The Impact of Assets Disposal and Economic Crisis on the Valuation of Asset Write-offs

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Abstract

The financial crisis that occurred in Malaysia in the last decade followed by a series of corporate restructuring exercises trigger some firms to write off assets value. The incentives to write off may come from signalling future distress, current restructuring exercises, or taking the opportunity to blame the crisis. This scenario creates an opportunity to investigate the market reaction on different causes of asset write-off during a crisis period which is not found in prior studies. This paper examines the effect of specific events such as asset disposal and economic crisis on the valuation of asset write-offs. Asset write-offs related to disposal of assets (likely to be associated with streamlining business activities) and economic crisis (a factor beyond the control of the firm) are expected to receive less negative impact from the market compared to write-off events not associated with a disposal or crisis. The data consists of listed non-financial firms on Bursa Malaysia (3,301 firm-years) from financial year 1990 to 2000. A multivariate regression model is used to test the prediction. We find results which are not consistent with the predictions. One possible reason that can explain the results is that the market interprets asset write-offs to be associated with big-bath activities which subsequently would result in more discounts attached to such write-off.

Keywords: value relevance, valuation, asset write-offs, asset write-down, assets disposal, economic crisis.

1. Introduction

Accruals reporting are at the centre of financial accounting. Results in Dechow (1994), Dechow *et al.* (1998), and Pfeiffer *et al.* (1998) suggest that accruals have incremental explanatory content to cash flows in explaining share prices. Accruals also have the ability to predict future cash flows incremental to past cash flows. Therefore, these

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results support the intuition behind recognising accruals in financial reporting, that is, essentially accruals improve expenses and revenues matching in order to provide a better measure of firm performance. If the intention of the managers is as such, i.e. to signal private information (often called the signalling hypothesis), then accruals are valued positively.

However, accruals are subject to managerial discretion. Although accruals can be used to convey private information that can increase earnings informativeness (Watts and Zimmerman, 1986; Holthausen, 1990), accruals can also be affected by other opportunistic intentions such as to avoid losses (Burgstahler and Dichev, 1997), to smooth earnings pattern (Albrecht and Richardson, 1990; Ashari, Koh, Tan and Wong, 1994), or to increase managers' compensation (Healy, 1985; Holthausen, Larcker and Sloan, 1995; Gaver, Gaver and Austin, 1995; and Balsam, 1998). These incentives can affect the association between earnings (in general), and accruals (in particular), and share price or returns.

In this study, we investigate whether asset write-offs (one class of accruals) are used by the managers either to signal private information about the current value of the net assets or to mislead the users by taking a "big bath" at the right time in order to minimise market reactions. We examine this issue by studying the value placed by the market on the write-off information.Unlike prior research (such as Rees *et al.*, 1996; Strong and Meyer, 1987), we examine the effect of specific events such as asset disposal and an economic crisis on the valuation of asset write-offs. We predict that asset write-offs related to disposal of assets from discontinued operations will most likely be associated with streamlining business activities and would generate positive future firm performance and hence would receive less negative impact from the market. Similarly, we predict that the market would give fewer discounts to the firm's share price when the asset write-offs are related to an economic crisis i.e. a factor beyond the control of the firm. To our knowledge, there is no other study that has investigated this issue.

The financial crisis that occurred in Malaysia in the last decade impacted firms negatively within a very short time. The crisis forced many firms to make necessary restructuring exercises in order to sustain their operation in the market. During the crisis the government formed Corporate Debt Restructuring Committee (CDRC) to facilitate debt and corporate restructuring, and to avoid placing viable companies into liquidation or receivership. There are 36 companies which began their restructuring exercise in 1998 and 1999 under the CDRC supervision (Mohd-Saleh, 2003). One of the companies restructured under the CDRC supervision was Renong Berhad (and its affiliate UEM) which became the largest of the Malaysian restructuring exercise (Shimomoto, 2000).

Corporate restructuring may also trigger some firms to write off assets value[1] and blame the economic crisis to reduce the market reaction on such action. Therefore, this scenario creates an opportunity to investigate the market reaction to different causes of asset write-off during a crisis period which is not found in prior studies. We investigate two types of assets write-offs separately (goodwill and fixed assets write-off) because they differ in their nature (one being intangible and the other tangible). These items are selected because extant accounting standards do not provide proper guidance on the timing and magnitude of a write-off which makes the decision highly discretionary (will be elaborated in institutional background section). Further, Francis *et al.* (1996) found that manipulation incentives are not associated with property, plant and equipment write-offs, but play a significant role in determining goodwill write-offs and restructuring charges, which are more discretionary in nature. As such, fixed asset and goodwill write-offs are investigated separately.

The organization of the paper is as follows. The second section describes the institutional background of Malaysian accounting standard on fixed and goodwill assets, followed by a section on literature review and hypotheses development. Section four explains the method used to test the hypotheses, subsequently, followed by a section on the results. The final section deals with the conclusion of this study.

2.   Institutional background

The main reference for accountants apart from accounting standards is the Companies Act 1965. All companies incorporated under the Companies Act 1965 are required to provide information according to minimal disclosure requirements prescribed in the Ninth Schedule of the Act for the profit and loss accounts, the balance sheets and notes to the accounts. Prior to 1st September 1998, the Act made no specific reference to approved accounting standards, leading firms to follow only minimal requirements in the Ninth Schedule. After that date, the Companies (Amendment) Act 1998 incorporated a new section (Section 166A), which requires firms to comply with approved accounting standards[†] which were mainly adopted from standards issued by the International Accounting Standards Board (IASB). Section 166A(3) of the Companies Act 1965 states that the responsibility for compliance with approved accounting standards rests on the directors of the company. In addition, the directors also have to clearly report in a 'statutory declaration' that the accounts are in compliance with approved accounting standards (Section 169 (15c)). Any non-compliance with approved standards should be disclosed in the notes about the reasons and a quantified financial effect if the standards had been followed (Section 166A(5)).

[†]   An accounting standard-setting body Malaysian Accounting Standard Board (MASB) which was established in 1997 is responsible to review or develop new standards for approval.

The Securities Commission is also empowered by the Financial Reporting Act 1997 and the Securities Industry Act 1983 to enforce the use of the approved standards. The SC also examines firms' audited accounts and interim reports. A guideline issued in 1995 (Policies and Guidelines on Issue/Offer of Securities) outlines: 1) the responsibilities of public listed companies to make continuous disclosure of significant events concerning its affairs, 2) the obligations after listing (including annual, interim and related party reporting), and 3) standards and acts that deal with accounting requirements for such reporting purposes. In 1998, the Securities Commission also set up a Financial Reporting Surveillance & Compliance Department whose objective is to ensure that public listed companies comply with approved accounting standards. To exercise the power in relation to compliance to the approved accounting standards, Securities Industry Regulations 1999 was drafted. Paragraph 4 of the Regulation states that failure to comply with approved accounting standards is an offence. Further, in the case of any offence or irregularities, the SC can direct listed firms to rectify relevant financial statements, and/or to make announcements where appropriate.

Other than firms classified as financials,[‡] listed firms in Malaysia have other requirements outlined in the Bursa Malaysia Listing Requirements (formerly known as the KLSE listing Requirements). According to the guideline, listed firms have to comply with the approved accounting standards and the Companies Act in their annual and quarterly financial reporting (Appendix 9 Part K paragraph 9.26, preparation of annual audited accounts).

In sum, only since the past decade, a listed company must ensure that the annual audited accounts are prepared in accordance with approved accounting standards of the Malaysian Accounting Standards Board (MASB). It appears that compliance to approved accounting standards was only made mandatory in the late 1998 or 1999 when relevant regulatory bodies and acts were enforced. However, implementation wise, it may take some time for companies to fully comply with the standards as the whole nation was hit by a financial crisis. Therefore, it would be interesting to examine the issue of fixed assets and goodwill write-offs at a time when managers in Malaysia have more discretion over the issue compared to managers in the developed nations.

2.1   Accounting for goodwill in Malaysia

Accounting for goodwill has been the subject of considerable debate for a long time. The first point of contention is whether goodwill (purchased and internally generated) should be recognized as an asset that represents the value of its future economic benefits.

[‡]   A different set of requirements applies for financial institutions which are governed by the Banking and Financial Institutions Act 1989. The banking and financial institutions have to comply with the disclosure content and format of annual reports contained in an annual report specimen outlined in a Central Bank of Malaysia (Bank Negara Malaysia) guideline (BNM/GP8).

The second point of contention is related to the question whether reported goodwill have value relevance. In addition, Choi *et al.* (2000) question the practice of periodic amortization of goodwill, whether it reflects the decline of goodwill economic value. Unlike other intangible assets, goodwill, 'the most intangible among intangibles', cannot be individually identified and separately recognised from a firm. There is also a greater uncertainty in determining the useful life of goodwill in which it is supposed to contribute during its economic life (Choi *et al.* 2000). Its value can easily change due to economic and social factors uncontrollable by a firm.

At the international arena, the accounting for goodwill was initially discussed in IAS 22 *Business Combination*. However the standard was not adopted in Malaysia then. Instead, Malaysian Institute of Accountants (MIA), a regulatory body that regulate accounting practices, issued an exposure draft, MAS 6: *Accounting for Goodwill* in 1992. A survey was carried out by MIA and Malaysian Institute of Certified Public Accountants – MICPA (previously known as Malaysian Association of Certified Public Accountants – MACPA) to seek practitioners' opinion on the possibility of implementing the standard. Apparently, there were strong oppositions on the requirements of the new standard and eventually, the proposed standard was never implemented. MAS 6 proposed that purchased goodwill should be capitalized and amortized throughout the economic useful life of the asset not exceeding 25 years. The standard, consistent with IAS 22, did not allow for the recognition of internally generated goodwill. In 1997, when MASB was formed, it did not adopt MAS 6 as one of its approved accounting standards. Therefore, Malaysian firms during that period could use their own discretion on how to recognize and record goodwill. In 2001, MASB issued MASB 2: *Business Combination* which specifies the measurement of acquired goodwill in the case of corporate acquisition. Paragraph 74 of the standard mentions that goodwill acquired in a business combination should be treated in accordance with the generally accepted accounting principles on goodwill. MASB 23: *Impairment of Assets* does require that in the case of a cash- generating unit becoming impaired, the impairment loss should be allocated, first, to goodwill, and second, to other assets on a pro-rata basis.

2.2   Accounting for property, plant and equipment (PPE) in Malaysia

IAS 16 requires PPE (also referred to as fixed assets in this paper) to be depreciated systematically over their useful life. The depreciation method in this respect should reflect the pattern in which the asset's economic benefits are consumed by an enterprise. IAS 16 permits revaluation of PPE. The surplus from revaluation should be credited to equity (as revaluation reserves) without going through the income statement and subsequent decreases should be reversed against the previously created reserve for each asset. Firms may also write-off assets when they believe that the fair value is less than the carrying value on the balance sheet. The standard, however, does not provide detail guidelines in terms of the amount and timing of write-offs.

An explicit guidance on accounting for the impairment of long lived assets and intangible assets came into practice only recently when MASB 23 *Impairment of Assets* (now known as FRS 136) became effective starting from January 2006. The absence of guidance in previous years (which covers period under the study) resulted in diverse accounting practices across firms. While in the UK, firms preferred to write off purchased goodwill to equity to avoid effecting earning through the periodic amortization (Muller, 1999), Malaysian managers have to exercise their discretions to value goodwill.

3.   Literature review and hypotheses

Accounting write-offs refer to material, infrequent charges against earnings for downward asset revaluation or provision for future cost (Hirschey and Richardson 2003). The revaluation can be both partial and complete i.e. results in total write off of the asset's value (Francis *et al.* 1996). Since it is just a bookkeeping adjustment, write-offs do not cause any changes to the cash flows. Prior studies show that most of the write-off announcements are made in the fourth quarter (Francis *et al.* 1996; Ragothaman and Bublitz, 1996; Zucca and Campbell, 1992) due to budgeting and audit process that are occurring during the quarter.

Assets write-offs can be an important corporate event due to the large amounts involved and their implication on the firm performance and market value (Bartov *et al.* 1998; Hirschey and Richardson 2003). A study by Rees *et al*., (1996) for the period 1987-92 in the US, finds that assets write-offs on the average represent 5.52% of total assets. Other studies by Ragothaman and Bublitz (1996) and Francis *et al*., (1996) for the period 1980-85 and 1989-92 show that on the average assets write-offs amounting about US$102.28 million or US$1.77 per share. The size and scope of the current write-offs suggest that companies may be quietly accumulating problems for some time and are only recognizing the problem in the financial statements at one time (Strong and Meyer, 1987). Once a company announces and recognizes a huge asset write-off, it may be too late for the investors to liquidate their investments. This is consistent with Jennings *et al.* (1996) that purchased goodwill may not be declining in value for many firms, and for those firms where there is a declining in value, the actual rate of decline may differ substantially from the accounting amortization rate.

On the other hand, management may also write off assets to reflect the actual decline in the economic value of assets. In this case, write-off is a signal that the company is taking a necessary step to enhance its economic value in the future. Signalling theory suggests that the owner of a high-quality firm have the tendency to send out a signal distinguishing the firm from low-quality firms to investors. When investors accept the signal, they pay a premium price for the high-quality firm (Ross, 1977). This argument is consistent with studies that have found that asset write-offs are related to restructuring

exercise in firms (Rees *et al.*, 1996). In many other studies, asset write-offs are related to a decline in the past, current, or future operating performance (Rees *et al.*, 1996; Strong and Meyer, 1987; Zucca and Campbell, 1992) and stock performance (Francis *et al.*, 1996; Rees *et al.*, 1996).

Nevertheless, Strong and Meyer (1-987) find that firms announcing asset write- downs are neither the strongest nor weakest in the respective industries. They find that a change in senior management, especially if the new management comes from outside a company, is an important determinant of write-off decisions. This finding is consistent with big-bath hypothesis that managerial changes induces restructuring, and that write-downs are more likely to occur when the new management was not associated with prior investment and asset management decision. Similar finding is also evident in Francis *et al.* (1996). Some other studies also find that write-offs are also more likely to happen in capital intensive industries (Zucca and Campbell, 1992). Therefore, in the absence of explicit accounting standards and guidelines, management can use their discretion on the amount and timing of asset write-off. They have the opportunity to shift accounting earnings across fiscal periods by not recognising impairment when it has occurred in one period and recognising a write-off when it is advantageous for them to do so, in another period. For example, write-offs can be used to smooth income (Francis *et al.* 1996).[2]

Market reactions to asset write-off information vary. Information on asset write-offs can represent good news when the market perceives that management is getting rid of unprofitable business or assets, and focusing on its core competence. The new information means the company is cleaning up the balance sheet and reducing its equity to boost future profit and shareholders' return. Brennan (1991) argues that write-offs signal better prospects for future operating net income because there will be a future decrease in depreciation expenses. Asset write -offs may also result in tax saving (Ragothaman and Bublitz, 1996) when the criteria for tax deductions are met. Therefore, if write- offs are associated with events perceived favourably by the market, then the asset write- off announcement of disclosures will be associated with positive market return.

Information on assets write-offs can represent bad news when reduction in assets value represent the reduction of economic benefit in the future (Ragothaman and Bublitz 1996). The new information suggests that assets have become impaired and the future expectation of cash flow may reduce. Furthermore, if debt covenants are stated in accounting term, then write-off assets can have adverse effect on certain financial ratios and increase the likelihood of debt covenants violation. In essence, if firms have tight covenants, asset write-offs may imply bad news and this can lead to a negative stock price reaction. Consistent with this, Hirschey and Richardson (2003) reveal that market returns (measured using market model, mean-adjusted, and market adjusted

Cumulative Abnormal Market Return) are significantly negative during the write-off announcement. The market returns are negative and significant (at the range of 2 – 3%) during the goodwill write-off announcement period.

Overall past studies have provided inconsistent evidence on the affect of assets write-off decision to the capital market. Studies by Ragothaman and Bublitz (1996) and Strong and Meyer (1987) find that market react positively towards write-offs announcement. However, Hirschey and Richardson (2003) find that market reacts negatively, and Francis *et al.*, (1996) show that market reaction can be positive or negative.

We follow Hirschey and Richardson (2003) to expect a negative relationship between market valuation and asset write-offs. This implies asset write-offs may signal important information about a deterioration in the firm's future profit-making potentials (Zucca and Campbell, 1992). Therefore, the hypothesis is stated as follows:

H_1 : There is a negative relationship between market valuation and fixed asset (goodwill) write-offs.

Disposal of assets occurs when management is getting rid of unprofitable line of business or assets and focusing on its core competence (FRS 136, Mohd-Saleh and Jaffar, 2006). If a line of business is discontinued, there is a high likelihood that assets related to the discontinued business will be disposed through sales or written off. Therefore, asset write-offs will be most likely to be associated with streamlining business activities and would generate positive future firm performance. However, since the market might not be able to perceive the full benefit from the reorganization exercise, the positive market reaction might not be observed. Consistent with this argument, we investigate whether the expected negative market return resulting from assets write-off will be less negative if the write-off is due to discontinuance of a business unit compared to the 'normal' write-off decision.

This prediction in also consistent with the argument that asset write-offs during non-disposal period (when there is no other concurrent disposal of assets) may be perceived by the market as containing too much managerial judgement (due to the timing and amount of assets write-off), which can lead to a possibility that the item is used to manage earnings. We predict that market reaction will be less negative because we still believe that the majority of the market players still consider asset write-off as a signal of some deterioration of future performance. Therefore, the hypothesis is stated as follows:

H_2 : The market valuation of fixed asset (goodwill) write-offs is less negative in the period of asset disposal period compared to non-disposal period.

Malaysian firms signal future deterioration of performance and cash generating ability of the assets by writing off assets value (Mohd-Saleh and Jaffar, 2006). Despite the fact

that asset write-offs may signal future performance, we suspect that managers may also write off assets massively during economic crisis as they can blame the economic crisis as an excuse to justify the write-offs (Mohd-Saleh and Jaffar, 2006). This prediction is consistent with the work of Loh and Tan (2002) which found the frequency of asset write-offs are positively related to unemployment rate, while the magnitude of asset write-offs are negatively related to the national gross domestic product (GDP) of a country. Moreover, when the economic crisis is severe, asset write-offs may become huge and widespread. The explanation to the phenomenon is beyond the macro economic factors identified in the literature because managers can blame the economic crisis for the write-offs.

Managers expect the market would give fewer discounts to the firm's share price when asset write-offs are related to the crisis, i.e. a factor beyond the control of the firm. This is consistent with prior studies examining the behaviour of managers in selecting the best time for asset write-offs. Firms tend to disclose asset write-offs in the fourth quarter, consistent with the view that market reactions to bad news are smaller in the fourth quarter compared to the first three quarters (Elliot and Shaw, 1988). Anecdotal evidence also support that the massive asset write-offs phenomena were observed in the U.S. during difficult period of 1970 (Forbes [March 1, 1971] pp. 42, 43) and in 1985 (Business Week [March 17, 1986], p.3) and also in Australia during the capital market downturn in 1987 (Walsh *et al.*, 1991). However, the expectation that the market would give fewer discounts to share price when assets are written off during an economic crisis period has never been investigated before. To investigate this issue, we formulate the below hypothesis:

H_3 : The market valuation of fixed asset (goodwill) write-offs is less negative in crisis period compared to non-crisis period.

4.   Methodology

This study only analyses fixed asset and goodwill write-offs. These write-offs are likely to be transactions that do not result from actual transactions, and the timing of which is discretionary (DeAngelo *et al.*, 1994; Mohd-Saleh and Jaffar, 2006).

The data was gathered from the Thompson Financial *DATASTREAM* database that covers accounting period from financial year 1990 to financial year 2000. Only listed firms on Bursa Malaysia (previously known as Kuala Lumpur Stock Exchange) are covered by the database. We exclude firms from finance and unit trust industries because the reporting and regulatory requirements are different from other industries, and warrant a separate study. This study also excludes firm-years with negative earnings since the relation between market value of equity and earnings for these cases is anomalous (Hayn, 1995). According to Hayn (1995) the market only attaches value to earnings which are expected to perpetuate in the future i.e. only occurs in firms

with positive earnings. After eliminating firms-years with incomplete data, the sample consists of 3,310 firm-years. However, due to some outliers, when we ran equation 1 regression, we trimmed the sample by eliminating observations with residuals of more than three standard deviations. Finally, we used 3,301 firm-years to test our predictions.

This study uses Ohlson's (1995) price model and Graham, King and Bailes's (2000) model to examine the value relevance of earnings and book value (Equation (1)). The dependent variable is the market value per share ($MVPS_{it}$) defined as market value of equity divided by total number of shares i.e. the share price three months after the end of period t.[3] This model is derived from the residual or abnormal earnings model, with the assumption of (1) clean surplus accounting i.e. an increase in the book value of equity only occur with income (or loss) and net owner investments (or withdrawals), and (2) reported earnings (consists of normal and abnormal earnings) is a good surrogate for expected abnormal earnings since normal earnings have a low variance (Graham *et al.*, 2000).

$$MVPS_{it} = b_0 + b_1 EARNPS_{it} + b_2 BVEPS_{it} + e_{it} \text{ --(1)}$$

Where:

$MVPS_{it}$	:	Market value of equity three months after the end of period t divided by total number of shares,
$EARNPS_{it}$	:	Earnings at the end of period t divided by total number of shares, and
$BVEPS_{it}$	:	Book value of equity at the end of period t divided by total number of shares.

To test hypothesis 1, earnings (*EARNPS*) is then decomposed into three components i.e. fixed asset write-offs (*FAWOPS*), goodwill write-offs (*GWWOPS*) and other components of earnings (*OTHERPS*). The model is described in equation (2). Therefore, the independent variables include *FAWOPS* (fixed asset write-offs), *GWWOPS* (goodwill write-offs), *EARNPS* (profit before asset write-off, tax and extraordinary items),[4] *BVEPS* (book value of equity) and *OTHERPS* (*EARNPS* minus *FAWOPS* and *GWWOPS* i.e. other components of earnings), all deflated by the total number of shares.

$$MVPS_{it} = b_0 + b_1 FAWOPS_{it} + b_2 GWWOPS_{it} + b_3 OTHERPS_{it} + b_4 BVEPS_{it} + e_{it} \text{ ----(2)}$$

Where:

$FAWOPS_{it}$	:	Fixed assets write-off at the end of period t divided by total number of shares,
$GWWOPS_{it}$	:	Goodwill write-off at the end of period t divided by total number of shares, and
$OTHERPS_{it}$	:	Other than write-off components of earnings at the end of period t divided by total number of shares. Other variables are as defined in equation (1).

To test hypothesis 2, a dummy variable (DISPOSAL, being 1 for firm-years that recorded asset disposals and 0 otherwise) is included as an interaction term to FAWOPS and GWWOPS. This study predicts that b_5 and/or b_6 in equation (3) is/are significantly positive, indicating that fixed assets and/or goodwill write-offs during the period of asset disposal has/have significantly less negative relationship to return compared to the relationship of these write-offs and return during non-disposal period.

$$MVPS_{it} = b_0 + b_1 FAWOPS_{it} + b_2 GWWOPS_{it} + b_3 OTHERPS_{it} + b_4 BVEPS_{it} +$$
$$b_5 FAWOPS_{it} * DISPOSAL_{it} + b_6 GWWOPS_{it} * DISPOSAL_{it} + e_{it} \text{\_-----------------------(3)}$$

Where:
$DISPOSAL_{it}$: Being 1 for firm-years that recorded asset disposals and 0 otherwise. Other variables are as defined in equation (1) and (2).

For hypothesis 3, a dummy variable, CRISIS is introduced (see equation (4)). The variable takes the value of 1 if the accounting period of an observation falls within the crisis period and 0 otherwise.[5] This study predicts that b_5 and/or b_6 is/are significantly positive, indicating that fixed assets and/or goodwill write-offs during the period of asset disposal has/have significantly less negative relationship to return compared to the relationship of these write-offs and return during non-disposal period. Later, the sample was also divided into crisis and non-crisis samples to test the stability of the result of equation (3) estimation across different economic climates.

$$MVPS_{it} = b_0 + b_1 FAWOPS_{it} + b_2 GWWOPS_{it} + b_3 OTHERPS_{it} + b_4 BVEPS_{it} +$$
$$b_5 FAWOPS_{it} * CRISIS_{it} + b_6 GWWOPS_{it} * CRISIS_{it} + e_{it} \text{\_\_-------------------------------(4)}$$

Where:
$CRISIS_{it}$: Being 1 if the accounting period of an observation falls within the crisis period and 0 otherwise. Other variables are as defined in equation (1), (2) and (3).

5.   Results

The descriptive statistics of the variables used in the test are presented in Table 1. The mean of market value per share (*MVEPS*) is 5.3441 for all observations. The mean is higher for non-disposal sample (9.0498) compared to the disposal sample (4.8718). However, unlike Graham *et al.* (2000), we found the mean of *MVEPS* of crisis sample and non-crisis sample similar. The standard deviations of all variables are quite high. The mean and median values of fixed and intangible assets write-offs per share are very small because the amount of write-off is small and not all firms write-off assets. Therefore, we use the White's Heteroscedasticity Consistent Standard Errors regression procedures to reduce the effect of heteroscedasticity.

Table 1

Descriptive statistics

	MVEPS	FAWOPS	GWWOPS	EARNPS	BVEPS	OTHERPS
All cases (N=3,282)						
Mean	5.3441	0.0040	9.0×10^{-4}	0.3783	2.4597	0.3831
Median	3.3400	0.0000	0.000	0.2581	1.9450	0.2630
Std.Dev	9.1188	0.0191	0.0119	0.4833	3.0319	0.4853
Disposal sample (N=2,913)						
Mean	4.8718	0.0041	1.0×10^{-3}	0.3767	2.3778	0.3818
Median	3.2600	0.0000	0.000	0.2589	1.9453	0.2649
Std.Dev	6.6271	0.0171	0.0126	0.4631	2.2762	0.4652
Non-disposal sample (N=369)						
Mean	9.0498	0.0032	2.0×10^{-4}	0.3905	3.1020	0.3939
Median	4.3100	0.0000	0.0000	0.2471	1.9332	0.2524
Std.Dev	19.4000	0.0305	0.0013	0.6204	6.3477	0.6216
Crisis sample (N=629)						
Mean	5.4297	0.0038	7.0×10^{-4}	0.4410	2.5113	0.4455
Median	3.4600	0.0000	0.0000	0.2934	1.9170	0.2934
Std.Dev	6.6767	0.0144	0.0043	0.5642	1.9926	0.5670
Non-crisis sample (N=2,653)						
Mean	5.3240	0.0040	1.0×10^{-3}	0.3635	2.4475	0.3685
Median	3.3200	0.0000	0.0000	0.2532	1.9570	0.2582
Std.Dev	9.6054	0.0200	0.0131	0.4611	3.2287	0.4628

Note: All variables are as previously defined

The correlations among variables are presented in Table 2. The highest level of correlations is between *EARNPS* and *OTHERPS* (Pearson correlation coefficient =0.999). We expect this to happen because *OTHERPS* (i.e. *EARNPS* – *FAWOPS* – *GWWOPS*) is a major component of *EARNPS*. However, these two variables are not estimated in the same equation (see equation 1 to 4). Overall, the relation among independent variables are lower than 0.700 indicating multicollinearity is not a major concern. Nevertheless, the relation between (1) *EARNPS* and *BVEPS* and (2) *BVEPS*

and *OTHERPS* is positively significant with coefficients of more than 0.500. Although the coefficient is not large enough to conclude there is a multicollinearity problem, we performed additional test to confirm our belief.

The table also shows that the correlation between *MVEPS* and *FAWOPS* is significantly negative (coefficient 0.048 significant at p<0.001) for disposal sample[6] (Panel B). In contrast, the correlation between the two variables is non-significant in non-disposal sample (coefficient -0.047, see Panel C). To this extent, we believe that there is a differential market perception to fixed asset write-offs in sub-samples of firms. Panel A of the table also shows that the correlation between *FAWOPS* and *GWWOPS,* and between *FAWOPS* and *EARNPS* are generally positive. This result suggests that fixed and intangible assets write-offs are more prominent during high earnings level and vice versa. This implies that firms use write-off assets as a smoothing strategy (Panel A), particularly in selecting the time to dispose assets that may lead to asset write-offs (Panel B), and during the crisis period (Panel D).

Table 2

Pearson correlations[a]

Panel A: All cases (N=3310)						
	MVEPS	*FAWOPS*	*GWWOPS*	*EARNPS*	*BVEPS*	*OTHERPS*
MVEPS	1.000					
FAWOPS	-0.091***	1.000				
GWWOPS	0.011	0.059***	1.000			
EARNPS	0.542***	0.053***	-0.006	1.000		
BVEPS	0.427***	0.091***	0.065***	0.549***	1.000	
OTHERPS	0.540***	0.081***	0.014	0.999***	0.551***	1.000
Panel B: Disposal sample (N=2936)						
	MVEPS	*FAWOPS*	*GWWOPS*	*EARNPS*	*BVEPS*	*OTHERPS*
MVEPS	1.000					
FAWOPS	-0.085***	1.000				
GWWOPS	-0.008	0.061***	1.000			
EARNPS	0.537***	0.066***	-0.003	1.000		
BVEPS	0.373***	0.103***	-0.068***	0.544***	1.000	
OTHERPS	0.534***	0.092***	-0.020	0.999***	0.545***	1.000

(continued)

Panel C: Non-disposal sample (N=374) – less sig

	MVEPS	FAWOPS	GWWOPS	EARNPS	BVEPS	OTHERPS
MVEPS	1.000					
FAWOPS	-0.047	1.000				
GWWOPS	-0.010	-0.012	1.000			
EARNPS	0.589***	-0.002	-0.036	1.000		
BVEPS	0.676***	-0.037	-0.054	0.572***	1.000	
OTHERPS	0.589***	0.039	-0.035	0.999***	0.575***	1.000

Panel D: Crisis sample (N=631)

	MVEPS	FAWOPS	GWWOPS	EARNPS	BVEPS	OTHERPS
MVEPS	1.000					
FAWOPS	-0.025	1.000				
GWWOPS	-0.013	0.023	1.000			
EARNPS	0.574***	0.191***	-0.066*	1.000		
BVEPS	0.589***	0.173***	-0.112***	0.588***	1.000	
OTHERPS	0.572***	0.207***	-0.059	0.999***	0.589***	1.000

Panel E: Non-crisis sample (N=2679)

	MVEPS	FAWOPS	GWWOPS	EARNPS	BVEPS	OTHERPS
MVEPS	1.000					
FAWOPS	-0.108***	1.000				
GWWOPS	-0.011	0.066***	1.000			
EARNPS	0.534***	0.015	0.007	1.000		
BVEPS	0.373***	0.069***	-0.053***	0.537***	1.000	
OTHERPS	0.532***	0.048**	-0.032	0.999***	0.539***	1.000

Note: All variables are as previously defined

*, **, ***, significant at 10%, 5% and 1%, respectively (based on 2-tailed test).

The results of multiple regression models are presented in Table 3. Consistent with prior research, the table shows that earnings and book value are positively related to the market value of equity. When earnings is represented by its components i.e. fixed and intangible assets write-off and other accruals, we found the relations between the market value of equity and the write-off components are negative, while the relation to other accruals is positive. Therefore, a positive relation between the market value of equity and earnings is due to other accruals. However, the goodwill write-offs are not significantly related to the market value of equity. This is in contrast to O'Hanlon and Pope (1999) that goodwill write-off of U.K. firms received a negative valuation by the market. This difference could be due to the number of goodwill write-offs in Malaysia is very limited and do not correspond to the changes in the market value of equity.

When the sample is split into disposal and non-disposal firms, we found that a negative relation between the market value of equity per share and fixed asset write-offs only exist in firms recording concurrent disposal of assets sub-sample. This result suggests that fixed asset write-offs received a negative perception by the market when the events are associated with disposal of assets (total write-off). The result is not consistent with our hypothesis (H_2) that predicts the fixed asset write-offs during disposal of assets (more likely to be related to streamlining activities) may receive less negative impact in the market. We investigated this issue further and the results are presented in Table 5.

The results in Table 4 also show that the coefficient of fixed asset write-offs is smaller (and less significant) in non-crisis period. This is in contrast to our prediction that the negative impact of asset write-off should be smaller in crisis period because the event is associated with the general crash in the market. However, we ran another test to investigate the significance of the difference in the coefficient. The results are shown in Table 5.

Table 3

The effect of assets disposal on the value relevance of assets write-off.[a]

Dependent variable: Market value per share						
Independent variables	All cases	All cases	Disposal firms	Non-disposal firms	Crisis	Non-crisis
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.313***	0.314***	0.323***	0.333***	0.266***	0.331***
	(35.323)	(35.337)	(34.032)	(13.731)	(14.489)	(32.435)
EARNPS	0.292***	-	-	-	-	-
	(20.842)					
BVEPS	0.360***	0.362***	0.254***	0.823***	0.569***	0.295***
	(13.501)	(13.565)	(8.800)	(12.692)	(10.828)	(9.579)
FAWOPS	-	-0.786***	-1.038***	-0.384	-2.469***	-0.577*
		(-2.510)	(-2.813)	(-0.650)	(-2.765)	(-1.726)
GWWOPS	-	-0.359	-0.281	7.596	3.176	-0.462
		(-0.754)	(-0.605)	(0.544)	(1.095)	(-0.952)
OTHERPS	-	0.292***	0.323***	0.145***	0.248***	0.308***
		(28.870)	(21.488)	(4.111)	(8.971)	(18.973)
Adj.R^2	0.286	0.286	0.264	0.485	0.424	0.253

Note: All variables are as previously defined

[a] Numbers in parentheses are t-statistics. *, **, ***, significant at 10%, 5% and 1%, respectively (based on 2-tailed test).

Table 5 shows the interaction effect of the disposal of assets and the crisis events on the value relevance of accounting write-offs. Results presented in column (2) indicate that the relation between fixed asset write-offs and market value of equity is stronger in asset disposal sub-sample compared to the non disposal sub-sample. This result suggests that recorded asset write-off concurrent with a disposal does receive significantly more negative market valuation compared to recorded asset write-off without concurrent disposal. The coefficient on fixed asset write-off cease to be significant when we include the disposal and asset write-off interaction variable which indicates a pure moderating effect (see column 2). In other words, the negative valuation effect of fixed asset write-off is contributed by the write-offs recorded concurrent with disposal of assets. Otherwise, the market would not attach any value to fixed asset write-off. This result is in contrast to our prediction that the market would perceive asset write-off more negatively when the write-off is not associated with a disposal of asset compared to when it is associated with a disposal. One possible reason that can explain the result is that asset write-off concurrent with disposal of assets can be associated with big-bath activities carried out by firms. This big-bath activity, if seen by the market, would result in more discounts attached to such write-off activities.

We are unable to test the effect of asset disposal event on the valuation of goodwill write-off as we cannot run a single regression utilizing asset disposal and goodwill write-offs interaction variable. This is because goodwill write-offs are highly correlated with asset disposals.[7] In this regard, inclusion of both, goodwill, and the interaction between goodwill and disposal variables, would result in a regression with significant multicollinearity problem.

Table 4

The interaction effect[a]

Dependent variable: Market value per share		
Independent variables	All cases (1)	All cases (2)
Intercept	0.314*** (35.205)	0.316*** (35.423)
BVE	0.362*** (13.592)	0.361*** (13.535)
FAWO	-0.584* (-1.762)	0.192 (0.350)
GWWO	-0.465 (-0.963)	-0.304 (-0.636)

(continued)

Dependent variable: Market value per share		
Independent variables	All cases (1)	All cases (2)
OTHER	0.294*** (20.955)	0.293*** (20.937)
CRISIS*FAWO	-1.724* (-1.841)	-
CRISIS*GWWO	3.130 (1.041)	-
DISP*FAWO	-	-1.436** (-2.164)
Adj.R^2	0.287	0.287

Note: All variables are as previously defined

[a] Numbers in parentheses are t-statistics. *, **, ***, significant at 10%, 5% and 1%, respectively (based on 2-tailed test).

Column (1) of table 4 presents result which is in contrast to our prediction. It indicates fixed asset write-offs received marginally more negative impact in the market if recorded during crisis compared to non-crisis period (at $p < 0.10$). Therefore, we explore this issue further. We conjecture that this phenomenon could be due to big-bath activities which are more prevalent during the crisis period, partly because managers can blame the crisis as the reason to write off more assets. This argument is partially supported by the fact that nearly 92% of firm-years in the crisis period recorded disposal of assets compared to 88% of firm-years in non-crisis period have recorded disposal of assets (chi square test = 8.080, $p < 0.01$). A lack of operational variable that can be used to test this expectation directly is a major limitation to this study.

6.   Conclusion

In this study, we examined the effect of specific events such as asset disposal and economic crisis on the valuation of asset write-offs. The results are not consistent with the predictions that that asset write-offs related to disposal of assets from discontinued operations receive more negative impact from the market and that the market give greater discounts to the firm's share price when the asset write-offs are related to the crisis. One possible reason that can explain the results is - the market interprets asset write-offs to be associated with big-bath activities which subsequently would result in more discounts attached to such write-off. A new standard related to asset write-off is needed in order to give guidance to firms in this issue. The issuance of the new "impairment of assets" standard which is adopted internationally is very timely.

However, the effectiveness of the requirements in the new standard in limiting financial statement manipulations is subject to further research.

A major limitation of this study is that accruals and its components may be used by managers to signal private information. Subramanyam (1996) provide results which are consistent with the claim that managers convey private information through accruals. Although Subramanyam's (1996) findings show that return correctly prices earnings components,[8] the results in Sloan (1996) and Xie (2001) suggest otherwise. Unlike the traditional view that stock prices fully impound all publicly available information, Sloan (1996) states that investors react irrationally to earnings. The results suggest that the market puts higher (lower) emphasis on accruals (cash flows) although accruals (cash flows) are less (more) persistent in earnings performance. Recent evidence by Xie (2001) also demonstrates that the results found by Sloan (1996) are largely due to the market overpricing abnormal accruals and functionally fixating on bottom line earnings. However, results in Ali *et al.* (2000) reject this naïve investor hypothesis. Thus, given the mixed interpretation of the market valuation on earnings and accruals, studies with findings of accruals (and its components) being priced by the market should be interpreted with caution.

We also acknowledge that a lack of operational variable that can be used to test big-bath motivation to asset write-off directly is a major limitation to this study. An in depth examination on big-bath motivation and the role of (and the types of) company restructuring in Malaysia that gives rise to signalling behaviour is subject to further research.

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[1] In one corporate restructuring case supervised by the CDRC, it is clearly indicated in the annual report prior to the restructuring exercise that provision/write down will only be made against certain material assets upon the finalisation and implementation of the restructuring scheme (Time Engineering Berhad Annual Report, 1999).

[2] The increasing number of assets write-downs or write-offs in the last decades have captured the attention of the standard setting authority. At the international level, IASC (now IASB) issued IAS 22 Business Combinations that stated that acquired goodwill shall be capitalized and amortized not exceeding over 20 years. Now, starting from January 2006, Malaysia adopted IFRS 3 and called the standard as FRS 3. Under the new regulation, goodwill is not amortized but subject to impairment tests (FRS 136).

[3] Consistent with efficient market hypothesis, we assume the information is already impounded in the market price three months after end of year even though some of the annual reports may not be available on that date.

[4] We use profit before write-off because the focus of this study is asset write-offs. Some of the write-offs are predicted to be managed, and hence would reduce the value relevance of accounting earnings after deduction of the item. Therefore, to delineate the effect of asset write-offs, we decompose earnings in equation (2) and (3).

[5] Consistent with Mohd-Saleh and Jaffar (2006), we define economic crisis as period from July 1997 to financial year ending December 1998. This period witnessed a sharp decline in the value of the Ringgit, which fell by almost 100% within one year ending in August 1998 (Bank Negara Malaysia, 1998) and the stock market indices decreased sharply from 1,270 points in February 1997 to approximately one-third of the level (302 points), in August 1998 (Bank Negara Malaysia, 2000).

[6] Disposal sample is defined as sample firms that recorded disposal of assets in the profit and loss statement.

[7] The highest VIF value is 22.881 which is greater than cut off 10 for severe multicollinerity problem.

[8] Because the market prices abnormal accruals, and abnormal accruals also have a positive relationship with future profitability, Subramanyam (1996) suggests that this evidence is supportive of the claim that accruals are used to signal private information and the market impound this information in the stock price.