

# SHOULD GOODWILL BE AMORTISED? EMPIRICAL EVIDENCE FROM UAE

*Yousef Shahwan*  
University of Sharjah,  
United Arab Emirates

*Accounting for goodwill is one of the most controversial issues in financial reporting. This study provides empirical evidence on whether goodwill amortisation requirement is inappropriate. It analyses the information content of goodwill amortisation in the determination of firm's market valuation by Emirates Financial Market Listed companies that clearly reported goodwill amortisation over the period 1990 to 2002 inclusive. Evidence suggests that there is a statistically insignificant association between equity market values and goodwill amortisation in the determination of firms' market valuation, concluding that the UAE market does not perceive goodwill amortisation as having information content when valuing firms, and the use of standardised amortisation requirement may be inappropriate.*

**Keywords:** *Accounting standards-setters, goodwill amortisation, systematic amortisation, annual impairment test, Abu Dhabi Securities Market (ADSM), Dubai Financial Market (DFM)*

## Introduction

In July 2001, the Financial Accounting Standards Board (FASB) issued the new Statement of Financial Accounting Standards (SFAS) 142 "Goodwill and Other Intangible Assets". The new standard requires goodwill be recognised, as the prior standard did under the purchase method, but does not require the amortisation of goodwill. Instead, it requires goodwill be reviewed if evidence exists that goodwill of a reporting unit has been impaired. Goodwill will be considered impaired if the fair value of the reporting unit's goodwill is less than its carrying amount. In July 2001, the International Accounting Standards Board (IASB) identified the accounting for goodwill as a high priority. The international board commenced a project on Business Combinations, including the recognition and measurement of acquired goodwill, and the amortisation and impairment approaches. Finally, the IASB came up with the International Accounting Standard (IAS) 38 "Intangible Assets" that requires the amortisation of goodwill, which will be mandatory in Europe in 2005. Thus, the issue of goodwill amortisation has an international significance as the IAS 38 has been adopted in several countries is now in conflict with US GAAP.

This study empirically investigates the information content of goodwill amortisation, the expense, in UAE equity markets. The UAE is a prosperous emerging economy that is “first world” in all significant aspects. UAE equity markets are active and accounting regulators in the UAE have indicated a clear preference for transparency and accountability. IASs are currently mandatory in UAE. A study based in the UAE is not necessarily generalizable outside the UAE, but it would be useful to provide a guide to other emerging equity markets. According to the sample companies of the study, goodwill represents the excess of the cost of the acquisition over the fair value of identifiable net assets of a subsidiary or associate at the date of acquisition. Goodwill is amortized using the straight-line method over the expected period of benefit being 10 years. As the sample of the study includes only listed companies in Emirates Financial Markets, they are expected to apply the International Accounting Standards (IAS) in accounting and financial reporting.

## Literature Review

Accounting for goodwill has been one of the most controversial issues in contemporary accounting. According to Davis (1996), it is argued that any arguments for investigations to goodwill accounting and disclosure practices must take into consideration how current capital market participants use intangible data. Among other capital markets research, McCarthy and Schneider (1995), Jennings, et al. (1996), and Godfrey and Koh (2001) have supported the notion that asset goodwill has information content with respect to the market. It has been argued that the market reaction to goodwill numbers is not the only valid indicator of information content, but the market response is a major factor. As these researches are found of direct implications for this study design and hypotheses, they are briefly reviewed below.

McCarthy and Schneider (1995) analyse the market perception of goodwill as recognised by US GAAP in the determination of the firm’s valuation. Their sample consists of all firms listed in the US and who reported goodwill in the years 1988 to 1992. They estimate a model that includes both statements of financial position and performance components to explain the market value of the firm. They find a positive and significant relationship between reported goodwill and firm market value. They also find that goodwill has coefficient values greater than those of other assets in all years under study. They overall conclude that goodwill appears to be perceived by the market as significant and the market values goodwill, at least, to the same degree as it values other assets.

Jennings et al. (1996) investigate whether goodwill asset and expense numbers are related to the market value of US firms for the period 1982 to 1988. To address the financial position statement issue, they estimate a model that relates market value of equity to components of accounting net assets, including net goodwill. To address the financial performance statement issue, they estimate a model that relates market value of equity to components of expected future earnings, including goodwill amortisation. In their balance sheet model they find a strong positive association between equity values and reported goodwill asset amounts. They find in their earnings capitalisation model a weak negative association between equity values and goodwill amortisation, suggesting that such association may vary substantially across firms.

Godfrey and Koh (2001) investigate whether capitalisation of research and development (R&D), other identifiable intangibles as a group (eg., patents, brandnames, mastheads, licences), and unidentifiable intangible assets (goodwill) affects the market value of equity in Australian firms. Their sample is based on 172 firms with reported intangible assets for the year 1999. In order to evaluate the value-relevance of capitalised intangible assets, they initially develop a model that relates the market value of equity to the book value of capitalised tangible and intangible assets and liabilities. They then extend the scope of their initial model to allow for individual parameters for goodwill, R&D and other identifiable intangibles. In their initial model they find a strong positive association between total intangible assets and equity market values. In their extended model they find a strong positive association between reported goodwill and equity market values and goodwill coefficient has the largest value compared to other variables in the regression model. They also find a negative and insignificant association between R&D and firm market value. They conclude that not all types of capitalised intangible assets are value-relevant. The capitalisation of goodwill and identifiable intangible assets add value to firm valuation. The market places greater value on capitalised goodwill than on other financial position statement items. They also find that the capitalisation of R&D costs is not value-relevant to firms' valuation.

Despite the massive amount of research in accounting for goodwill, very little attention seems to be given to investigate the information content of goodwill amortisation. Previous studies are conducted in established economies and they find that capitalisation of goodwill assets are value-relevant to valuation firms. However, no study has attempted to assess whether investors place value on goodwill amortisation when valuing firms in emerging economies like that of the UAE. This situation needs further investigation in order to contribute to the current debate. Thus, this study analyses the market perception of goodwill amortisation in the determination of market valuation in UAE. It is the first attempt to provide a guide to emerging markets in accounting for goodwill.

## Issues of the Paper

In UAE, the official and licensed financial markets are Abu Dhabi Securities Market (ADSM) and Dubai Financial Market (DFM). Such emerging equity markets are looking to the established countries' equity markets for guidance in developing systems of accountability and transparency that are essential to facilitate the markets. Thus, ADSM and DFM are primarily concerned with obliging listed firms to disclose information about the financial position and performance of the firm in accordance with IASs requirements. With the conflict that has just emerged between the two major sets of standards, IAS and US GAAP, with respect to goodwill amortisation, research would be useful to guide emerging markets.

Given that goodwill should be recognised [(McCarthy and Schneider, 1995), (Jennings et al, 1996), and (Godfrey and Koh, 2001)], the issue with respect to the statement of financial performance is whether goodwill maintains its value indefinitely or it declines in value over time. Evidence that the market perceives goodwill amortisation as not having information content when determining the value of the firm would provide some support

for the proposition that investors view goodwill as assets that are expected to maintain its value indefinitely; thus standardised amortisation requirement for goodwill may be inappropriate, and the annual impairment test required by SFAS 142 that allows firms to review goodwill balance annually to determine whether it should be reduced in value may have the potential to better represent the performance of the firm. On the other hand, if this evidence does not exist, the performance of the firm may be represented better by allowing firms to systematically amortise goodwill over its duration life. So, the above discussion calls for the following research question: “Does the market perceive goodwill amortisation as not having information content when valuing firms in UAE?”

## The Sample

The study examines the market valuation of Emirates firms reporting goodwill amortisation during the period from 1990 to 2002 inclusive. During this interval, and up to present time, Emirates Financial Markets Listed firms apply the International Accounting Standards (IASs). With respect to accounting for intangibles, IAS 38 requires goodwill be recognised and systematically amortised over a period not to exceed 20 years

The sample includes firms listed in ADSM and DFM that have clearly recorded some goodwill amortisation in their year-end financial statements during any of the years under study. Therefore, the sample is selected on the basis of the following four criteria:

1. domiciled in the UAE
2. listed on the licensed Financial Markets in the UAE, and these are Abu Dhabi Securities Market or Dubai Financial Market.
3. clearly reported goodwill amortisation at year-end of 1990 to 2002 inclusive.

## Research Design

The objective of this paper is to examine the information content of goodwill amortisation when determining the market value of the firm. To do so, the paper develops a model that examines the association between market value of equity and goodwill amortisation. The model is presented and developed below.

The model is based on the basic accounting entity equation, which was firstly used in this context by Landsman (1986). Reasons behind the adoption of Landsman’s model are; first, the statement of financial position identity helps to contrast parameter values of the elements of the model. Second, the market value of equity is the dependent variable in the present study. Under this approach, the market value of shareholder’s equity (MVE) is given by:

$$MVE_{ft} = MVA_{ft-1} - MVL_{ft-1} \quad (1)$$

Where

$MVA_{ft-1}$  = Market value of assets of firm f at the end of year t.

$MVL_{ft-1}$  = Market value of liabilities of firm f at the end of year t.

Aware of the theory that there is no optimal capital structure (Miller, 1977), Landsman (1986) developed the theoretically benchmark coefficients of MVA and MVL to be +1 and -1 respectively.

It was argued that the market value of company equity might be explained better by a model that includes a stock concept of value (i.e., dividends) and a flow concept of earnings (Ohlson, 1995). Based on previous research, three variables have been used as a proxy of earnings. The first is the clean surplus which is defined as the change in the net book value of the firm from the beginning to the end of the fiscal year plus cash dividends less new equity raised (McCarthy and Schneider, 1995). The second is the abnormal or unexpected income which is defined as current earnings minus the risk-free rate, times the beginning of period book value, i.e., earnings minus charge for the use of capital (Ohlson, 1995). Finally, a third proxy is net income. For the purpose of this paper, the measure that will be used as a proxy for income is the net profit for the year, INC, in which the US equivalent is the operating profit after tax. According to the above arguments, equation (1) would be expanded as follows:

$$MVE_{ft} = X_0 + X_1 BVA_{ft-1} + X_2 BVL_{ft-1} + X_3 INC_{ft} + X_4 Div_{ft} + \varepsilon_{ft} \quad (2)$$

Where

$X_0$  = Intercept.

$BVA_{ft-1}$  = Book value of Assets of firm f at the end of year t.

$BVL_{ft-1}$  = Book value of Liabilities of firm f at the end of year t.

$INC_{ft}$  = Net profit for the year of firm f in year t.

$Div_{ft}$  = Dividends paid of firm f in year t.

$\varepsilon_{ft}$  = error term of firm f in year t.

The focus in this paper is to examine the information content of the amount reported for goodwill amortisation. To do so, the net profit for the year (the income measure), INC, is to be separated into net profit for the year before goodwill amortisation, INCE, and goodwill amortisation, AMORT. The expanded version of equation (2) becomes:

$$MVE_{ft} = X_0 + X_1 BVA_{ft-1} + X_2 BVL_{ft-1} + X_3 INCE_{ft} + X_4 Div_{ft} + X_5 AMORT_{ft} + \varepsilon_{ft} \quad (3)$$

Where

$X_0$  = Intercept.

$BVA_{ft-1}$  = Book value of Assets of firm f at the end of year t.

$BVL_{ft-1}$  = Book value of Liabilities of firm f at the end of year t.

$INCE_{ft}$  = Net profit for the year excluding goodwill amortisation of firm f in year t.

$Div_{ft}$  = Dividends paid of firm f in year t.

$AMORT_{ft}$  = Goodwill amortisation of firm f in year t.

$\varepsilon_{ft}$  = error term of firm f in year t.

According to Gujarati (1995), multicollinearity may arise from the existence of a highly correlated linear relationship among the explanatory variables of the regression model. For the model of this study, the sample correlation of book value of assets (BVA) and book value of liabilities (BVL) exceeds 0.924 and it is also supported by Spearman's  $\rho$ , which is significant at 1% for all cases. Thus, it is apparent that the presence of severe multicollinearity exists and could result in drawing misleading inferences for the sample t-

statistic. To alleviate this concern, the model is estimated in a net asset form. It is eliminated to replace the regression variables of BVA and BVL by one explanatory variable which is the book value of net assets ( $BVNA = BVA - BVL$ ). Thus, equation (3) would be expanded as follows:

$$MVE_{ft} = X_0 + X_6 BVNA_{ft-1} + X_3 INCE_{ft} + X_4 Div_{ft} + X_5 AMORT_{ft} + \varepsilon_{ft} \quad (4)$$

Where

$X_0$  = Intercept.

$BVNA_{ft-1}$  = Book value of Net Assets of firm f at the end of year t.

$INCE_{ft}$  = Net profit for the year excluding goodwill amortisation of firm f in year t.

$Div_{ft}$  = Dividends paid of firm f in year t.

$AMORT_{ft}$  = Goodwill amortisation of firm f in year t

$\varepsilon_{ft}$  = error term of firm f in year t.

However, evidence suggests that the net asset form of the study model have no significant problems of multicollinearity.

## Research Hypotheses

This section focuses on the model and the expected t-statistic values. The research question addressed in this study is whether the market perceives goodwill amortisation as not having information content when valuing firms. To answer this question, the following hypothesis is established:

**Hypothesis:** In the equation model (4) of the study, the t-statistic value of goodwill amortisation coefficient ( $X_5$ ) is the one of interest. If ( $X_5$ ) is statistically insignificantly correlated with the firm's market value, then the market significantly does not perceive goodwill amortisation as having information content when valuing the firm. To check this relationship the following null hypothesis is tested, against the alternative ( $X_5$ -t-statistic < 2.0):

**H1:**  $X_5$ -t-statistic  $\geq 2.0$

## Empirical Procedures and Results Analysis

An econometric problem when estimating the study model is heteroscedasticity. It assumes that the disturbances appearing in the equity regression function of the sample have different variances. Heteroscedasticity disturbances arise from the fact that large firms tend to produce large disturbances and small firms tend to produce small disturbances. For the model of this study, the null hypothesis that the variance of the residuals of the model is consistent throughout the total sample is rejected at the 1% level of significance for all cases. Thus, it is apparent that the problem of heteroscedasticity is present and may lead to inconsistent estimates of standard errors and overstated t-statistics. To alleviate this concern, all regression estimates, t-statistics and p-values are reported on

White's heteroscedasticity adjusted standard errors. White (1980) establishes a procedure, which is known as the heteroscedasticity-constant covariance matrix estimators (HCCME) to control for heteroscedasticity. White's procedure produces consistent estimates of the standard errors in the presence of heteroscedasticity.

The model of this study, equation (4), is estimated to examine the information content of goodwill amortisation. Table 1 reports the total sample regressions of OLS estimation based on White's Heteroscedasticity Adjusted Standard Errors for share price at year-end. The coefficient estimates for BVNA is positive and significant for the sample under study, as would be expected if these accounting measures represent underlying economic resources. Both the book asset goodwill and other tangible depreciable assets are expected to generate cash flows in the future, and required to be amortised/depreciated over the expected duration of the related cash flow stream. However, Barth and Clinch (1998) argued that cash flows associated with capitalised goodwill are more uncertain than those associated with tangible depreciable assets and that the duration of these cash flows is more difficult to assess. As a result, the book asset goodwill is more likely to represent the economic value of its underlying assets with error. Thus, it can be argued that the significant coefficient on BVNA for the sample can provide evidence on the power of the present study model specifications to detect a positive relation between equity market values and economic resources that may be less difficult to measure than recorded goodwill. In addition, even though the estimation of the study model is based on four regressors, the explanatory power (adjusted  $R^2$ ) of the study model is 0.6651.

Table 1: The OLS Statistics for the Model of the Study Based on White's Heteroscedasticity Adjusted Standard Errors

Year / Statistics / Predicted Sign	$X_0$	$X_6$	$X_3$	$X_4$	$X_5$	Adj. $R^2$	N
Total Sample Regression							
Beta-value		0.9613	-3.5429	-0.7874	50.5274	0.6651	10
t-statistic		3.3331	-0.7782	-0.1409	1.0289		
p-value		0.0160	0.4660	0.8930	0.3430		

$$\text{Model: } MVE_{ft} = X_0 + X_6 BVNA_{ft-1} + X_3 INCE_{ft} + X_4 Div_{ft} + X_5 AMORT_{ft} + \varepsilon_{ft}$$

$BVNA_{ft-1}$  = Book value of Net Assets of firm f at the end of year t.

$INCE_{ft}$  = Net profit for the year excluding goodwill amortisation of firm f in year t.

$Div_{ft}$  = Dividends paid of firm f in year t.

$AMORT_{ft}$  = Goodwill amortisation of firm f in year t.

$\varepsilon_{ft}$  = error term of firm f in year t.

## Discussion of Hypothesis

In sample regressions, the variable of goodwill amortisation (AMORT) is statistically insignificantly correlated with the market value of equity for the sample under study at the conventional level of significance. There are two possible explanations for the insignificance of goodwill amortisation on equity market values for the sample under study. First, goodwill amortisation is correlated with an omitted variable such as the expected future earnings that is not shown on the face of the financial statements. It could be argued that such an omitted variable could result in statistically insignificant coefficient for goodwill amortisation even if the reported goodwill amortisation is not representing its underlying consumption. Second, the market views reported goodwill as an asset that is likely to generate future cash flows for an unlimited time and, therefore, it maintains its value indefinitely. Thus, it can be concluded that the market does not perceive goodwill amortisation as having information content in the determination of firm's market valuation.

In addition, the regression coefficient on the reported goodwill amortisation is statistically insignificant and highly exceeds one in absolute value. A possible explanation could be due to the assumption that empirical versions of BVA and BVL may systematically overstate the true value of the theoretical variables. Landsman (1986) argues that the historical cost measures of the book value of total assets and liabilities may systematically understate the market value for a variety of reasons. These include (1) book value measures do not include measures of off-balance sheet assets and liabilities; and (2) book value measures do not adequately capture the magnitude of the intangible assets owned by the firm such as internally generated goodwill.

## Conclusion

This study seeks to broaden the understanding of the controversy surrounding goodwill accounting by examining the information content of goodwill amortisation. In specific, it examines whether amortisation of goodwill assets are value-relevant to investors in the determination of market valuation. The empirical test analysis yielded several interesting results. There is evidence that confirms the market perception of goodwill amortisation as not having information content when valuing firms, concluding that the use of standardised amortisation requirement may be inappropriate.

The market association test in this study is able to substantiate the issues addressed over amortisation of goodwill by providing evidence that supports the proposition that investors view goodwill as assets that are expected to maintain its value indefinitely. If the value of the goodwill can be maintained indefinitely, then the best representation of the firm's performance may result from allowing firms to review goodwill balances annually to determine whether it should be reduced in value. So, standardised amortisation requirement for goodwill may be inappropriate, and the annual impairment test required by SFAS 142 may have the potential to better represent the performance of the firms.

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