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# EARNINGS MANAGEMENT PRACTICES AMONG MUSLIM AND NON-MUSLIM MANAGERS IN MALAYSIA*

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## ABSTRACT

We study the differences between the earnings management practices of the Muslim managed firms and the non-Muslim managed firms listed on the Kuala Lumpur Stock Exchange in Malaysia. The influence of Muslim managers on the earnings management practices among the sample firms is measured using discretionary accruals. We compile data for 99 firms over a period of 16 years, i.e. from 1980-1996, to estimate the discretionary accruals using regression analysis. The estimated discretionary accruals are then compared with the actual discretionary accruals in 1997 to measure the differences in the earnings management practices. We hypothesise that firms having a majority of Muslim managers will resort to less earnings management than firms that have a majority of non-Muslim managers. The study finds no statistical evidence to uphold the said hypothesis.

JEL classification: M41, Z21

Key words: Earnings management, Muslim managers, Malaysia

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## 1. INTRODUCTION

Prior studies have established that there are three economic reasons for managers to practise earnings management, namely to increase the managers' compensation and bonus, to avoid breach of debt covenant violations, and to prevent unwanted political interferences. These reasons could be grouped into one common reason of opportunism. Managers habitually practice earnings management for opportunistic reasons.

Islam discourages opportunistic behaviours. Muslim managers are expected to adhere to such Islamic teachings. Even though there is no explicit law in Malaysia (or in any other Muslim countries) requiring Muslims to behave as preached by Islam, Muslim managers are expected to behave in such a manner that the community interest comes before self gain.

This study measures the influence of Muslim managers on the earnings management practices among the Malaysian firms. It compile data for 99 firms over a period of 16 years, i.e., from 1980-1996, to estimate the discretionary accruals using regression analysis. The estimated discretionary accruals are then compared with the actual discretionary accruals in 1997 to measure the possibility of managers practising earnings management.

This study hypothesizes that firms having a majority of Muslim managers will resort to less earnings management than firms that have a majority of non-Muslim managers. It finds no statistical evidence to uphold the said hypothesis.

Furthermore, of the three variables (representing the three economic reasons for earnings management practices), only the management compensation plan hypothesis is found to be statistically significant. This could be caused by the inappropriate selection of the proxies for the variables in the regression equation developed.

The remainder of the paper is organized into six sections. Section 2 discusses the literature review on earnings management. Section 3 discusses the role of Islam and the requirement upon the Muslims to adhere to the teachings of Islam. Section 4 develops a testable hypothesis for the 99 firms listed in the Kuala Lumpur Stock Exchange in Malaysia. Section 5 discusses the research design. Section 6 discusses the empirical results and the last section provides the summary and conclusion.

## 2. LITERATURE REVIEW

Earnings management is defined as managers using "judgments in financial reporting and structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence the contractual outcomes that depend on reported accounting numbers" (Healy and Wahlen, 1998, p. 6). Such behaviour on the part of the manager is termed as opportunism (Watts and Zimmerman, 1978).

Watts and Zimmerman (1978) pioneered the study of the opportunistic behaviour of managers by analysing the managers' responses to the adoption of the General Price Level Adjustments (hereafter termed as GPLA). They analyzed that managers would support any proposed standard if it would result in positive net benefit to them and oppose it if it results in negative net benefit. They develop a hypothetical model to predict the managers' submission to the proposed standard. The first part of the model considers a deduction in the firm's reported earnings through the adoption of the proposed standard. Here they deduce that the managers of the small firms would oppose the proposed standard as it yields a lower return to them; alternatively, they would have to adjust the compensation plan in order to earn a bonus they previously expected to earn. Managers of larger firms, with a similar decrease in firm's reported earnings, would, on the other hand, support the proposed standard only if the net benefit obtained is higher. The rationale for such a stand on the part of larger firms is that by reporting a lower profit, they would distract the attention of the regulators thereby increasing the cash flows, firm value and their welfare.

The second part of Watts and Zimmerman's (1978) hypothetical model describes the situation when the proposed standard has the effect of increasing the firm's reported earnings. In this scenario, the managers of the smaller firms would not be motivated to make any submission as the increase in the cost to adhere to the proposed standard does not affect the managers' compensation. But the managers of the larger firms would oppose the proposed standard, as the increase in a firm's reported earnings would attract the attention of regulators thereby creating negative benefit to the firm and subsequently to the managers. Regulators can affect the firm through the initiation of anti-trust and anti-monopoly proceedings, by raising future tax payments, and/or the

commission of a reduction in the public utilities revenue (if the firm is regulated).

Watts and Zimmerman (1978) measure the magnitude of the earnings change among the 49 firms using discriminant analysis. They include six independent variables, namely two proxying for tax effect (i.e., depreciation expense and net monetary assets) and another two for political cost effect (i.e., changes in sales revenue of the firms and its constituent percentage over the changes in total sales revenue) of the Compustat listed firms and one each for management compensation and the regulatedness/unregulatedness of the business. Seven discriminant analysis models are tested by varying the independent variables included in the tests. All seven discriminant functions are found to be statistically significant, and firm size is consistently significant explaining more than half of the variances in voting behaviour, thereby supporting their hypothesis.

Watts and Zimmerman's (1978) work identifies firm size as a proxy for the political cost. This is based on the assumption that larger firms are more sensitive to political pressures and attention than smaller firms. Watts and Zimmerman (1986) find that there are two main weaknesses in the size hypothesis. First, large firms are powerful adversaries in the political process; they are able to influence governmental policies and are also observed to receive large wealth transfers especially when they are in financial distress. Second, industry-wide effect has an impact on individual firm's political exposure; hence the use of firm size as a proxy for political cost might be an indirect and possibly an inadequate measure of an industry's political exposure. Correspondingly, they note that the firm size proxy needs to be used with caution (see Watts and Zimmerman, 1986, 239).

The study on the opportunistic perspective of agency cost developed further into studying the factors influencing such behaviours. Over time, research focusing on the opportunistic perspective of agency cost has considered three economic influences in explaining the earnings management practices of managers. First, the management compensation plan hypothesis predicts that managers with accounting based bonus plans have an incentive to report higher earnings in order to maximize their rewards. Second, the debt/equity hypothesis predicts that managers of the firms with high financial leverage have an incentive to report higher earnings to avoid breach of debt covenant restrictions.

Third, the political cost hypothesis predicts that managers of large politically visible firms have an incentive to report lower earnings to minimize the possibility of wealth transfer resulting from the political process. A study on each of the three economic influences is discussed below.

Holthausen et al.'s (1995) study is adopted to discuss the compensation plan hypothesis. They predict that Chief Executive Offices (CEOs) who are either below the lower bound or above the upper bound of their bonus plans will take more negative accruals, have more real investment expenditures, and/or record more extraordinary losses than CEOs who are within the two bounds of their bonus plans. Using the chi-square test, they compute the mean and the median of the discretionary accruals (using two different models), real investment expenditures (specifically for R&D, advertising, and capital expenditures) and extraordinary gains/losses.

Houthausen et al.'s (1995) study analyzes 443 firm-year observations and finds that the difference in the mean accrual between the below-the-lower-bound group and the within-the-bounds group is statistically significant at 12 percent. Holthausen et al. (1995) find little support for their prediction as applied to real investment expenditures and the extraordinary gains/losses. The R&D and capital expenditures are highest (implying that they have the most negative impact on earnings) on the within-the-bound group while advertising shows the greatest impact in above-the-upper-bound and the lowest impact in below-the-lower bound.

The second economic influence in explaining the earnings management practices of managers is the debt/equity hypothesis and the study by DeFond and Jiambalvo (1994) is adopted to discuss this hypothesis. They examine the abnormal accruals of 94 firms that had reported serious debt covenant violations in their annual reports during fiscal year 1985-1988. Their descriptive analysis shows that (i) 64 percent of the sample firms did not disclose the cost associated with debt covenant violations, and (ii) the common cost indicated by the sample firms was the reclassification of the debt (which is normally long-term) as a current liability. They align the sample in a sequential time series starting with year –5 to year +1, with the default year as year 0 to enable the charting of the accruals. They tabled the total accrual changes, earnings changes, cash flow changes, and revenue

changes by year relative to the violation year for comparison. They find that the largest changes are in the year prior to violations.

DeFond and Jiambalvo (1994) analyse the data further using time series and cross-sectional models to test the accruals manipulation on two types of accruals, namely total accruals and working capital accruals. They use the Modified Jones model and compute the *Z*-score for significant tests. As only 65 firms of the sample had six years of data prior to year –1 (a requirement to use this type of time series), these 65 firms are further analysed.

They compute the level of abnormal accruals, termed as prediction errors, for both the prior and the current years of violation and for both total accruals and working capital accruals. The mean number of years used to estimate the 65 time series regressions is 11.95, the coefficient on the change in revenue is 0.13, and the associated *t*-statistic is 1.593. The time series estimates are also consistent as the coefficient on the change in revenue has a mean of 0.146, and the *t*-statistic is 1.909. Similarly, the mean and median of standardised and unstandardised prediction errors for both total accruals and working capital accruals are consistent. The mean and median of unstandardised prediction errors for total accruals are 0.034 and 0.029 respectively for the year prior to violation and are significantly positive at $p<0.05$ (one-tailed) *t*-test and Wilcoxon tests. This indicates that manipulation takes place in the year prior to violations.

The mean and median of unstandardised prediction errors for working capital accruals of 0.044 and 0.024 respectively for the year prior to violation are also positive and significant at $p<0.01$ (one-tailed) *t*-test and Wilcoxon tests thereby supporting the hypothesis of income-increasing accruals manipulation in the year prior to covenant violation.

The third economic influence in explaining the earnings management practices of managers is the political cost hypothesis and the study by Cahan (1992) is adopted to discuss this hypothesis. Cahan (1992) uses discretionary accruals as a proxy for the political cost hypothesis in his study which examines the effect of antitrust investigations on 48 firms' reported earnings during 1970 -1983. He analyses the management behaviour of the 48 firms which were prosecuted by the law enforcing agencies for monopoly-related violations. He predicts that managers would resort to income reducing discretionary accruals during the period of investigation in order to (a) support the argument that the firm's

monopoly had diminished, or (b) plead for lower penalties if the case is dismissed in favour of the prosecutors.

Cahan (1992), using the Jones model to estimate discretionary accruals, employs least square regression analysis and t-tests to test the effect of changes in net sales and fixed asset balances on total accruals. Both these variables are found to be related to total accruals at one percent level. The *F*-statistic for the model is 5.484 and is significant at 0.001 level, thus indicating that the variation in accruals can be largely explained by the above two variables.

Cahan (1992) has also shown by way of a chart the trend towards income reducing discretionary accruals during the period around the start of investigations and increase in income around the end of the investigations to supplement his findings above. He has also tested using a similar approach to determine whether the presence of the investigations has any incremental ability to explain the residual portion. The result is consistent with accrual management with the *F*-statistic being 5.62 and significant at 0.001 level.

Cahan (1992) conducts further tests to verify that the findings were caused solely by earnings management. Tests on transitory earnings change and control group are also found to be significant indicating that the lower earnings reported by the sample are not caused by changes in the transitory component nor by some omitted variable (like industry trend).

## 3. THE ROLE OF ISLAM

The review of prior studies above indicates that the managers behave opportunistically. Islam is against opportunism. It encourages its followers to acquire wealth but prohibits them from acquiring the wealth using oppression and *úarŒm* (forbidden) means.

The word Islam stems from the Arabic root letters *salama* which stands for, among other things, peace, purity, submission and obedience. It is one of the three divinely inspired religions (the other two being Christianity and Judaism) all of which believe in the existence of a supreme being, generally termed as God. Islam has about 1.2 billion believers (hereafter called Muslims) (see *The 2001 Britannica Book of the Year*) and there are more than 44 Islamic countries (i.e., countries promulgating Islam to be the official national religion) (Esposito, 1988).

Islam does not separate religious deeds from political, economic or social affairs. Its tradition is firmly embedded in the socio-economic and political development of the Muslim community. It commands man (and woman alike) to submit himself/herself totally (including his/her privately owned property) to the will of God, termed Allah , and be an obedient servant to his/her creator (see Hamid et al., 1993; Gambling and Karim, 1991; and Baydoun et al., 1997).

Muslims are required to fulfill 5 basic principles, namely (i) instilling a believe that there is no other God than Allah (termed in Arabic *Kal¥mah Shah Œdah*), (ii) performing 5 prayers daily at dawn, noon, evening, dusk and night (called *§al Œt* in Arabic), (iii) undertaking fasting from dawn to dusk throughout the month of *Ramaè Œn*, the ninth month in the Islamic lunar calendar (termed *§awm*), (iv) paying the obligatory tax (termed *zak Œt*) by those whose earnings exceed the sum required to maintain the immediate family, and (v) performing pilgrimage to Mecca (known as *î ajj*) by those who can afford it at least once in their lifetime. It is the belief of every Muslim that by performing these duties he/she would fulfill the minimum required duties towards Allah (i.e., the one and only God).

Every Muslim's other duty is to be the vicegerent of Allah and be obliged to guard the wealth and all his/her belongings in this world including his/her family. Thus, Muslims would relate their conduct to the purpose of their existence as envisaged by Allah , i.e., men are created to worship Allah (*al-Dh Œriy Œt*, i.e., chapter 51, verse 56 of the *Qur'Œn*, hereafter written as *al-Qur'Œn*, 51:56). The *Qur'Œn* (*Al-Baq Œrah,* 2:30) spells out the role of man in this world, i.e., man is made to be the vicegerent of Allah in this world, and hence all possessions held in this world (including private property, material wealth and own children) are held in trust from God (see Hamid 1993, and Gambling and Karim 1991). Men (and women alike) are, therefore, considered to be the agents of Allah .

Islam encourages individuals to be involved in business and hence has clearly laid down the commercial law (called *Fiqh al-mu°Œmal Œt*) to guide the Muslims, i.e., the agents of Allah, as to the lawful (called *úal Œl*) and the forbidden (called *úar Œm*) business activities (see Beekun, 1997). This law is based on the following historic sources listed below in the order of supremacy: (i) the *Qur'Œn*, the revealed words of Allah, is considered the first major source which explains only the general

guidelines, (ii) the *Sunnah* (the tradition of the sayings, preaching and the actions) of Prophet Muúammad, and (iii) the *Ijmœ*$^{c}$, the pronouncements representing the consensus of Islamic scholars on matters not addressed explicitly by the above two sources.[1]

The *fiqh al-mu*$^{c}$*œmalœt* prescribes the nature of allowable trade and services which generally requires justice, fair, and honesty in any business transactions. *Fiqh al-mu*$^{c}$*œmalœt* explicitly forbids transactions which are unclear, unfair, unjust and fraudulent. Book IX, Volume III of *êaú¥ú* Muslim narrates the *úad¥th* (i.e., the proper documentation of *Sunnah*) on permissible and prohibited trade in Islam. It quotes events that took place during the time of Prophet Muhammad which were classified as lawful and prohibited by the Prophet himself. Some of the prohibited trading activities quoted in the *úad¥th* include the prohibition of involvement in *gharar* (i.e., uncertain) transactions, the forbidding of meeting the trader on his way to his trading place to get undue advantage, the forbidding of selling a commodity before taking possession of it, and forbidding the sale of a rotten (or low quality) commodity together with a good (or high quality) commodity. Hence, it can be concluded that Islam preaches justice and fair dealing.

*Fiqh al-mu*$^{c}$*œmalœt* has not been legally enforced in all Muslim countries. Islamic Law which encompasses *fiqh al-mu*$^{c}$*œmalœt* exists only in certain Muslim countries (including Saudi Arabia, Syria, Iran and Pakistan). Even then, it has been limited to the banking sector only (see Gaoud and Lewis, 1997). Malaysia is one of the few countries in the world which has both conventional law and *fiqh al-mu*$^{c}$*œmalœt* being practised concurrently, and in these countries, too, the law is limited to the banking sector only.

## 4. HYPOTHESIS DEVELOPMENT

The influence of Islam over the Malaysian businesses is clearly visible in the banking, insurance and the stock market sectors. These developments are also in line with the recent development of Islamic financial products throughout the world (see Gaoud and Lewis, 1997; and Karim 1990).

The Islamization process in the Malaysian stock market is evident from the launching of the *Shar¥*$^{c}$*ah* Index (hereafter termed the KLSE SI). The KLSE launched its new index on 17th of April 1999 to expand

participation of investors who are keen on investing in securities approved by the Islamic *Shar¥c ah*. The KLSE SI is a weighted average index with components made up of 435 main board companies (as at 11th November 2003) designed as *Shar¥c ah*-approved securities by the *Shar¥c ah* Advisory Council (hereafter termed SAC) of the Malaysian Securities Commission. It is updated regularly and the latest list can be retrieved from the KLSE's webpage at http://www.klse.com.my/website/mrktinfo/indexcomp_syariah.htm.

The *Shar¥c ah*-approved securities are the securities of the companies that do not carry out forbidden activities in their normal course of business. At present, the forbidden activities considered by the SAC are *maysir* (gambling), *khamr* (sale/provision of liquor) and *rib*Œ (interest). Other elements, like the composition of interest bearing loaned-capital, is not the primary consideration by the committee as there are no alternative readily available financial instruments in the market for such businesses.

The SAC is assigned the responsibility of identifying the *úalŒl* (permissible) or green counters (a term used among the securities dealers to name the group of securities which are free from dealings in forbidden activities), and *úarŒm* (forbidden) or red counters (a term used among the securities dealers to name the group of securities which deal with any or all of the forbidden activities). All investors (including individual, institutional investors, and Islamic fund managers) who identify themselves as Muslims would normally invest in these green counters.

To date, there are no laws passed in favour of Islamisation in the stock market in Malaysia, thus the Islamisation process here is on a voluntary basis. Neither is there any legal obligation on the part of the businesses or the managers to adhere to the requirements of Islam. Thus, any adherence to the teachings of Islam by the managers is purely voluntary.

This study, therefore, is a pioneer in evaluating the Muslim managers' voluntary adherence to the teachings of Islam. The primary objective of this study is to compare the differences between the earnings management behaviors of the Muslim and non-Muslim managers. Therefore, it is hypothesized that:

H1: Companies that have a majority of Muslim managers will resort to less earnings management than companies that have a minority of Muslim managers (i.e., a majority of non-Muslim managers).

## 5. RESEARCH METHODOLOGY

### 5.1 SAMPLE SELECTION

The sample consists of all 161 non-financial firms (i.e., excluding 124 financial institutions, stock broking and insurance companies out of a total 285 firms) listed on the KLSE between 1980 and 1997, that were continuously listed, and that included in their annual reports a list of their top management team (hereafter termed top management). The period of study is from 1980-1997 with data for the period 1980-1996 being used to estimate the accruals and the data in 1997 being used as the prediction period (i.e., the event year where the actual accruals are compared to determine the earnings management practices). The final data used in the study is 99 firms.

The religious background of top management is used to classify the firm as either Muslim managed or non-Muslim managed firms. We classify the firms as majority Muslim managed or minority Muslim managed firms by the percentage composition of Muslims in the top management, i.e., firms that have 50 percent or more Muslims in their management team are classified as Muslim firms. The main reason for selecting the top management to proxy for the firms' managers is that this group has the most influence both in terms of real operating decisions and accounting policy choices to influence the firms' financial reports.

The classification of majority Muslim managed and minority Muslim managed firms by the percentage composition of the top management may induce noise in two ways. First, the proxy used to represent the managers may be restrictive and there is a possibility of the variation in classification if the middle management is included. Second, there is a possibility of firm-year observations being omitted due to non-inclusion of information regarding top management in the annual reports (as there is no requirement for the companies to do so). This may reduce the total number of firm-year observations being studied. If this variable classification induces noise in the database, inferences drawn from the following test may be biased.

## 5.2 MODEL ADOPTION

The use of accruals to detect earnings management is being carried out using Jones's (1991) model which is a sophisticated model that attempts to separate total accruals into discretionary accruals (*DA*) and non-discretionary accruals (*NDA*). The *DA* and *NDA* together constitute total accruals and the total accrual can be derived from the differences between reported earnings and the net cash flow from operations. The higher the *DA* (both signs of positive and negative) of a firm, the higher is the opportunity for the manager(s) of the firm to practise earnings management.

Jones (1991) deduces the value of *DA* in three steps, namely first computing the total accruals (*TA*), secondly by estimating the *NDA* using the regression equation (stated below) over a period of at least six years, and lastly deducting the *NDA* from *TA* to arrive at *DA*. She estimates the *NDA* in the event year by:

$$(1) \qquad NDA_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t) + \alpha_3(PPE_t)$$

where:

| | | |
|---|---|---|
| $NDA_t$ | = | non-discretionary accruals in year *t* scaled by total assets at *t*-1 |
| $\Delta REV_t$ | = | revenue in year t scaled by total assets at *t*-1 |
| $PPE_t$ | = | gross property, plant, and equipment in year *t* scaled by total assets at *t*-1 |
| $A_{t\text{-}1}$ | = | total assets at *t*-1 |
| $\alpha_1, \alpha_2, \alpha_3$ | = | firm-specific parameters which are generated using Jones (1991) model of TA in the event year |

$$(2) \qquad TA_t = a_1(1/A_{t-1}) + a_2(\Delta REV_t) + a_3(PPE_t) + v_t$$

where $a_1$, $a_2$, and $a_3$ denote the OLS estimates of $\alpha_1, \alpha_2,$ and $\alpha_3$ and *TA* is scaled by lagged assets. She notes that her model is successful in explaining around one quarter of the variation in *TA*.

The weakness in Jones's (1991) model is that it assumes revenue as the *NDA* which may not always hold. There are instances where managers are able to exercise discretion in revenue recognition. For example, managers may exercise their discretion to accrue revenue at

year-end when the cash has not yet been received. This discretionary action would result in an increase in revenue and accounts receivables (a component of *TA*). The Jones model would orthogonalise *TA* with respect to revenue and would ignore this discretionary component of *TA* thereby causing the estimate of earnings management to be biased towards zero. Jones (1991) recognises this limitation of her model (see her footnote 31).

### 5.3 VARIABLE MEASUREMENT

To test for earnings management, we regress the estimated DA on the variable *MUSLIM* and four other control variables using the following regression equation:

$$(3) \qquad DA_{it} = \alpha_i + \beta_1 MUSLIM + \beta_2 ROA + \beta_3 DEBT + \beta_4 FSIZE + \beta_5 IND1 + ... + \beta_{18} IND15 + \varepsilon_3$$

where:

*MUSLIM* = the percentage composition of Muslim managers in the top management

*ROA* = return on assets of the company which proxies for management plan incentive for earnings management

*DEBT* = debt/equity ratio which proxies for debt incentive for earnings management

*FSIZE* = firm size, a proxy for political cost incentive for earnings management

*IND* = dummy variable where *IND*1=1 if the firm is in industry 1, and otherwise; and so on

$\varepsilon_t$ = an error term that is independently and identically normally distributed.

The *MUSLIM* variable is the hypothesized variable in this study. Earnings management involves misleading some stakeholders (see Healy and Wahlen, 1998) and Islam condemns such behaviour. Therefore, Muslim managers are not expected to practise earnings management. Thus, we predict an inverse relation between *MUSLIM* and *DA*.

*ROA* is used as a control variable for the management bonus plan incentive for earnings management. *ROA* is computed by dividing the

net income by the total assets of the company similar to that used by McNichols and Wilson (1988). Like Holthausen et al. (1995), we predict a positive relation between *ROA* and *DA*.

*DEBT* is used to control for the debt covenant violations. *DEBT* is computed using debt/equity ratio. Like DeFond and Jiambalvo (1994), we predict a positive relation between *DEBT* and *DA*.

*FSIZE* is a proxy for the political cost incentive for earnings management. *FSIZE* is measured by the natural logarithm of sales. We obtain sales revenue from the annual reports and transform it to attain the natural logarithm of sales. Consistent with Watts and Zimmerman (1978), we predict an inverse relation between *FSIZE* and *DA*.

*IND* is used to mitigate the weakness of the size variable identified by Watts and Zimmerman (1986). They find that one of the weaknesses in using firm size as a proxy for political cost incentives is that it might be an indirect and possibly an inadequate measure of an industry's political exposure. Thus, we include industry as a control variable in this study. We classify *IND* using two digit codes to represent each industry class of the sample firms, as used by Mohamad (1994) in his study of capital structure among Malaysian companies.

Table 1 summarizes the definition and the predicted signs of the variables pertinent to the earnings management hypothesis.

## 6. EMPIRICAL RESULTS

The results are analyzed and presented in three parts below. Section 6.1 presents the descriptive statistics, section 6.2 provides the results of the *t*-test measuring the significant differences in the mean of the paired samples, and section 6.3 provides the result of the regression analysis.

### 6.1 DESCRIPTIVE ANALYSIS

Table 2 below provides the descriptive statistics of the sample data. Panel A of the table provides the mean, standard deviation, range, minimum, and the maximum for the whole sample. Panel B provides

TABLE 1
Definition and Predicted Signs of the Variables Used in the Earnings Management Hypothesis

| Variable | Predicted sign | Definition |
|---|---|---|
| *DA* | Dependent variable | Computed from the *TA* model and estimation of *NDA*. |
| *MUSLIM* | - | Percentage composition of Muslim managers in the top management. |
| *ROA* | + | Ratio of net income divided by total assets of the company. |
| *DEBT* | + | Debt/equity ratio. |
| *FSIZE* | - | Natural logarithm of sales revenue. |
| *IND* | ? | Dummy variable where *IND*1=1 if the firm is in industry 1, and otherwise; and so on |

the same for the Muslim firm sub-sample, while panel C provides the same for the non-Muslim sample.

The means of *DA*, *ROA*, and *FSIZE* are all marginally lower for the Muslim managed firms than the non-Muslim managed firms. The means for the *MUSLIM* and the *DEBT* are higher for the Muslim managed firms than the non-Muslim managed firms. This indicates that there is less *DA*, lower returns, and lower sales figures for the Muslim managed firms. The lower *DA* among the Muslim managed firms might indicate a possibility that the Muslim managed firms would resort to less earnings management practices than their non-Muslim counterparts. The test for the significance of the differences in the mean between the Muslim managed firms and the non-Muslim managed firms will be tested and discussed in section 6.2.

The mean of *DEBT* is unexpectedly higher for the Muslim managed firms than for the non-Muslim managed firms. The figure is expected to be lower as Islam discourages debt financing, and it is totally forbidden if the debt financing involves *riba* (usury). The mean of the *MUSLIM* variable is obviously higher for the Muslim managed firms.

TABLE 2
Descriptive Statistics of the Sample

| A: Descriptive Statistics for the Whole Sample (*n*=99) | | | | | |
|---|---|---|---|---|---|
| | Mean | Std. Deviation | Range | Minimum | Maximum |
| *DA* | 0.082 | 0.363 | 2.916 | -0.267 | 2.649 |
| *MUSLIM* | 0.350 | 0.316 | 1.000 | 0.000 | 1.000 |
| *ROA* | 0.068 | 0.181 | 1.642 | -0.584 | 1.058 |
| *DEBT* | 0.381 | 0.560 | 3.599 | -1.069 | 2.529 |
| *FSIZE* | 12.524 | 1.909 | 9.970 | 6.064 | 16.034 |
| B: Descriptive Statistics for the Muslim-Managed Firms Sample (*n*=33) | | | | | |
| | Mean | Std. Deviation | Range | Minimum | Maximum |
| *DA* | 0.034 | 0.256 | 1.585 | -0.267 | 1.318 |
| *MUSLIM* | 0.741 | 0.183 | 0.500 | 0.500 | 1.000 |
| *ROA* | 0.006 | 0.184 | 0.783 | -0.584 | 0.199 |
| *DEBT* | 0.482 | 0.737 | 3.599 | -1.069 | 2.529 |
| *FSIZE* | 12.460 | 1.933 | 9.705 | 6.064 | 15.769 |
| C: Descriptive Statistics for the Non-Muslim Managed Firms Sample (*n*=66) | | | | | |
| | Mean | Std. Deviation | Range | Minimum | Maximum |
| *DA* | 0.106 | 0.405 | 2.903 | -0.255 | 2.649 |
| *MUSLIM* | 0.157 | 0.138 | 0.444 | 0.000 | 0.444 |
| *ROA* | 0.099 | 0.172 | 1.322 | -0.264 | 1.058 |
| *DEBT* | 0.331 | 0.447 | 2.010 | 0.000 | 2.010 |
| *FSIZE* | 12.555 | 1.911 | 9.750 | 6.284 | 16.034 |

### 6.2 UNIVARIATE ANALYSIS

We further analyse the data to measure the significance of the differences in the mean of the *DA* between the Muslim managed firms and the non-Muslim managed firms. To perform such a test, we matched the Muslim managed firms and the non-Muslim managed firms by sales revenue. We are able to get 25 pairs and run a pairwise *t*-test on them. The result is provided in Table 3 below.

The result indicates that there is no difference between the means of the DA of the Muslim-managed firms and the non-Muslim managed

TABLE 3
Pairwise *t*-Test on 25 Pairs Matched by Sales Revenue

| *t*-test: Two-Sample Assuming Equal Variances | | |
|---|---|---|
| Firms | Muslim-Managed | Non-Muslim Managed |
| Variance | 0.078 | 0.101 |
| Number of observations | 25 | 25 |
| *t*-value | -0.532 | |
| *p*-value (two-tailed) | 0.597 | |

firms. Therefore, there is no statistical evidence to support the argument that Muslim-managed firms resort to less earnings management than their non-Muslim counterparts.

### 6.3 MULTIVARIATE REGRESSION ANALYSIS

The result of the multivariate regression analysis presented in section 5.2 is provided in Table 4 below.

The *R*-square is 0.335, the *F*-value is 2.097, and it is significant at 0.012 level. Of the variables tested only the *ROA* variable (and some industries variables) is found to be statistically significant. The other variables are found to be statistically not significant. This indicates that

TABLE 4
Regression Analysis

| Explanatory variables | Predicted sign | Regression coefficient | *t*-statistic | *p*-value |
|---|---|---|---|---|
| Intercept | | | -1.088 | 0.280 |
| *MUSLIM* | - | 0.006 | 0.065 | 0.949 |
| *ROA* | + | 0.428 | 3.690 | 0.00* |
| *DEBT* | + | -0.120 | -1.035 | 0.304 |
| *FSIZE* | - | 0.105 | 0.772 | 0.443 |
| No. of observations | | | | 99 |
| *R*-square | | | | 0.335 |
| *F*-value | | | | 2.097 |
| Significance | | | | 0.012 |

**Note**: *Significant at the 5% level (two-tailed).

the compensation plan is the only variable influencing earnings management practices among Malaysian firms.

The *MUSLIM* variable is found to be statistically not significant. This indicates that the composition of Muslim managers in the management team does not exert any influence over the earnings management practices among the Malaysian firms. The statistical non-significance of the *DEBT*, *FSIZE*, and most of the industries may probably indicate that the selection of the proxies is inappropriate. The bonus plan of the management compensation would be a better proxy for the management compensation hypothesis as was done in prior studies like Healy (1985) and Holthausen (1995). But the unavailability of such information limits the use of such a proxy. Similarly, the unavailability of a proper classification of industries, like the SIC in the US, restricts the use of a better proxy for the industry classification.

The choice of the *DA* estimation model (i.e., the Jones model) may also have caused such a result. A more sophisticated model like the modified Jones model (see Dechow et al., 1995) could be used in future research.

## 7. DISCUSSION AND SUMMARY

This study discusses the three economic reasons for earnings management practices, namely the management compensation plan hypothesis, the debt/equity hypothesis, and the political cost hypothesis. These three reasons stem from the opportunistic behavior on the part of the managers. Islam prohibits such opportunistic behavior.

This study measures the influence of Muslim managers on the earnings management practices among Malaysian firms. It compiled data for 99 firms over a period of 16 years to estimate the *DA* using the Jones model. The estimated *DA* is then compared with the actual *DA* for 1997 to measure the possibility of earnings management practices. This study finds no statistical evidence to conclude that Muslim managers practise less earnings management than non-Muslim managers. Hence, the levels of discretionary accruals of majority Muslim and minority Muslim firms are not significantly different. However, this possibility has to be further researched in future.

This study is an initial attempt to investigate whether religious background has an influence on earnings management practices.

Although the results indicate otherwise, it is hoped that this study will be a stepping stone towards more research in this area.

## ENDNOTE

1. Islamic scholars use analogy (called *qiyŒs*), reasoning (called *ra'y*) and statement of jurists' preference (called *istiúsŒn*) to determine *ijmŒ^c* (see Hamid et al., 1993; Baydoun and Willet 1997).

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