0.004	***

(Source: Authors' own work)

Appendix 1-F-Score Model

$$\text{Value} = -7.893 + 0.790 \cdot \text{RSST} + 2.518 \cdot \Delta \text{REC} + 1.191 \cdot \Delta \text{INV} + 1.979 \cdot \text{SOFTASSETS} + 0.171 \cdot \Delta \text{CASHSALES} - 0.932 \cdot \Delta \text{ROA} + 1.029 \cdot \text{ISSUE}$$

where:

1. RSST Accruals

This variable measures changes in current assets (excluding cash) less changes in current liabilities (excluding short-term debt) and depreciation.

2. Change in Receivables

This variable is defined as change in receivables from last year to this year scaled by average total assets. It indicates that large changes in accounts receivables show revenue and also earnings manipulations. These manipulations can occur through fraudulent recognition of revenue and large changes in accounts receivable's falsified cash flows from operating activities.

3. Change in Inventory

This variable is defined as change in inventories from last year to this year scaled by average total assets. Large changes in inventory may indicate inventory surpluses, shortages obsolescence, or liquidation.

4. Soft Assets

This measure is defined as total assets less the sum of property, plant and equipment (PPE) and cash and cash equivalents scaled by total assets. According to Aghghaleh et al. (2016), when soft asset is high in the balance sheet, managers have more abilities to change and adjust assumptions to influence short-term earnings.

5. Change in Cash Sales

This variable is measured by the percentage change in cash sales from last year to this year. Without earnings manipulation, the growth rate in a firm's cash sales could be compared to the growth rate in revenues.

6. Change in ROA

This measure is a percentage calculated from earnings divided by total assets this year less the same measure last year. When earnings are volatile, it may be an indicator of earnings manipulation. Manipulating firms usually show strong performance prior to manipulation and after that their management team will attempt to cover up the decline by manipulating financial reporting (Dechow, Ge, Larson, & Sloan, 2007).

7. Actual Issuance of Stock

This measure is a dummy variable that is 1 if additional securities are issued during the manipulation year and 0 if no other such securities are issued. Such issuances may indicate operating cash flow problems that need to be offset by additional financing. In addition, issuance of stock may indicate that management is exercising stock options. The exercise of stock options may signify that managers are attempting to sell at the top because they foresee the firm's future underperformance.

The resulting value is then used to calculate the probability by using the formula below:

$$\text{Probability} = e^{(\text{value})} / (1 + e^{(\text{value})})$$

where $e = 2.71828183$

The obtained probability is then divided by the unconditional probability of misstatement ($=0.0037$) to obtain the F-score. An F-score of 1.00 indicates that the firm has the same probability of misstatement as the unconditional expectation (the probability of misstatement when randomly selecting a firm from the population). Therefore, F-scores greater than one indicate higher probabilities of fraudulent financial reporting than the unconditional expectation, and otherwise.