

Reporting intangibles

Understanding the market value of companies' equity and the book values of their assets and liabilities is crucial for investors. *Professor Jayne M Godfrey, Dr Wei Lu and Dr Xu-dong Ji* look at how the numbers crunch for UK, US, Australian and Chinese companies.

Combinations of accounting practices and different institutional settings can affect the relevance of accounting for intangible assets, particularly goodwill, to equity valuation. As Australia and the European Union (EU) move to adopt new International Financial Reporting Standards (IFRS) and other countries prepare to follow suit, the impact of IFRS rules for accounting for intangible assets remains highly contentious. Capital market participants are keen to know the implications for company value. This paper examines these issues by first documenting differences between how companies in the UK, US, Australia and China have traditionally accounted for intangible assets.

The paper then examines the association, for each country, between the market value of companies' equity and the book values of their assets and liabilities, with particular emphasis on the association with book values of various types of capitalised intangible assets. Finally, it extrapolates from its empirical findings to predict how IFRS adoption can affect the modelled relation between equity market value and book values.

The fundamental concern in the debate regarding the accounting treatment of intangibles is whether those expenditures on intangibles should be expensed in the profit and loss statement or be capitalised on the balance sheet. The issue is particularly important because of continuing international mergers and acquisitions, and the rapid development of international financial markets. In these transactions, intangible assets, especially goodwill, generally dominate the underlying economic value of assets acquired. By reviewing different rules allowed for intangibles in the four countries, this paper reveals different approaches to the issue.

IT'S ALL IN THE GOODWILL

In December 1997 the UK Accounting Standards Board (ASB) issued an accounting standard governing the accounting for goodwill: FRS 10 *Goodwill and Intangible Assets*. Together with FRS 11 *Impairment of Fixed Assets and Goodwill*, companies were required to capitalise and amortise externally acquired goodwill and intangible assets over their useful lives, which were presumed not to exceed 20 years. Goodwill and intangibles were not to be carried at measures above their recoverable amounts. Therefore, regular review for impairment was required. Furthermore, if intangibles were capable of 'continued measurement' then they could be carried unamortised with annual impairment review. With IFRS adoption by listed companies in the EU from 2005 this requirement has now changed.

In China intangibles, including goodwill, are amortised using the straight-line method over their useful lives and no more than 10 years. Companies are to value their intangibles annually and if the book value is greater than their recoverable value, they are required to provide for the devaluation. During the period of the study (2001), both Australian and US accounting standards required businesses to amortise goodwill through earnings.

The US treatment of goodwill has been more complex than in Australia, but in 2001, the Financial Accounting Standards Board (FASB) introduced FASB 142, *Goodwill and Other Intangible Assets*, which prescribes that goodwill and other intangible assets that have indefinite useful life are no longer to be amortised to earnings, but instead are to be reviewed for impairment, at least annually. Intangible assets with finite useful lives continue to be amortised over their useful lives, but without the 40 years arbitrary ceiling previously set.

The FASB introduction of an impairment test instead of continuing with its prior policy of amortisation gave rise to a new round of debate on how

goodwill and intangibles should be dealt with in financial statements. It also sparked an urgent call to review the accounting practices for intangible assets internationally.

The new prescription, IFRS 3 *Business Combinations*, was issued in March 2004 and is applicable for business combinations for which the agreement date is on or after 31 March 2004. It requires businesses to recognise purchased goodwill as an asset, with no requirement for amortisation. Instead, companies are likely to measure goodwill after initial recognition at cost less accumulated impairment losses. Companies will probably need to test goodwill for impairment annually or more frequently if events or changes in circumstances indicate that it might be impaired. This change reflects the move adopted by the FASB.

PATENTS, TRADEMARKS AND R&D

Identifiable intangible assets include such things as patents, trademarks, licences, research and development, and brand names. Because of the increasing importance of technology and, in particular, information technology, accounting for R&D is highly contentious. In the UK all research costs were traditionally written off immediately while some development costs may have been capitalised and amortised.

Table 1: Regression of Market Value of Equity (MVE) on Capitalised Intangible Assets and Other Balance Sheet Items

Equations

$$MVE_{it} = \alpha_0 + \alpha_1 + \dots + \alpha_2 + \dots + \sum \dots (1)$$

$$MVE_{it} = \alpha_0 + \alpha_1 + \dots + \alpha_2 + \alpha_3 + \dots + \sum \dots (2)$$

$$MVE_{it} = \alpha_0 + \alpha_1 + \dots + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 + \alpha_6 + \dots + \sum \dots (3)$$

$$MVE_{it} = \alpha_0 + \alpha_1 + \dots + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 + \alpha_6 + \alpha_7 + \alpha_8 + \alpha_9 + \dots + \sum \dots (4)$$

As Australia and the European Union move to adopt new International Financial Reporting Standards (IFRS) and other countries prepare to follow suit, the impact of IFRS rules for accounting for intangible assets remains highly contentious.

| Variables | Sign | Australia | | | | UK | | | | US | | | | China | | | |
|----------------------------------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | Model 1 Coefficient (2-TAILED P-VALUE) | Model 2 Coefficient (2-TAILED P-VALUE) | Model 3 Coefficient (2-TAILED P-VALUE) | Model 4 Coefficient (2-TAILED P-VALUE) | Model 1 Coefficient (2-TAILED P-VALUE) | Model 2 Coefficient (2-TAILED P-VALUE) | Model 3 Coefficient (2-TAILED P-VALUE) | Model 4 Coefficient (2-TAILED P-VALUE) | Model 1 Coefficient (2-TAILED P-VALUE) | Model 2 Coefficient (2-TAILED P-VALUE) | Model 3 Coefficient (2-TAILED P-VALUE) | Model 4 Coefficient (2-TAILED P-VALUE) | Model 1 Coefficient (2-TAILED P-VALUE) | Model 2 Coefficient (2-TAILED P-VALUE) | Model 3 Coefficient (2-TAILED P-VALUE) | Model 4 Coefficient (2-TAILED P-VALUE) |
| INTERCEPT | | 1.074889 (0.1041) | -2.837753 (0.0000) | -0.724539 (0.0003) | -0.646978 (0.0000) | 2.219636 (0.7927) | -3.079693 (0.7160) | -2.588060 (0.7627) | -10.58739 (0.1722) | -729.4482 (0.3548) | -749.6002 (0.3405) | -675.3851 (0.3887) | -179.4043 (0.8172) | 3.319872 (0.0005) | 3.212440 (0.0010) | 3.176059 (0.0011) | 3.246915 (0.0009) |
| TOTAL TANGIBLE ASSETS (TTA) | + | 3.240701 (0.0000) | 3.934713 (0.0000) | 2.287633 (0.0000) | 2.221694 (0.0000) | 2.969539 (0.0000) | 2.993922 (0.0000) | 3.002581 (0.0000) | 2.631926 (0.0000) | 3.898190 (0.0000) | 3.883243 (0.0000) | 4.005670 (0.0000) | 4.113873 (0.0000) | 0.700895 (0.0289) | 0.719540 (0.0258) | 0.690994 (0.0332) | 0.684057 (0.0364) |
| TOTAL LIABILITIES (TL) | - | -3.693586 (0.0000) | -4.663850 (0.0000) | -2.634748 (0.0000) | -2.531446 (0.0000) | -2.157609 (0.0000) | -2.73676 (0.0000) | -2.746796 (0.0000) | -2.115904 (0.0000) | -2.842797 (0.0000) | -2.967869 (0.0000) | -3.139556 (0.0000) | -3.129542 (0.0000) | -0.536259 (0.1851) | -0.591712 (0.1540) | -0.538333 (0.1989) | -0.525903 (0.2109) |
| TOTAL INTANGIBLE ASSETS (TIA) | + | | 8.670392 (0.0000) | | | | 1.612400 (0.0000) | | | | 0.339749 (0.0011) | | | | 0.728307 (0.5318) | | |
| GOODWILL (GW) | + | | | 6.647940 (0.0000) | 6.522730 (0.0000) | | | 1.617733 (0.0000) | 1.441847 (0.0000) | | | 0.201417 (0.0886) | -0.030128 (0.7705) | | | -1.068138 (0.6869) | -1.136057 (0.6690) |
| RESEARCH & DEVELOPMENT COST (RD) | + | | | 15.49353 (0.0000) | 15.47435 (0.0000) | | | -5.956615 (0.7303) | -5.217832 (0.7359) | | | -0.617205 (0.8293) | -6.558399 (0.0101) | | | 26.40027 (0.3064) | 25.97897 (0.3166) |
| BRAND NAMES (BN) | + | | | | 1.675755 (0.0000) | | | | 1.013294 (0.6330) | | | | -13.72133 (0.0001) | | | | -1.050938 (0.8111) |
| DEFERRED COSTS (DC) | + | | | | 3.169001 (0.0000) | | | | 4.053562 (0.7333) | | | | -11.87860 (0.0000) | | | | -0.634962 (0.8301) |
| LICENCES COSTS (LC) | + | | | | 2.238444 (0.0000) | | | | 77.50795 (0.0000) | | | | 1.158074 (0.0000) | | | | 1.831018 (0.8301) |
| PR | + | | | | | | | | -0.891560 (0.3091) | | | | | | | | |
| BN + DC + LC + PA + OTHES | | | | 2.163909 (0.0000) | | | | 1.579005 (0.0766) | | | | 0.522201 (0.0000) | | | | 0.908653 (0.4651) | |
| N | 636 | 636 | 636 | 636 | 636 | 956 | 956 | 956 | 956 | 2018 | 2018 | 2018 | 2018 | 197 | 197 | 197 | 197 |
| F-STATISTIC | | 79.58859 (0.0000) | 475.8921 (0.0000) | 962.9526 (0.0000) | 681.2173 (0.0000) | 143.143 (0.0000) | 103.0443 (0.0000) | 61.74388 (0.0000) | 76.93984 (0.0000) | 3432.090 (0.0000) | 2302.934 (0.0000) | 1401.797 (0.0000) | 1044.129 (0.0000) | 3.621808 (0.028658) | 2.537393 (0.058116) | 1.771295 (0.120865) | 1.295244 (0.255030) |
| ADJUSTED R ² | | 0.2171106 | 0.713597 | 0.893980 | 0.893396 | 0.237132 | 0.250505 | 0.251663 | 0.402163 | 0.776387 | 0.777598 | 0.780251 | 0.787521 | 0.037876 | 0.039935 | 0.046648 | 0.048210 |

Treatment of internally developed brand names has been even more diverse, but the new IFRS 3 stipulates that internally generated brands, mastheads, publishing titles, customer lists and items similar in substance should not be recognised as intangible assets.

In China, R&D costs incurred before legally obtaining an intangible asset such as a patent were to be expensed in the period when they were incurred. Australian Accounting Standards Board (AASB) regulations tend to be more flexible. AASB 1011 *Accounting for Research and Development Costs* stated that R&D would be charged to earnings when incurred. However, capitalisation of these costs was allowed if they were expected beyond any reasonable doubt to be recoverable. Capitalised R&D costs were required to be amortised over future financial years to match them with related benefits, beginning with the commercial production of the product.

US standards require all R&D costs to be written off against earnings immediately. The only exception is for the computer software industry where certain software development costs may be capitalised if the technical feasibility of the software can be established.

BRANDS AND OTHER RELATED INTANGIBLES

Internationally, there have been significant differences in the treatments of purchased brand names. The Chinese treatment has been similar to their treatment of goodwill. In Australia, regulators preferred the assets to be capitalised and amortised separately from goodwill, and in the US under FASB 141 *Business Combinations*, identifiable intangible assets with indefinite useful lives, including brands, are not to be amortised and measures are reviewed for impairment. Intangible assets with limited useful lives continue to be amortised.

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lishing titles, customer lists and items similar in substance should not be recognised as intangible assets.

HYPOTHESES

As a general proposition, if managers capitalised only those expenditures that gave rise to future economic benefits, there should be a positive association between capitalised intangible assets and the market value of equity. This gives rise to the following hypothesis:

There is a positive association between the market value of equity and the book values of capitalised intangible assets.

The value of equity is derived from the value of tangible and intangible assets less the value of liabilities. As such, if the market value of equity is modelled as a function of the value of tangible assets less liabilities, inclusion of intangibles should improve the model and explain more of the value of equity. Adopting this approach leads to the following predictions:

Including the total of capitalised intangible assets increases the power of accounting balance sheet measures to explain the market value of equity.

Intangible assets are divided into five categories: goodwill, R&D, brand names, deferred costs, and licences and four models were used to test the hypotheses (see table 1).

As well as examining whether capitalised intangible assets are value-relevant, the study investigates the extent to which capitalised intangible assets add to the power of other balance sheet items, such as total liabilities and total tangible assets, to explain

equity value using a method known as hierarchical multiple regression analysis.

The sample companies include all those in the Company Analysis database for 2001 for the four countries and which report goodwill or other types of intangible assets in their 2001 annual reports. These criteria result in 2,018 US, 956 UK, 636 Australian and 197 Chinese companies respectively.

For Australia, the UK and the US, intangible assets comprise 20 per cent, 25 per cent and 21 per cent of reported total assets respectively. For China, they comprise only 2 per cent. The distribution of book values of individual intangibles is not uniform within the western countries, however. The international variations reflect both differences in reporting rules and differences in the economic characteristics of the countries.

Overall, the results (reported in table 1) support the original hypothesis for all types of capitalised intangible assets, but the support is not consistent internationally. For Australian businesses, the hypothesis is supported across all subdivisions and the most disaggregated model explains 89 per cent of the market value of equity. In contrast, the hypothesis is not supported across any subdivisions of intangible assets for Chinese companies, and the models explain no more than 5 per cent of their market value of equity.

The extreme differences are likely to arise because Australian companies have a tradition of capitalising identifiable intangible assets and amortising them in a manner that is relatively consistent across all intangibles, and also because Australian capital market participants are familiar with accounting standards that do not permit assets to be capitalised or carried at amounts that exceed their fair values. In contrast, China is an emerging capital market where accounting has not served the same information role as in Western countries, the capital market is in relatively early stages and the rules governing accounting practice have been less well-developed and were less familiar to capital market participants.

In the UK and the US, the models have markedly different explanatory power. In the UK, they explain no more than 40 per cent of the market value of equity,

while in the US, the explanatory power of the models ranges from 78 per cent to 79 per cent, and deferred licence costs are the only intangibles that are significant in the models and in the predicted direction.

Now that the rules governing accounting for intangibles have changed – under the new IFRS rules, some classes of intangible assets will no longer be reported (eg R&D) and others will be accounted for differently (eg goodwill) – the high and significant economic association between Australian companies' market value of equity and the book value of their capitalised assets, including intangible assets, less liabilities (89 per cent) indicates that if investors do not obtain information about levels of expenditure on intangible assets and its probable success from sources other than capitalised balances on balance sheets, then the market value of Australian companies' equity is likely to fall.

Also, if investors do not revise the way in which they value goodwill, now that Australian businesses have adopted IFRS, share prices should increase as some companies cease to amortise goodwill. Internationally, the most likely outcome is somewhere between these extremes as: IFRS's become more or less aligned with individual countries' accounting practices; capital markets adjust with some uncertainty to the adoption of IFRS rules; companies disclose information in notes rather than on the face of their financial statements; investors revise their equity valuation models to compensate fully or partially for changes in reporting practices.

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