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Using corporate accruals to evaluate management quality: Evidence from Asian countries

Hasan, Md. Shamimul
Omar, Normah
Barnes, Paul
Hassan, ABM Rashedul

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Abstract

This study focuses on the measurement of the quality of corporate management by combining a number of descriptive statistics of corporate accruals. The objective is to evaluate the quality of management in certain Asian countries, namely Malaysia, Indonesia, Thailand, Singapore, Hong Kong, Japan and China. The free cash flow concept, the Kothari-Jones model, eight descriptive statistics, and a seven-point rating scale are used in this study. The result shows that Japan attained the highest score, 50, followed by Thailand (44), Singapore (38), Malaysia (35), China (27), Hong Kong (21) and Indonesia (9). These findings have not been documented yet and the work is the first of its kind.

Keywords:

Earnings management, Quality of management, Discretionary accruals, International comparison, Corporate accruals.

JEL classification:

M41, C43.

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Hasan, M.S. ✉ Associate Professor of Accounting, Exim Bank Agricultural University Bangladesh, Chapainawabgonj, Bangladesh. E-mail: dr.mdshamimulhasan@rocketmail.com

Omar, N. Professor and Director of the Accounting Research Institute, Universiti Teknologi MARA, Shah Alam, Malaysia. E-mail: normah645@salam.uitm.edu.my

Barnes, P. Professor of Accounting, Macquarie University, Sydney, Australia. Email: paul.a.barnes@btconnect.com

Hassan, ABM R. Professor and Vice Chancellor, Exim Bank Agricultural University Bangladesh, Chapainawabgonj, Bangladesh. Email: rashidbim@gmail.com

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La evaluación la calidad de la gestión a través de los devengos corporativos: **evidencia en países asiáticos**

Hasan, Md. Shamimul
Omar, Normah
Barnes, Paul
Hassan, ABM Rashedul

Resumen

Este artículo se centra en la medición de la calidad de la gestión corporativa mediante la combinación de una serie de estadísticos relativos a los devengos discrecionales. El objetivo es evaluar la calidad de la gestión en una serie de países asiáticos: Malasia, Indonesia, Tailandia, Singapur, Hong-Kong, Japón y China. Se utiliza el concepto de flujo de caja libre, el modelo de Kothari-Jones, ocho estadísticos descriptivos y una escala de siete puntos para cada estadístico. Los resultados obtenidos muestran que la mejor calidad en la gestión tiene lugar en Japón (50 puntos), seguido de Tailandia (44), Singapur (38), Malasia (35), China (27), Hong Kong (21) e Indonesia (9).

Palabras clave:

Gestión de ganancias, calidad de la gestión, devengos discrecionales, comparación internacional, devengos corporativos.

1. Introduction

The key to a successful business lies in the quality of corporate management. Corporate management exercises power of authority in business operations while remaining accountable to the board of directors, which is responsible for corporate governance. Governance is essentially a monitoring mechanism whereby the board of directors monitors management activity on the basis of submitted reports, with integrity and accountability being two important indicators of good practice. According to agency theory, there is a conflict of interest between principals and agents, and good governance has an important role in minimizing this conflict. At the same time, corporate information flows directly to the stock market and the share price moves either upward or downward depending on that information. It can be seen that all of the above depends on the transfer of information in some way.

According to the accounting principle, financial reports should give a true and fair view of an entity, while fulfilling certain qualitative requirements such as reliability, objectivity, timeliness and feedback value to name but a few. Auditors are responsible for certifying the financial statements and provides their opinion in the form of a 'qualified' or an 'unqualified' report. An unqualified report is considered a positive report whereas a qualified report is considered negative. The external users of financial reports always rely on auditors' opinions when it comes to evaluating an investment decision.

An astute management team may fine-tune the information to present a successful image of the business operation. As such, management is in a unique position to use their discretionary power to distort financial information in any number of ways. The management of public limited companies usually try to meet the expectations (in terms of continued growth) of various interested parties such as analysts, stockbrokers, shareholders, bankers, institutional investors, and other stakeholders in the competitive business world; to do so, they may manipulate or even falsify financial information. This kind of managerial manipulation makes accounting numbers less reliable, leading to less conditional conservatism (Juan *et al.*, 2009). Opportunistic managerial behaviour is certainly unethical. Kaptein (2008) states that unethical conduct occurs when employees suffer from insufficient time, budgets, equipment, information, and authority to properly fulfil their responsibilities.

Conversely, an ethical culture has a positive impact on firm performance by creating intangible assets which are crucial for long-run ventures (Jones, 1995; Jones and Wicks, 1999). Hosmer (1994) also suggests that intangible assets such as trust, commitment and a good reputation are generated by means of a strong ethical standpoint. Hasan *et al*. (2016a) also found a positive relation between ethical culture and firm performance. Therefore, management should behave ethically while conducting

business in order to build up trust, commitment and a sound reputation. The fair presentation of financial statements is management's responsibility and the degree of fairness varies from management team to management team.

Corporate accruals[1] could be described as earnings which are distorted by management in order to present a positive reflection of operating performance. The degree to which management distorts such earnings can be estimated using statistical instruments such as the Jones Model (1995) or the performance matched model (Kothari *et al.*, 2005). The quality of corporate management can then be judged by comparing the degree of distortion of earnings across companies, across industries and across countries. A new methodology can be developed to rate the magnitude of corporate accruals and accumulate the results to form a ranking that shows the comparative positions of companies, industries and countries. Previous research focuses on three main areas: 1) the measurement process (model building and application), 2) influential relationships between certain corporate governance variables, corporate attributes, etc., and 3) demographic relationships as a cause of variation in earnings management across countries. However, no studies to date have focused on the magnitude of earnings management across countries. This study attempts to address this issue by presenting empirical findings about the magnitude of earnings management for listed companies in seven Asian countries—Malaysia, Indonesia, Singapore, Thailand, Hong Kong, China, and Japan—and also develops a technique to evaluate and compare earnings management across countries.

The remainder of this paper is organized as follows. Section 2 is devoted to the literature review, section 3 describes the research model, section 4 presents the methodology, section 5 discusses the results obtained and section 6 concludes.

2. Literature review

The growing body of literature on earnings management covers different issues in accounting research and includes three key sub-sections 1) discussion of the models, 2) examination of the effect of other variables, and 3) cross-country studies on earnings management. Key papers from each sub-section are presented below.

The concept of earnings management issue was originally developed by Healy in 1985. He (1985) uses the mean of total accruals scaled by lagged total assets from the estimation period as the measure of non-discretionary accruals. Jones (1991) offers a potentially more effective way to estimate non-discretionary accruals in her model.

[1] The terms earnings manipulation, earnings management, corporate accruals and discretionary accruals are all used interchangeably to describe the difference between financial statement accruals and estimated accruals.

The idea of using two variables—change in revenue (Δ REV) and property, plant and equipment (PPE)— to control for changes in non-discretionary accruals makes her model potentially more accurate for analysis of earnings manipulations. However, the assumption that coefficient estimates are stationary over time can lead to survivorship bias. Moreover, sales manipulation by managers is completely ignored since this model assumes that all revenues in the period are non-discretionary.

Dechow *et al*. (1995) modify the original Jones model to eliminate its conjectured tendency to measure discretionary accruals with error when discretion is exercised over revenues. The change in revenues is adjusted for the change in receivables in the event period. They assume that all changes in credit sales in the event period are a result of earnings management. Kasznik (1999) adds cash flow from operations (CFO) as an explanatory variable to explain the negative correlation between CFO and total accruals. Larcker and Richardson (2004) add the book-to-market ratio (BM) and CFO to the modified Jones model to mitigate the measurement error associated with discretionary accruals. BM controls for expected growth in operations; if left uncontrolled, growth will be picked up as discretionary accruals. CFO controls for current operating performance.

Kothari *et al*. (2005) offer two modifications of the Jones and modified Jones models: an intercept, and an additional control for the lagged rate of return on assets (ROA). Dechow and Ge (2006) extend the traditional approach of determining total accruals. They find evidence that two components of earnings, cash flow from operations and changes in working capital, are used to achieve increases in earnings.

Ball and Shivakumar (2005) examine earnings quality in UK private firms. They find that financial reporting is of lower quality in private companies due to different market demand and regulations. Dechow and Schrand (2004) examine earnings quality with a focus on various issues including decomposition, accruals anomaly and earnings persistence. Roychowdhury (2006) finds managerial manipulation in real activities such as suggesting price discounts to temporarily increase sales, overproduction to report lower cost of goods sold, and reduction of discretionary expenditures to avoid reporting annual losses. Johl *et al*. (2007) examine auditors' reporting behaviour in the presence of aggressive earnings management. However, the interaction between auditor industry specialization and abnormal accruals is not significant in predicting the incidence of qualified/negative audit reports. They illustrate the application of seven components of a crime scene investigation to earnings management research.

Lo (2008) examines earnings management and earnings quality, revealing that Big 5 auditors in Malaysia appear to produce qualified audit reports more frequently than their non-Big 5 counterparts when high levels of abnormal accruals are present. Tang

(2008) uses the accruals ratio to assess the quality of financial reporting. García-Meca and Sánchez-Ballesta (2009) examine the effect that firms' boards of directors and ownership structures have on earnings management and find an association between earnings management and certain corporate governance variables. Biddle *et al*. (2009) argue that discretionary accrual represents an indirect measure of the quality of financial reporting as it does not account for non-financial elements. Chen *et al*. (2011) use performance-adjusted discretionary accruals as one of the proxies to measure financial reporting quality.

Banko *et al*. (2013) examine earnings management around the time of a firm's annual general meeting (AGM) and assess the influence of managerial entrenchment. They find evidence of significant earnings manipulation, primarily among entrenched managers. Specifically, such managers tend to record abnormal accruals in the quarter immediately before the AGM. Bhuiyan *et al*. (2013) examine the relationship between corporate governance compliance and discretionary accruals. Zakaria *et al*. (2014) investigate the influence of free cash flow, dividends and leverage on earnings management through discretionary accruals practices in Malaysia. In their study focusing on the emerging capital market of Bangladesh, Hasan *et al*. (2014a) examine the current practices of accruals in financial statements. In a further study, Hasan *et al*., (2014b) define discretionary accruals as corporate accruals since they are a result of management decisions, while they refer to the remaining part of total accruals as non-corporate accruals. They examine the relationship between corporate governance and corporate accruals and conclude that corporate accruals do not stem from business operations but rather from a corporate mindset focused on the achievement of certain goals. Hasan and Omar (2016b) use corporate accruals as one of their proxies to assess the quality of corporate financial reporting. Hasan *et al*. (2016a) also examine the association between corporate attributes and corporate accruals, but only find a significant association between asset size and corporate accruals. They also observe corporate manipulation in revaluing assets to push their stock prices up and argue that corporate accrual does not stem purely from business operations but rather from a corporate management mindset that seeks to disguise the real business scenario in order to achieve desired objectives.

This study also surveys the cross-country literature on earnings management to find different approaches to ranking countries on the basis of aggregate results of multiple corporate accruals analyses. Healy and Wahlem (1999) review the empirical evidence on which specific accruals are used to manage earnings, the magnitude and frequency of any earnings management, and whether earnings management affects resource allocation in the economy. Ball *et al*. (2000) examine the effect of international institutional factors on properties of accounting earnings. Institutional differences in the demand for accounting income predictably affect the way it incorporates economic

income over time and the frequency of any earnings management, as well as whether earnings management affects resource allocation in the economy.

In terms of a specific focus on Asian countries, Brown and Higgins (2001) compare the distribution of quarterly earnings surprises in the US to those of 12 non-US countries including Hong Kong and Japan, while Fan and Wong (2002) examine the relationship between earnings informativeness and the ownership structures of 977 companies in seven East Asian economies including Hong Kong, Indonesia, Malaysia, Singapore and Thailand. Leuz *et al*. (2003) examine earnings management and investor protection across 31 countries including Malaysia, Indonesia, Singapore, Thailand, Hong Kong, and Japan. They found that earnings management is expected to lead to reduced investor protection and suggest an endogenous link between corporate governance and the quality of reported earnings. Ball *et al*. (2003) provide empirical evidence of the interaction between accounting standards and incentives of managers and auditors in the four East Asian countries of Hong Kong, Malaysia, Singapore and Thailand. Charoenwong and Jirapon (2008) investigate the use of earnings management to exceed thresholds in Singapore and Thailand, presenting empirical evidence that earnings management is employed in both countries to avoid reporting losses and negative earnings growth. Guan and Pourjlali (2010) examine the effect of the cultural environment on earnings management across 27 countries including Hong Kong, Japan, Malaysia, Singapore and Thailand from 1987 to 2001 using Hofstede (1983) and Hofstede and Bond (1988) cultural factors (dimensions) and some other variables. The results indicate that the higher the values of independent variables, the higher the magnitude of earnings management. Enomoto *et al*. (2014) examine the relationship between accruals-based earnings management (AEM), real earnings management (REM) and financial development in 37 countries including Hong Kong, Indonesia, Japan, Malaysia, Singapore and Thailand from 2009 to 2012. The results show that managers are restrained from using both AEM and REM in countries with higher levels of financial development.

However, none of the abovementioned researchers have looked into the quality of corporate management of listed companies across countries in terms of earnings management. This study strives to fill this research gap by using a combination of descriptive statistics to examine patterns in corporate accruals.

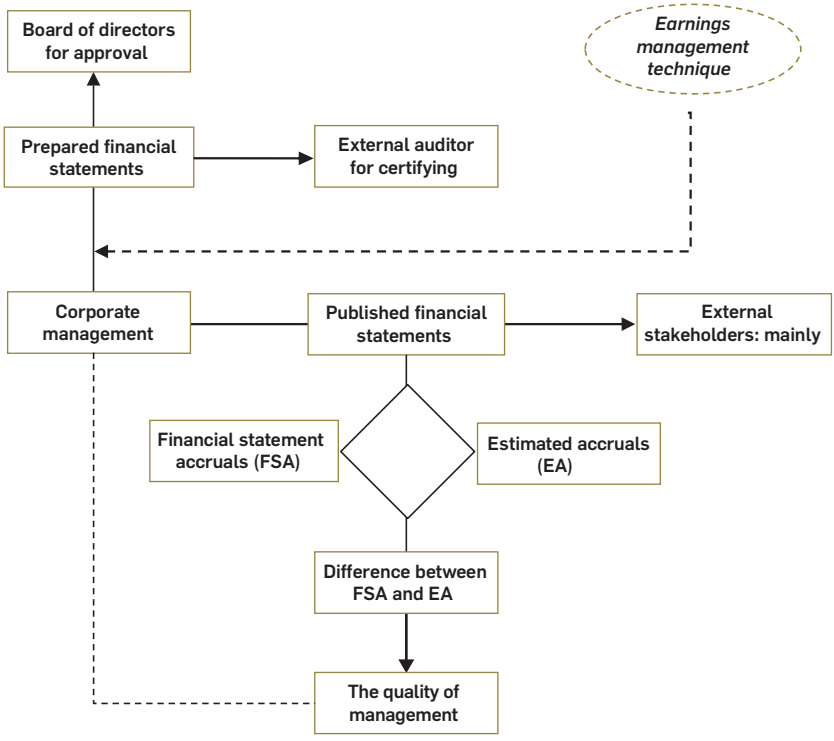
3. Research concept

The concept of the present research can be visually represented by the following diagrammatic model. The model (Figure 1) incorporates two aspects: 1) the role of corporate management in preparing financial statements (the upper part of the diagram) and 2) management's responsibility for using earnings management in the financial

statement (lower part). The upper part of the diagram, which shows the role played by corporate management in preparing and publishing financial statements for external stakeholders, demonstrates that corporate management is chiefly responsible for distorting the financial data. It can therefore be argued that the quality of financial statements largely depends on the quality of corporate management.

Along with the management team, the board of directors and the auditors also bear some responsibility for the distortion of the financial statements as they play a supervisory role. The lower part of the diagram shows the two ways in which the published financial statement is analysed to meet the requirements of the current study. Financial statements accrual (FSA) is the difference between net income (NI) and free cash flow (FCF), while estimated accruals (EA) is determined through statistical analysis. The amount by which FSA exceeds EA is considered as corporate accruals, which is in turn used to assess the quality of corporate management, whereby the higher the number the lower the management quality and vice versa. By extension, the quality of management also indicates the quality of the board's monitoring activities and the auditors' certifying activities, since the board of directors approves the financial statements and the auditors certify it.

Figure 1. **Earnings management and the quality of management**



4. Data and methods

4.1. Data

The main source of data was the Bloomberg database. Data were purchased from Bursa Malaysia, a Bloomberg member. Data for the six-year period 2008-2013 were used in the estimation of corporate accruals while data for the five-year period 2009-2013 were used in the multiple statistical analysis. Data were limited to the seven East Asian countries of Malaysia, Thailand, Indonesia, Hong Kong, Singapore, Japan and China. To be included in the sample, a country had to have at least 600 firm-year observations for a number of accounting variables—including revenue, net income, total assets, property, plant and equipment, and accounts receivable—and each firm in the sample had to have financial statement information for at least six consecutive years. Banks and financial institutions were excluded from the empirical analysis. The final sample consisted of 21,000 firm-year observations across seven countries.

4.2. Methods

Regarding the research method applied to achieve the objectives of the study, a 5-step approach (Figure 2) is designed in a fairly simple way (step-by-step), the details of which are discussed below.

The 5-Step approach

This approach involves five stages required to assess the quality of management based on the use of discretionary power in financial statements. These steps are measurement, statistical analysis, individual scoring, aggregating scores and, lastly, ranking (Figure 2). The five steps of this approach are presented below (see also the appendix).

Figure 2. **The 5-Step approach**

Measurement stage (Step 1)

The measurement stage involves three measurements for accruals: 1) *FSA*, 2) *EA* and 3) *CA*. The first measurement involves calculating *FSA*. The traditional definition of total accruals is 'the difference between *NI* and *CFO*'; This traditional approach is extended by Dechow and Ge (2006) who define total accruals as the difference between earnings and *FCF*, while Bukit and Iskandar (2009) also use the *FCF* approach to accruals measurement. *FCF* reflects the impact of cash spending on fixed assets and investments. Companies operating with high *FCF* provide greater opportunities for opportunistic behaviour by management and as such *FCF* better reflects accrual for individual firms (Bhuiyan *et al*., 2013; Hasan *et al*., 2014a). For the purposes of this study, we simply define *FSA* as the difference between *NI* and *FCF*. The mathematical expression of this definition can be written as:

$$FSA = NI - FCF \tag{1}$$

Since *FSA* are compared with *EA* deflated with lagged total assets (*LTA*), then for the sake of consistency, *FSA* are also deflated with *LTA*. The above equation can be rearranged as follows:

$$\frac{FSA}{LTA} = \frac{NI}{LTA} - \frac{FCF}{LTA} \tag{2}$$

The second measurement is *EA*, which is measured by following the performance matched model (modified Kothari-Jones model, 2005). While there are many measurement models for estimating accruals, the reason for choosing this approach is to eliminate any possible mechanical relationship between the performance metric and the current period's corporate accruals. The mathematical expression of this model can be written as follows:

$$EA = \beta_1 + \beta_2(\Delta REV - \Delta AR) + \beta_3 PPE + \beta_4 NI + \varepsilon \tag{3}$$

One of the assumptions in the regression is that the errors (ε) have a common variance σ^2, otherwise known as the homoskedasticity assumption. If the errors do not have a constant variance they are called heteroskedastic. There are two commonly-used remedies for the heteroskedasticity problem: 1) transforming the data to logs and 2) deflating the variables by some measure of "size". Opting for the latter, *LTA* is used as a measure of size in order to solve the heteroskedasticity problem. It should also be noted that the constant term should not be estimated term when deflating the variables in the model (Maddala, 2005, pp. 212). This is why no intercept is used in the model. The estimated accrual model (regression model) can be expressed in the following form:

$$\frac{EA}{LTA} = \beta_1 \frac{1}{LTA} + \beta_2 \frac{\Delta REV - \Delta AR}{LTA} + \beta_3 \frac{PPE}{LTA} + \beta_4 \frac{NI}{LTA} + \varepsilon \quad (4)$$

where:

EA	=	Estimated accruals
ΔREV	=	Change in revenues from the preceding year
ΔAR	=	Change in accounts receivable from the preceding year
PPE	=	Gross value of property, plant & equipment in current year
NI	=	Net income
LTA	=	Lagged total assets

The third and final step of the measurement stage is to measure corporate accruals, given by the difference between *FSA* and *EA*. In this case, the sign (+/-) of accruals is ignored as it could be either positive or negative when focusing on the differences in number between *FSA* and *EA*. Therefore, the absolute number is used in measuring corporate accruals. The corporate accruals can then be measured by taking the difference between the results from equation (2) and equation (4). The mathematical expression of corporate accruals is as follows:

$$|CA| = |FSA| - |EA| \quad (5)$$

Statistical analysis (Step 2)

The distortion of financial statements is an indication of the low quality of management, and measurement as well as analysis are needed to produce a concrete result. Eight descriptive statistics — maximum value, minimum value, coefficient of range, mean value, standard deviation, coefficient of variation, skewness and kurtosis — are applied to analyse *CA* across countries and each one registers a significant magnitude. For example, if we look for the maximum amount of *CA* among sampled companies in the countries under study, we can use the maximum value approach to identify the highest of the highest. In this case, the maximum amount of *CA* among sample companies within a country is extracted first before then extracting the maximum amount of *CA* across countries. The maximum amount of *CA* gives a negative impression about the management and suggests that it uses discretionary power widely while preparing financial statements. For this reason, when a country registers the highest *CA* among sample countries, the country is assigned the lowest mark for financial statement quality. Likewise, it is possible to find out the lowest of the lowest amount of *CA*. The country with the lowest *CA* among sample countries is assigned the highest mark, for the reasons given above. It should be borne in mind that distortion of financial statements indicates poor quality management. The maximum value approach returns the maximum amount of CA, the minimum value approach returns the minimum amount of *CA*, the coefficient approach gives the range, the mean value gives the average, the standard deviation gives the deviation from mean, the coefficient of variance gives the consistency of variance, while

skewness and kurtosis give information on the horizontal and vertical deformation of the CA distribution.

Scoring approach (Step 3)

Eight descriptive statistics provide eight different amounts of *CA* for each of the countries in the sample. To aggregate the results of these eight descriptive statistics, a seven-point rating scale is developed. The reason for using a seven-point scale is to reflect the number of sample countries. The points of the scale have an inverse relationship with the value of *CA* registered by the countries, since the use of *CA* creates a negative impression of management. The highest mark of 7 points is awarded for the lowest number of *CA*, while the lowest mark of 1 point is awarded for the highest number of *CA* across sample countries. The points distribution can be shown as follows:

Points	1	2	3	4	5	6	7
CA	The highest number	The 2nd highest number	The 3rd highest number	The 4th lowest or highest number	The 3rd lowest number	The 2nd lowest number	The lowest number

Aggregating individual scores (Step 4)

The aggregation of earnings management scores is carried out by simply adding up the scores that each country receives for each of the eight descriptive statistics. The aggregated scores can be presented in two ways, namely a country-wise score and an approach-wise score. If the aggregated score is denoted by X then x_1, x_2, x_3, x_4, x_5, x_6, x_7, and x_8 will be the variables for individual scores where, x_1 = *maximum value,* x_2 = *minimum value,* x_3 = *coefficient of range,* x_4 = *mean value*, x_5 = *standard deviation,* x_6 = *coefficient of variation,* x_7 = *skewness*, and x_8 = *kurtosis*. This relationship is represented in the following equation:

where,

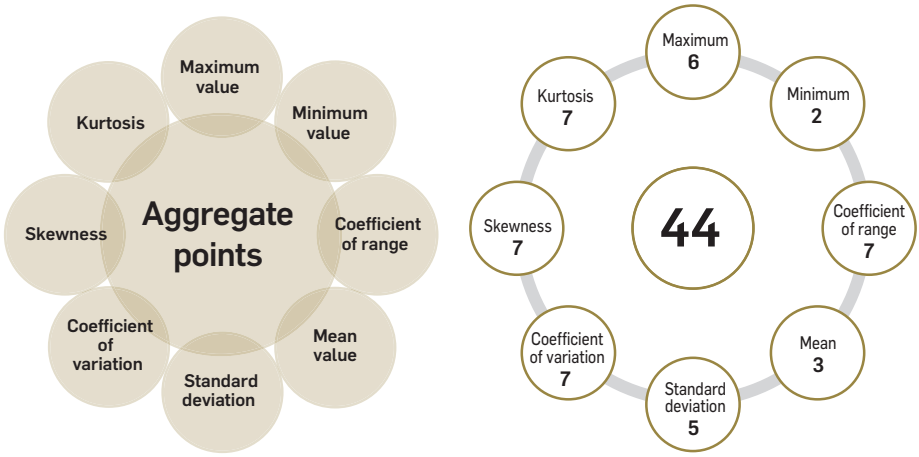
X_j = *Aggregated points of jth country*

x_{ij} = *ith individual score of jth country*

For example, if Thailand receives 6 points in the maximum value approach (x_1), 2 points in the minimum value approach (x_2), 7 points in coefficient of range (x_3), 3 points in the mean approach (x_4), 5 points in standard deviation (x_5), 7 points in coefficient of variation (x_6), 7 points in skewness (x_7) and 7 points in the kurtosis approach (x_8), then its aggregate score X is 44. The calculation can be shown as follows:

Countries	Maximum	Minimum	Coefficient of range	Mean	Standard deviation	Coefficient of variation	Skewness	Kurtosis	Aggregate point
Thailand	6	2	7	3	5	7	7	7	**44**

Alternatively, it can be visually represented in the following diagram:



EIGHT MEASUREMENT UNITS **AGGREGATE SCORE OF THAILAND**

Ranking approach (Step 5)

Finally, a country ranking is established on the basis of the aggregated points they are assigned from equation (6). The country with the highest mark (most points) is ranked 1st while the country with the lowest mark (fewest points) is ranked last (7th position). The order of ranking is shown as follows:

Aggregate points	The highest mark	The 2nd highest mark	The 3rd highest mark	The 4th highest mark	The 5th highest mark	The 6th highest mark	The lowest mark
Rank	1	2	3	4	5	6	7

The top-ranked country can be seen as having the highest quality of management among sample countries; conversely, the lowest-ranked country can be seen as having the worst quality of management among sample countries.

5. Results and discussion

The data are analysed using multiple (eight) descriptive statistics, first individually and then aggregating the output resulting from each one. The reason for choosing more than one statistic is to show the score and ranking positions of the Asian countries under study in a number of different ways, as the ranking resulting from each statistic could be different. Finally, conclusions are drawn as to the quality of corporate management of the sample countries on the basis of their aggregated points. The results of each statistic and discussion thereon are presented below.

Table 1. **Horizontal score sheet**

Countries	Maximum	Minimum	Coefficient of range	Mean	Standard deviation	Coefficient of variation	Skewness	Kurtosis	Aggregate point	Rank
Japan	7	7	4	7	7	6	6	6	50	1st
Thailand	6	2	7	3	5	7	7	7	44	2nd
Singapore	5	4	5	6	6	4	4	4	38	3rd
Malaysia	4	3	6	4	3	5	5	5	35	4th
China	3	5	3	5	4	3	2	2	27	5th
Hong Kong	2	6	1	2	2	2	3	3	21	6th
Indonesia	1	1	2	1	1	1	1	1	9	7th

If we look at maximum values of *CA*, Table 1 shows that Japan secures the highest mark of 7 points (ranked 1st), followed by Thailand (6 points, ranked 2nd), Singapore (5 points, ranked 3rd), Malaysia (4 points, ranked 4th), China (3 points, ranked 5th), Hong Kong (2 points, ranked 6th) and Indonesia (1 point, ranked 7th). The concept of opportunistic managerial behaviour (corporate accruals) in corporate financial reporting is used. Indeed, it is assumed that *CA* demonstrates management intervention in financial reporting, and that minimum or no intervention is indicative of the maximum quality of corporate management.

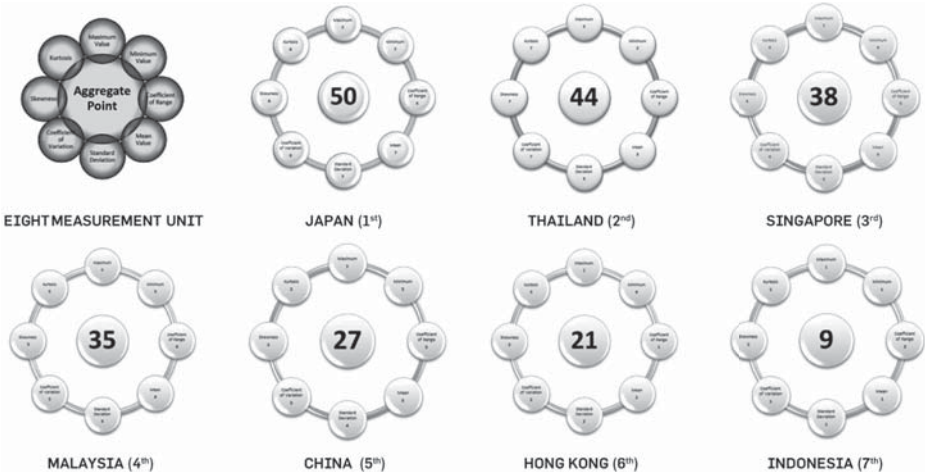
Based on these assumptions, this study finds that the management of listed companies in Japan use minimum discretion in financial reporting, thus ensuring quality financial reports. On the other hand, the study finds the management of listed companies in Indonesia use discretionary power in financial reporting to achieve their desired goals. If we look at the minimum values of *CA*, Japan once again attains the highest mark of 7 points (ranked 1st), followed by Hong Kong (6 points, ranked 2nd), China (5 points, ranked 3rd), Singapore (4 points, ranked 4th), Malaysia (3 points, ranked 5th), Thailand (2 points, ranked 6th) and Indonesia (1 point, ranked 7th). As regards the range, Thailand has the highest mark of 7 points (ranked 1st), followed by Malaysia (6 points, ranked 2nd), Singapore (5 points, ranked 3rd), Japan (4 points, ranked 4th), China (3 points, ranked 5th), Indonesia (2 points, ranked 6th) and Hong Kong (1 point, ranked 7th). As for the mean, it is once more Japan that attains the highest mark of 7 points (ranked 1st), followed by Singapore (6 points, ranked 2nd), China (5 points, ranked 3rd), Malaysia (4 points, ranked 4th), Thailand (3 points, ranked 5th), Hong Kong (2 points, ranked 6th) and Indonesia (1 point, ranked 7th). Management of Japanese listed companies again secures the top ranking as it has the minimum level of mean value of *CA*, while Hong Kong is the lowest ranked as it records the highest level of mean values of *CA* among sample countries.

Focusing on the standard deviation, Japan obtains the highest mark of 7 points (ranked 1st), followed by Singapore (6 points, ranked 2nd), Thailand (5 points, ranked 3rd), China (4 points, ranked 4th), Malaysia (3 points, ranked 5th), Hong Kong (2 points, ranked 6th) and Indonesia (1 point, ranked 7th). Turning to the coefficient of variation, Thailand secures the highest mark of 7 points (ranked 1st), followed by Japan (6 points, ranked 2nd), Malaysia (5 points, ranked 3rd), Singapore (4 points, ranked 4th), China (3 points, ranked 5th), Hong Kong (2 points, ranked 6th) and Indonesia (1 point, ranked 7th). In terms of skewness, Thailand again has the highest mark of 7 points (ranked 1st), followed by Japan (6 point, ranked 2nd), Malaysia (5 point, ranked 3rd), Singapore (4 point, ranked 4th), Hong Kong (3 point, ranked 5th), China (2 point, ranked 6th), and Indonesia (1 point, ranked 7th). As for kurtosis, it is Thailand that once again secures the highest mark of 7 points (ranked 1st), followed by Japan (6 points, ranked 2nd), Malaysia (5 points, ranked 3rd), Singapore (4 points, ranked 4th), Hong Kong (3 points, ranked 5th), China (2 points, ranked 6th) and Indonesia (1 point, ranked 7th).

By aggregating the rankings obtained for each statistic, (Horizontal Score Sheet), it can be seen in Table 1 that Japan secures the highest mark of 50 points (ranked 1st), followed by Thailand (44 points, –ranked 2nd), Singapore (38 points, –ranked 3rd), Malaysia (35 points, –ranked 4th), China (27 points, ranked 5th), Hong Kong (21 points, ranked 6th) and Indonesia (9 points, ranked 7th).

In light of these results, it can be claimed that Japan has the highest quality of corporate management, followed by Thailand, Singapore, Malaysia, China, Hong Kong and, lastly, Indonesia. Management in Japan uses discretionary authority as little as possible to maintain their stakeholders' faith in their financial reporting system. Management in Thailand is ranked second, meaning that it displays less opportunistic managerial behaviour in financial reporting than all other sample countries except Japan. Results indicate that the quality of Singaporean management is good, but still below the level of quality of Thai management in terms of earnings management. Malaysian management registers a medium score, which indicates the quality of management is neither the best nor the worst. As we use corporate accruals as a measurement of the quality of management, a minimum level of corporate accruals or no corporate accruals at all indicates top quality corporate financial reporting, which is the ultimate output of corporate management. China, Hong Kong and Indonesia occupy the lowest positions in the ranking, meaning that they use discretionary power to achieve their goals, which distorts the quality of the corporate financial reporting. Therefore, the corporate financial reporting of listed companies in Japan is more reliable than other sample countries due to the quality of their corporate management. The detailed scores for each sample country can be represented visually as follows:

Figure 3. **Graphical presentation of eight measurement units, scores and positions of sample countries**



6. Conclusion

The quality of corporate management is a crucial element in optimizing company operations and ensuring a successful business. An astute management team may use their discretionary power to produce financial statements that paint a rosier picture of their performance. The doctored financial statements are indicative of lower quality of management. This study concludes, based on analysis of earnings management, that corporate management is better in Japan than in China, Malaysia, Indonesia, Singapore, Thailand and Hong Kong. The level of corporate accruals is analysed using multiple (eight) descriptive statistics and a seven-point rating scale for aggregating the results, according to which all countries in the sample are ranked. This study provides empirical findings for seven East Asian countries and also contributes an innovative methodology for evaluating and comparing corporate accruals across companies, industries, and countries. Since the study does not cover all countries in East Asia, further research could be conducted to examine the quality of management across all East Asian countries or in other regions.

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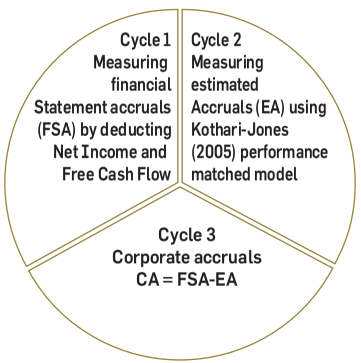
Appendix I. 5-Step approach



Measurement stage

Measuring corporate accruals

Step 1

Maximum value
Minimum value
Coefficient of range
Mean value
Standard deviation
Coefficient of variation
Skewness
Kurtosis

Statistical analysis

Analysing corporate accruals

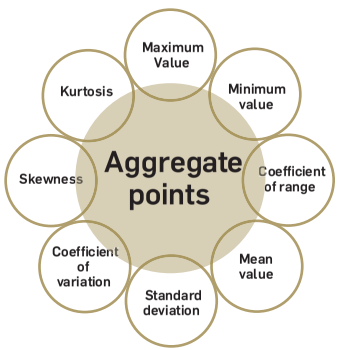
Step 2

Maximum value
Minimum value
Coefficient of range
Mean value
Standard deviation
Coefficient of variation
Skewness
Kurtosis

Individual scoring

Using a seven-point rating scale

Step 3



Aggregating scores countries

Aggregating scores for Countries

Step 4

Japan
Thailand
Singapore
Malaysia
China
Hong Kong
Indonesia

Ranking approach

Ranking based on aggregate points

Step 5