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FINANCIAL HEALTH AND MANAGEMENT PRACTICES: A MULTI-YEAR CROSS COUNTRY ANALYSIS OF PLCs

ABSTRACT

Financial statements reflect the financial condition of PLCs and this study examines the behavior of managerial practices in response to financial condition. The objectives of this study are three folds - to measure the financial strength, to measure integrity index, and to examine the relationship between management practices and financial strength. Financial ratios, Altman's Z-Score, integrity index, ranking approach, and chi-square test are used to achieve the objectives. A multi-year cross country analysis is done by considering sample of seven Asian countries namely, Malaysia, Singapore, Thailand, Indonesia, Hong Kong, China, and Japan. The paper catches the relationship between management practices and financial strength across countries and management practice among other factors is responsible for this relationship. The principles of accounting do not support the alteration of financial data to look the company better on paper. The cost of financial statement fraud is higher than other kind of occupational fraud. Stakeholders especially regulators, professional bodies, and academics should concentrate on the issue on 'how to reduce the manipulation in financial statements' to create a safe investments avenue for the nation.

Keywords: Earning manipulation, Management practices, Financial distress, Financial statement Fraud, Corporate accruals

JEL Code: M41, N25, C43

INTRODUCTION

Financial statement (FS) could be compared with a mirror through which operating performance, financial performance and financial health of a company are seen. It is a key document to the users' of FS such as shareholders, creditors, potential investors, fraud examiners, financial analysts, bankers, regulators, market operators, competitors, academicians, researchers, reporters, and other interested parties. It is used as a primary source of financial information and considered as authentic document too. It consists of five statements such as statement of income, statement of financial position, statement of cash flow, statement of changes in equity and note to FS. Corporate management is primarily responsible for preparing FS and auditor is responsible to express opinion which is based on the results of audit of FS. Agency theory states that there is a conflict of interest between principle (shareholders) and agent (management) and an issue of truthfulness in accounting information comes to our mind. An independent auditor is appointed to remove or minimize the conflict between them. The International Organization of Securities Commissions' *Principles for Auditor Oversight* state that independent auditors play a critical role in

enhancing the reliability of financial information by attesting as to whether the FS prepared by management fairly present the financial position and past performance of the public enterprise in compliance with generally accepted accounting principles (GAAP). The independent auditors conduct the audit in according with generally accepted auditing standards (GAAS).

Financial statement fraud (FSF) falls under the category of occupational fraud and white-collar crime. The frequency of occurring fraud in financial statement is lower than other kind of fraud such as asset misappropriation but the cost of FSF is the high. For example, if we look at the 'Report to the Nations on Occupational Fraud and Abuse' (page 12, 2016) of Association of Certified Fraud Examiners (ACFE), the frequencies of asset misappropriation for three years (2012, 2014 and 2016) are 86.7%, 85.4% and 83.5 % respectively and the median loss for those periods are USD0.12m, USD0.13m and USD0.125m respectively. On the other hand, the frequencies of FSF for the above periods are 7.6%, 9% and 9.6% and the median loss for those periods are USD1m, USD1m and USD0.975m. Zimbabwe has experienced massive closure of companies due to bankruptcy and fraudulent financial reporting (FFR) with the most spectacular collapse being Royal Bank (Mavengere, 2015). The high profile corporate scandals (Waste Management, 1998; Enron Corporation, 2001; Tyco International, 2002; WorldCom, 2002; Health-South, 2003; Freddil Mac, 2003; American International Group, 2005; Lehman Brothers, 2008; Bernie Madoff, 2008; Satyam, 2009 etc.) show that the faithful presentation of accounting information in financial statements is a severe issue and auditors could not solve the issue of conflict of interest. The auditor is concerned with fraud that causes a material misstatement in the financial statements (ISA 240). Two types of intentional misstatements are relevant to the auditor – misstatements resulting from FFR and misstatements resulting from misappropriation of assets. Although the auditor may suspect or, in rare cases, identify the occurrence of fraud, the auditor does not make legal determinations of whether fraud has actually occurred.

The motivation of FSF does not always involve personal gain. Most commonly, FSF is used to make a company's earnings look better on paper. Some of the reasons why people commit FSF include to avoid negative market perceptions, to cover inability to generate cash flow, to obtain favorable terms on financing, to demonstrate compliance with financing covenants and so on (Fraud examiner manual, 2016). Financial distress could be considered as one of the causes of doctored FS. The researches on the earnings manipulations show that the companies with financial distress are more likely to be engaged in manipulations with their FS (Lenard and Alam, 2009; Persons, 2011). In other words, the companies with strong financial health are less likely to be engaged in manipulations with their FS. The management should maintain integrity while preparing FS for true and fair view presentation but the above statement shows that the management's integrity for presenting FS depends on financial health of companies. Focusing on financial health can be the first step to evaluate primarily the engagement of companies in FSF.

This study would like to focus on the prediction of financial health of listed companies to see the management practices in different settings across countries in Asia. The objective of this study is to provide empirical evidence of financial health, integrity level of management, and the relationship between management practices and financial health at country level and at regional level. A multi-year cross country study on these issues will help to understand the current practices of fraudulent FS, integrity of management in preparing FS, and the relationship between management practices and financial health across companies as well as across countries.

The remainder of this paper is organized as follows. Section 2: presents literature review, section 3: describes research model, section 4: methodology, section 5: discussion of results and section 6: conclusion.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This study reviews the existing literature on financial strength and related issues such as earnings manipulation. The financial strength of a company could be estimated using Z-Score (Altman, 1968) and this could be categorized into three groups such as “Safe”, “Grey”, and “Distress” (Mavengere, 2015). Z-Score is mainly used for prediction of business failure or bankruptcy of a company and it is essential for the prediction of firm’s ability to continue its future operation as a going concern. When assessing the going concern of a firm, the auditor looks for indications that can lead to close the firm soon (Ignacius, 2010). Besides, management engagements in earnings manipulation could also be estimated using Z-Score (Lenard and Alam, 2009; Persons, 2011). The ratio variables of Z-Score have a clear connection with the corporate earnings, which allows making a connection between the corporate earnings and the state of financial strength (Pustylnick, 2015). A potential bankruptcy companies engage in FSF three times more likely than non-bankrupt companies (Deloitte Forensic Center Report, 2008). Financial fraud has contributed to the bankruptcy of major companies’ throughout the world (Albrecht et al., 2008; Abbasi et al., 2012). Fraudulent firms seem to manipulate accruals much more than the non-fraud peer group (D’Amico and Mafrolla, 2013). Managers of distressed firms engage in earnings management (negative) prior to bankruptcy filing (Charitou et al., 2007). Lara et al., (2009) also found that earnings management starts four years prior to failure. Giroux and Cassell (2011) showed that the companies having higher Z-Score values are less likely to take significant investment and trading risk. Investment brokers and financial analysts also use Z-Score as an indication of potential better returns (Chanos, 2006; Escalada, 2011). Pustylinck (2015) suggests that there are two types of companies: with low Z-Score it becomes possible to be engaged in earning management practices and high Z-Score and much lower probability of using earnings management to bolster FS. A number of researchers show that there is a connection between low Z-Score and the engagement of the company having it in the earnings management practices (Ahn and Chi, 2009; Zang, 2012). Yasuda et al., (2004) connected low Z-Score with the necessity of the management to take higher risk, which in turn may result in the engagement in earnings management practices. Z-Score model is one of the techniques appointed to examine the accounting fraud (Drábková, 2014) and the model performs well predicting company failures (Gerantonis et al., 2009). Many researches have been done on Z-Score such as Mavengere (2015), Ignacius (2010), Mahama (2015), Amoa-Gyarteng (2014), Pustylnick (2015), Drábková (2014), Gerantonis et al., (2009), Selahudin et al., (2014), Omar et al., (2014), Drábková, (2014). Qualitative characteristics of financial reporting (Hasan et al. 2014a), financial disclosures (Hasan and Hossain, 2012a, 2012b, 2013a, 2013b), corporate governance (Hasan et al., 2014b, 2014c, 2015) and board independence (Hasan et al., 2016a) are also in poor shape in unregulated setting. However, these studies did not carry a multi-year cross country analysis to observe the results in different settings for a specific region like Asia. Besides, they did not focus on the managerial practices in preparing FS for all companies rather focused only on distressed companies. The term ‘Earnings manipulation’ is also referred to corporate accruals, which is created by management’s choice, and it does not come from regular business cycle rather it comes from the mindset of management (Hasan et al, 2014d, 2016b, 2016c). Managers usually manipulate FS using sales, depreciation, asset quality, accounts receivables and accruals (Hasan et al, 2016c). The study argues that not

only distressed firm but also every firm has an equal chance of using discretionary authority. This study attempts to fill these gaps by contributing knowledge to existing literatures. The research is carried out in Malaysia, Indonesia, Thailand, Hong Kong, Singapore, China and Japan. The objectives of this study are three folds - first, to provide empirical evidence on financial strength across companies over the years in Asia; second, to compare management's integrity in presenting FS over the years of a country and then compare across countries, and third, to examine the relationship between the financial strength and management practices across companies as well as across countries. The following hypotheses could be formulated in order to test the relationship between management practices and financial strength for all companies.

H₁: There is a significant relationship between management practices and financial strength across companies over the years.

H₂: There is a significant relationship between management practices and financial strength across countries.

RESEARCH FRAME WORK

The following model (figure 1) depicted that that the data from FS are used to measure financial strength using Z-Score (ZS). The company's financial strength could be categorized into three group– Strong (Safe), Weak (Grey), and Poor (distress) based on Z-Score. Higher Z-Score companies' (strong) integrity of presenting FS is better than the lower Z-Score companies as past studies shows that there is a link between low Z-Score and the engagement of the company having it in the earnings management practices (Ahn and Choi, 2009; Zang, 2012). On the basis of integrity index (II), ranking (RK) is established in two ways – across companies over the years (OY) and across sample countries (AC) in Asia. Then, the relationship between management practices (MP) and financial strength across companies over the years (*H₁*) as well as the relationship between management practices and financial strength across countries (*H₂*) are tested using statistical tool - Chi-square (χ^2).

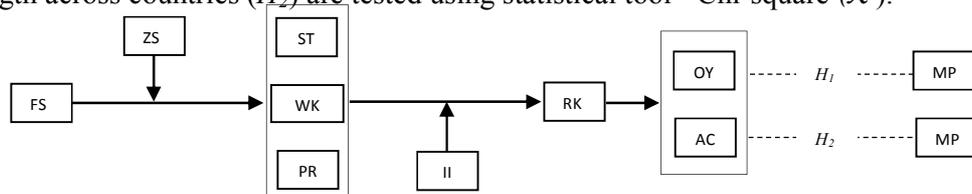


Figure 1: The Research Framework

Full form of Abbreviation:

FS = Financial Statements

ZS = Z-Score

ST = Strong / Safe

WK = Weak / Grey

PR = Poor / Distress

II = Integrity Index

RK = Ranking
 OY = Over the Years
 AC = Across Countries
 MP = Management Practices

METHOD AND SAMPLE

Simple random sampling technique of probabilistic method of sampling is used to select the sample for this study. One hundred companies were randomly selected from national stock exchanges of seven countries from Asia namely, Malaysia, Indonesia, Thailand, Hong Kong, Singapore, China, and Japan. The listed firms that had six years (2008-2013) of continuing operation and availability of financial data for those periods were selected for the current study. A total of 4200 hundreds firm-year (100 firms x 6 years x 7 countries) and 33,600 (4,200 firm-year x 8 variables) FS data or observations are used for this study.

This study adopts Altman's Z-Score model (Altman and Lafleur, 1984) to predict the financial strength of sample companies. Z-Score is a liquidity measure and proximity to the state of bankruptcy of a company. As a liquidity measure it can be viewed as directly connected with the corporate earnings (Pustylnick, 2015). Financial health or strength of a company can be assessed by its Z-Score such as $Z > 2.67$ = "Strong", $1.81 < Z < 2.67$ = "Weak", and $Z < 1.81$ = "Poor". The modified Z-Score model (Altman and Lafleur, 1984) is presented as follows:

$$Z - Score = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5 \quad \text{----- (1)}$$

Where,

- X1 = (Current assets – Current liabilities) / Total assets
- X2 = Retained earnings / Total assets
- X3 = Earnings before interest and taxes / Total assets
- X4 = Market value of equity / Book value of liabilities
- X5 = Sales / Total assets
- Z = Overall index

In this study, management's integrity is also considered based on Z-Score value of sample companies. Higher Z-Score value is a sign of good company which could be considered as the opposite of lower Z-Score companies and lower Z-Score value is a clear sign of earnings management (Pustylnick, 2015). If lower Z-Score companies have a connection of earnings manipulation then there integrity level is definitely poor. Integrity level is measured based on this criteria and using binary variable (0, 1), where code '1' is used for higher Z-Score

companies and code '0' for otherwise. The reason of using binary variable is to show '0' tolerance for manipulation in FS as it destroys the quality of FS. There is no such things of lower quality of FS and lower quality means no quality. Integrity index (IIx) is calculated in two steps – first year-wise index and then overall index for a country and then across countries. The overall index for a country is determined by averaging of the year-wise integrity index. Higher integrity index makes higher position (rank) among countries under study. The primary formula for calculating integrity index is as under:

$$IIx = \frac{\sum_{i=1}^{100} Xi}{TS} \dots\dots\dots (2)$$

IIx = Integrity Index

X = Receiving Score

i = 1- 100

TS = Total Score is fixed by 100, based on the assumption that management of every company maintains integrity while preparing financial statements.

Further, Chi-Square test (χ^2) is carried out to test the proposed hypotheses. The following formulas are used to determine degree of freedom (equation 3), expected frequency (equation 4) and the Chi-square (equation 5). If computed value of Chi-square is greater than the critical value comparing at 1% or 5% level of significance with a same degree of freedom, the research hypothesis is accepted otherwise rejected. It is noted that, if hypothesis is rejected it indicates that the deviations from expected frequency is small enough that chance alone accounts for it and for accepted hypothesis, the deviation is larger and other factors must be involved. Equation three, four and five are presented below.

$$DF = (r - 1) * (c - 1) \dots\dots\dots (3)$$

DF = Degree of freedom
r = Total number of rows
c = Total number of column

$$E_{r,c} = (n_r * n_c) / n \dots\dots\dots (4)$$

E_{r,c} = Expected frequency of a specific cell
n_r = Total frequency of a specific row
n_c = Total frequency of a specific column
n = Total cross frequency i.e., Total frequency of rows and column

$$\chi^2 = \sum [(O_{r,c} - E_{r,c})^2 / E_{r,c}] \dots\dots\dots (5)$$

O_{r,c} = Observed frequency of a specific cell
E_{r,c} = Expected frequency of a specific cell

RESULTS AND DISCUSSION

The results of financial strength of the sample companies across countries are shown in table 1. It shows observed frequency based on Altman's Z-Score for each country (presented horizontally) and for Asia (presented vertically). The companies which are in 'Strong' group are financially much healthier than the 'Weak' and 'Poor' groups. The highest number of companies (428 out of 600) from Indonesia and the lowest number of companies (176 out of 600) from Malaysia are in strong group. It could be said the majority of sample companies from Malaysia are suffering from liquidity crisis compared to other sample countries in Asia. Likewise, the highest number of companies (183 out of 600) from Japan and the lowest number of companies (81 out of 600) from Indonesia are in weak group. These companies are neither in a good position nor in a distress position but they are definitely in shortage of liquidity. Similarly, the highest number of companies (308 out of 600) from Malaysia and the lowest number of companies (91 out of 600) from Indonesia are in poor group. These companies are in financial distress position which might lead to bankruptcy in future. These companies are considered more vulnerable in terms of liquidity and managers use opportunistic behavior to manipulate the financial data to make the company appear more profitable than actual. The managers of weak group companies engage in manipulation of FS too to make the company appear much stronger than actual. The FS of these two groups are less reliable or suspected as management can tune the data to reflect better results in FS. Table 1 shows frequency (F) means number of sample companies, percent (%) column shows individual percentage based on total sample companies which are shown horizontally and ranking (R) shows the position among sample countries based on percentage secured. The result also shows that average 48 percent company's financial strength are strong, 21 percent are weak, and 30 percent are vulnerable in Asia. The details of year-wise observed frequency for each country is presented in appendix-1.

Table 1: Observed Frequency

Country/ Zone	Financial Strength									Total
	Strong			Weak			Poor			
	F	%	R	f	%	R	F	%	R	
China	277	46	4	123	21	3	200	33	2	600
Thailand	350	58	2	119	20	4	131	22	6	600
Japan	244	41	6	183	31	1	173	29	5	600
Malaysia	176	29	7	116	19	5	308	51	1	600
Singapore	252	42	5	168	28	2	180	30	4	600
Hong Kong	298	50	3	110	18	6	192	32	3	600
Indonesia	428	71	1	81	14	7	91	15	7	600
Asia (Total)	2025	48		900	22		1275	30		4200

F = Frequency; R = Ranking

The results of integrity index are presented in table 2. It shows integrity index over the years, overall integrity index, and ranking position based on overall integrity index of sample countries. The trend of integrity in presenting FS across countries over the years is increasing and overall integrity index (OII) is 48 percent. It indicates that more than fifty percent i.e., 52 percent companies are involved in manipulation of FS. The possible financial shenanigans are overstating revenue, fictitious revenue, understating expenses, understating liabilities,

capitalizing expenses, omitting either liabilities or expenses, failing to provide provision for doubtful debts, and the like. Managers have a unique position to commit FSF in unimaginable ways. Manager's integrity is a crucial element especially when company fails to do business at expected level. They might tune the FS to prepare either a rosy one or a gloomy one depends on their desired goals. Previous studies found an association between financial distress and management engagement in earnings manipulation (Lenard and Alam, 2009; Persons, 2011). Therefore, Z-Score not only reflects the condition of financial health but also reflects the integrity level of managerial practices in presenting FS too. The link between financial health and integrity of management is considered positive i.e., if financial strength of a company is poor (lower Z-Score) then the management is more likely to be engaged in manipulations with their FS (Ahn and Choi, 2009; Zang, 2012) and hence their integrity level is also poor. The relationship between financial strength and management practices has been examined later in this study. The details of integrity index for each year of sample countries is presented below.

Table 2: Integrity Index

Country	Year						OII	Rank
	2008	2009	2010	2011	2012	2013		
China	0.35	0.6	0.58	0.45	0.4	0.39	0.46	4
Hong Kong	0.51	0.58	0.63	0.41	0.43	0.42	0.50	3
Indonesia	0.59	0.63	0.73	0.79	0.8	0.74	0.71	1
Japan	0.34	0.4	0.42	0.41	0.38	0.5	0.41	6
Malaysia	0.2	0.28	0.28	0.28	0.34	0.38	0.29	7
Singapore	0.35	0.47	0.5	0.37	0.41	0.42	0.42	5
Thailand	0.49	0.58	0.63	0.54	0.67	0.59	0.58	2
Overall	0.40	0.51	0.54	0.46	0.49	0.49	0.48	

The results of testing the relationship between financial strength and management practices across companies over the years (H_1) and across countries (H_2) are presented in table 3. It shows mixed results about the relationship between management practices and financial strength across companies over the years. For Thailand, Japan, Malaysia and Singapore, the hypothesis (H_1) is rejected. It indicates that there is no statistically significant relationship between management practices and financial strength. The manipulation in FS comes from the mind set of managers and does not come from the stem of business cycle. These results are consistent with the previous studies (Hasan et al. 2014; Hasan et al., 2015). The reason of deviations from expected frequency is due to chance only and no other factors are responsible for the deviations. On the other hand, for China, Hong Kong and Indonesia, the hypothesis is accepted (H_1) indicating that there is a significant relationship between financial strength and management practices. In these cases, the deviation between expected frequency and observed frequency is not due to randomization but other factors including managerial practices are responsible for the variations. The results are also consistent with the previous studies such as Yasuda et al., (2004), Ahn and Choi, (2009), Girous and Cassel (2011), Zang,

(2012). The details of obtained statistics, critical statics, and the results of hypotheses are presented below.

Table 3: Chi-Square Statistics

Country/ Zone	Degree of Freedom	Chi-Square			Research Hypothesis	Accepted Hypothesis		Rejected Hypothesis	Reasons for deviation
		Critical Statistics		Obtained Statistics		Alpha (α) Level			
		1%	5%			1%	5%		
China	10	23.2093	18.307	25.40622876	H_1	Accepted		<i>Other factors must be involved</i>	
Thailand	10	23.2093	18.307	11.06118417	H_1		Rejected	<i>Chance only</i>	
Japan	10	23.2093	18.307	12.05562399	H_1		Rejected	<i>Chance only</i>	
Malaysia	10	23.2093	18.307	11.86968204	H_1		Rejected	<i>Chance only</i>	
Singapore	10	23.2093	18.307	11.35238095	H_1		Rejected	<i>Chance only</i>	
Hong Kong	10	23.2093	18.307	22.97334503	H_1		Accepted	<i>Other factors must be involved</i>	
Indonesia	10	23.2093	18.307	26.20900041	H_1	Accepted		<i>Other factors must be involved</i>	
Asia	12	26.217	21.0261	343.5996514	H_2	Accepted		<i>Other factors must be involved</i>	

The result of testing the relationship between management practices and financial strength across countries (H_2) is also presented in table 3. The hypothesis is accepted signaling that the deviations from expected frequency is due to some other factors not the chance only account for it. The other possible factors might be use of discretionary power, poor corporate governance, lack of corporate ethical culture, poor leadership qualities, lack of entrepreneurship orientation, poor internal control, collusion between managers and directors, poor monitoring activities of the board, lack of auditor's integrity, collusion between managers and auditors, and so on. The risk of an auditor not detecting a material misstatement resulting from fraud is higher than the risk of an auditor not detecting one resulting from error. This is because fraud may involve sophisticated and carefully organized schemes designed to conceal it such as forgery, deliberate failure to record transactions, or intentional misrepresentations being made to the auditor.

FFR is a common practices in corporate world and this is not a new phenomenon in the economy. FFR involves intentional misstatements, including omissions of amounts or disclosures, in financial statements to deceive FS users (ISA 240). It can be caused by the efforts of management to manage earnings in order to deceive FS users by influencing their perceptions as to the entity's performance and profitability. The International Organization of Securities Commission (IOSCO)' *Principles for Auditor Oversight* states that independent auditors play a critical role in enhancing the reliability of financial information by attesting as to whether the financial statements prepared by management fairly present the financial position and past performance of the public enterprise in compliance with accepted accounting standards. According to ISA 240, the auditor is concerned with fraud that causes a material misstatement in FS. Under this standard, the auditor shall determine overall responses to address the assessed risks of material misstatements due to fraud at the financial statement level. Audit risk comprises of inherent risk, control risk, and detection risk. Detection risk is completely depends upon the capability of auditor to detect error or fraud risk. According to *practice guide* (Internal Auditing and Fraud) of Institute of Internal Auditor's (IIA), the board of directors is responsible for effective and responsible corporate governance and is tasked with overseeing management's actions to manage fraud risk. The audit committee's role is to evaluate management's identification of fraud risks and the implementation of anti-fraud measures, as well as to provide the tone at the top that fraud will not be accepted in any form. The audit committee is also responsible for overseeing controls to prevent or detect management fraud. According to The Institute of Internal Auditor's Standard 2120.A2, the internal audit activity must evaluate the potential for the occurrence of fraud and how the organization manages fraud risk. Sound corporate governance can reduce

the fraud risk and enhance the reliability of FS. A well-designed organizational structure with key areas of authority and clear and proper lines of reporting can be an effective fraud prevention measure. While many parties including the board of directors, internal audit, and external auditors, play an important role in combatting fraud, management is ultimately responsible for prevention and detection of fraud within an organization.

CONCLUSION

The financial strength of a company is an important component to predict FSF. Financially healthy companies do not require to manipulate in FS and the manager of these companies maintains integrity while preparing FS. On the other hand, financially distressed companies cannot meet the expectation of other groups and they need to manipulate in FS in order to fulfill the expectations of stakeholders. Therefore, the integrity of management depends upon their financial condition. This study provides an empirical evidence on the financial strength across sample countries in Asia. The results of association between managerial practice in preparing FS and financial health do not guarantee about the relationship as it may be true and may not be true in different setting. This study caught a significant influence of managers on preparing FS through the chi-square test of pool data and it indicates the deviations of observed frequency from expected frequency are due to other factors and not due to chance alone. This study does not cover factors other than management practices and further study could be conducted to look for the other reasons that may also responsible for the deviations.

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