

Cost of Capital in Goodwill Impairment Reviews

Practical application

As the global economy has weathered the recession, goodwill impairments have inevitably increased and companies have placed an additional focus on their impairment testing procedures. One of the most critical inputs in the impairment test is the cost of capital or discount rate. Determining the appropriate cost of capital is often seen as a dark art at the best of times, but in uncertain economic conditions, the difficulty has been compounded by volatile share prices affecting betas; risk free rates reaching record lows; and a reduction in debt liquidity affecting the cost of debt for many companies¹. If these issues weren't complicated enough, the financial reporting standard dealing with impairment was written without consideration of

generally recognised practise for determining cost of capital, often causing inconsistencies between the cash flows and discount rate used.

To assist users and preparers of financial statements, Duff & Phelps have analysed the impairment disclosure notes of the FTSE 100 group of companies. We have reviewed the discount rates and long term growth rates that are being applied in practice for the impairment testing of goodwill for financial reporting purposes.

Goodwill Impairment Testing Requirements
International Financial Reporting Standards ("IFRS") require the annual impairment testing of goodwill and other assets in accordance

with IAS 36: Impairment of Assets ("IAS 36"). Goodwill is tested at the level of a Cash Generating Unit ("CGU") which is defined by the standard as "the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets" [IAS 36.6]. Goodwill is considered impaired if its carrying value is higher than the recoverable amount of the CGU - where recoverable amount is defined as the *higher* of Value in Use and Fair Value Less Costs to Sell. When considering Value in Use, IAS 36 lays out prescriptive rules around the use of discounted cash flow methodologies, including guidance on the explicit forecast period, appropriate terminal growth rates, and the determination of the discount rate.

RECOVERABLE
AMOUNT IS

THE HIGHER OF

Value in Use

Usually based on an income approach (discounted cash flows)

Fair Value less Costs to Sell

Often based on a market approach (comparable company or comparable transaction multiples)

¹ For further discussion on determining cost of capital in uncertain economic times see 'Problems with Cost of Capital Estimation in the Current Environment' by Roger Grabowski and for a recent update, refer to "Developing the Cost of Equity Capital: Risk-Free Rate and ERP During Periods of 'Flight to Quality'" by Roger Grabowski. Both articles are available at www.duffandphelps.co.uk.

Pre-tax versus post-tax discount rate

While IAS 36 requires the use of ‘a pre-tax discount rate’ for the discounting of cash flows, it has long been accepted by valuation practitioners that the direct determination of a pre-tax cost of capital is difficult if not impossible to derive. When valuing a firm or business, the most widely used method for determining a discount rate is the weighted average cost of capital (“WACC”). In theory, this is calculated by weighting the costs of debt and equity capital at a target or optimal capital structure. The capital asset pricing model (“CAPM”) is most often used as the basis for determining the cost of equity. The data needed to build up the cost of equity using CAPM is generally based on observable market based information. As companies pay tax in the real world, the equity market data observable to derive inputs such as beta, gearing, etc. is all based on post-tax observations. Pre-tax equivalents are not directly observable.

Generally, companies and their advisors have accepted that the practical solution to this problem is to determine the Value in Use using post-tax cash flows and a post-tax WACC. The pre-tax WACC needed for disclosure as required by IAS 36 can then be determined by eliminating tax from the cash flows and back solving (an iterative process) to determine the pre-tax WACC that equates to the same Value in Use. It should be noted that simply grossing up the post-tax WACC based on the marginal tax rate will not, in most circumstances, result in the same pre-tax WACC. In fact, the IASB recognised this in its Basis for Conclusions to IAS 36 by stating that “[t]he pre-tax discount rate is not always the post-tax discount rate grossed up by a standard rate of tax” [IAS 36.BCZ85]. The same paragraph in the Basis for Conclusions provides an example on how both approaches might differ and result in different indications for Value in Use. We have created an illustrative example of our own in Appendix 1 to demonstrate this issue.

Methodology

Duff & Phelps analysed the disclosure notes of the companies who were constituents of the FTSE 100 as at March 2011. The financial statements for the financial years ending in 2007 to 2010 were used as the source data. The analysis focused on the discount rate and long term growth rate used in connection with goodwill impairment testing for each CGU for which information was disclosed. We also noted if the discount rate disclosed was determined on a pre or post-tax basis.

We have summarised the ranges of discount rates and long term growth rates disclosed by industry sector. Disclosures by company varied. Some companies disclose the discount rate and long term growth rate used for each individual CGU; other companies give a broad range for the discount rates used across all of their CGUs; while several companies provide a single discount rate that has been used

Fig. 1: Sample sizes for the data by industry group

	Travel & Leisure				Retail				Consumer Products				Banks			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Number of Companies	5	5	5	5	7	7	7	7	11	11	11	11	6	6	6	6
Companies disclosing Pre-Tax Rates	3	4	4	4	5	5	6	6	7	8	8	9	5	5	5	5
Total number of CGUs	6	21	20	23	18	20	24	24	32	47	45	41	14	21	27	28
Disclosure of Growth Rates	3	3	4	5	4	4	4	5	6	8	9	9	5	5	6	6
	Financial Services				Business & Support Services				Technology, Telecom & Media				Industrial Products			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Number of Companies	13	13	13	13	9	9	9	9	8	8	8	8	14	14	14	14
Companies disclosing Pre-Tax Rates	4	6	7	7	8	8	8	8	8	8	8	8	11	11	13	13
Total number of CGUs	15	36	38	33	46	47	54	57	35	39	36	38	66	77	100	117
Disclosure of Growth Rates	4	5	5	5	7	8	7	8	8	8	7	8	11	11	9	12
	Oil & Gas				Mining				Utilities				Real Estate Investments Trusts			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Number of Companies	5	5	5	5	12	12	12	12	6	6	6	6	4	4	4	4
Companies disclosing Pre-Tax Rates	4	5	4	5	4	4	2	3	6	6	6	5	n/a	n/a	n/a	n/a
Total number of CGUs	10	11	6	7	17	23	13	13	27	27	27	27	n/a	n/a	n/a	n/a
Disclosure of Growth Rates	3	2	3	4	0	2	0	2	4	4	4	4	n/a	n/a	n/a	n/a

for all CGUs. In addition, CGUs can be determined by geography, service offering, or any other appropriate basis. Direct comparison of the discount rates being used even within the same sector may therefore not be meaningful without a greater understanding of the specific forecasts and expectations for the CGU it is being applied to. Our analysis is therefore intended to allow users and preparers of financial statements to understand and benchmark against the broad ranges for cost of capital and long term growth rates being used in practise within their industry.

The information was analysed by industry based on industry classifications determined by Duff & Phelps. Averages were calculated based on companies which disclosed pre-tax discount rates. Where a company disclosed a range of pre-tax discount rates covering a number of CGUs, the high and low points of the range were included in the average for the sector and assumed to represent two data points. Where a company disclosed a number of CGUs all with the same discount rate, we have treated these as a single data point in our average to avoid weighting the results towards a single company.

Sample sizes for the data by industry group are presented in Fig 1. Real estate companies typically review their business at an individual property level and therefore discount rate disclosures for CGUs were not observed.

As shown in Fig. 2, the majority of companies disclose the pre-tax discount rate used in their impairment testing. In total, 57 of the FTSE 100 companies disclosed the pre-tax discount rate used for at least one of their CGUs with an additional 15 companies disclosing both the pre and post-tax discount rates. Twelve companies disclosed only a post-tax discount rate.

For 16 of the surveyed companies we were unable to obtain any information on the discount rates used either due to limited disclosure or where the company did not have goodwill on the balance sheet.

The graph in Fig. 3 shows how many CGUs each company disclosed a discount rate for. As mentioned previously, a total of 16 companies did not disclose any discount rate data. Of the remaining 84 companies, three or fewer CGUs were most commonly identified while ten companies identified ten or more CGUs. The average FTSE 100 company disclosed information on just under five CGUs in 2010.

Fig. 2: Companies disclosing pre and post-tax discount rates*

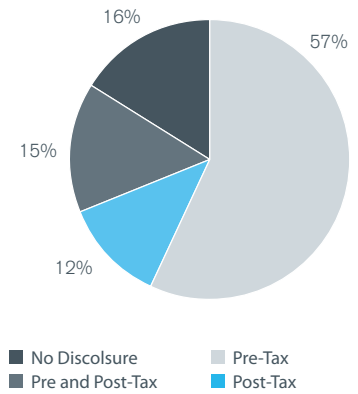
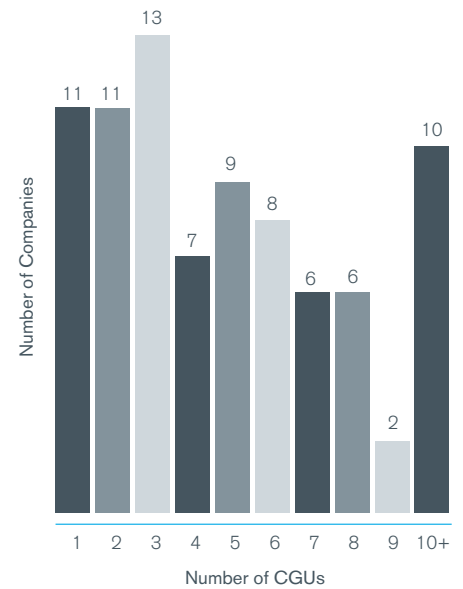


Fig. 3: Number of CGUs for which Cost of Capital was disclosed*



* Based on 2010 data

Pre-tax discount rate observations

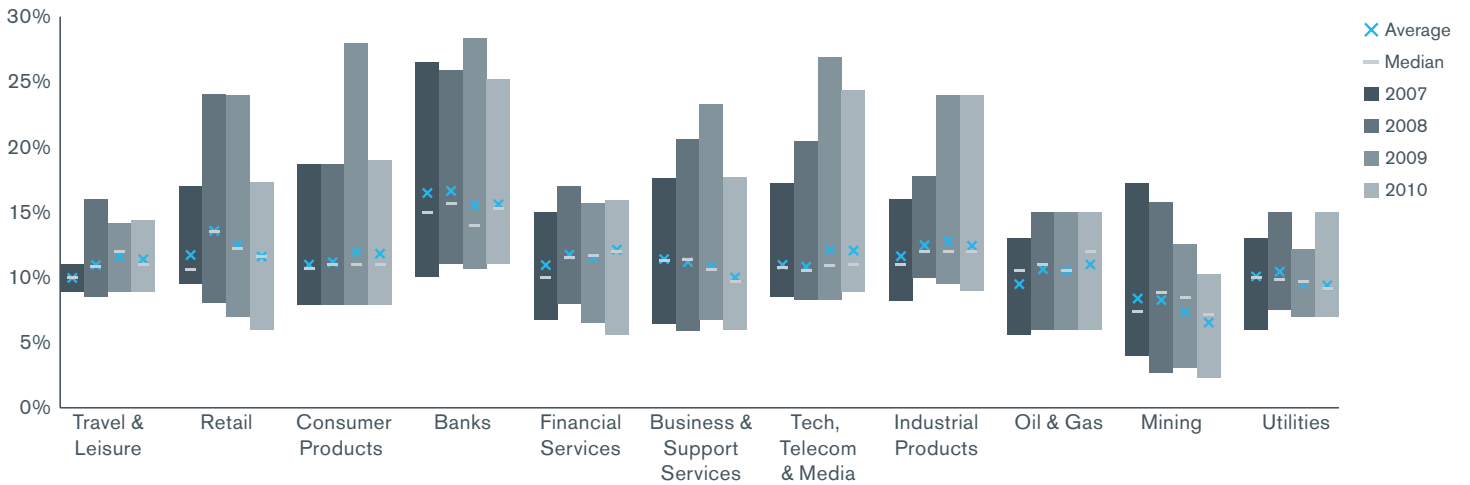
- In several of the industry groups, the range of pre-tax discount rates widened around 2008 and 2009 reflecting some of the uncertainty around business expectations over the period, however, the average and the range of discount rates observed for each industry grouping has remained reasonably stable throughout the financial crisis indicating that companies have generally not reflected any additional risk in the discount rate. In 2010 the range narrowed again for many sectors and the average discount rate also fell slightly, potentially indicating lower risk expectations but potentially also due to more risky assets having been fully impaired in previous periods.
- The average discount rate used is relatively consistent across each sector with the mean and median typically

falling around 10%-13%. Some specific sectors notably fall outside of this range.

- Banks exhibited the highest discount rate of the industry sectors analysed with average pre-tax discount rates of over 15%. This is primarily due to the practice of using the cost of equity when valuing banks, in contrast to the use of the WACC, which is typically applied in other industry sectors.
- Data in the mining sector was more limited than in other sectors, however, where disclosed, mining companies exhibited the lowest discount rates across the sectors analysed. This is because discount rates in the mining sector are often expressed in real terms (i.e. excluding inflation) rather than the more typical approach in other sectors of using nominal discount rates (i.e. including inflation).

- Discount rates for utility companies were in a tighter range and lower than for many other sectors. This reflects the stable nature of the cash flows and lower risk usually associated with the utility sector due to the lack of discretionary spend.
- In the consumer products sector, we found a few outliers and therefore have excluded this data to present more representative results. One of the outliers excluded from our reported results were Diageo's discount rate and growth rate for a CGU located in Venezuela. The reported pre-tax discount rate was 74% and growth rate was 54% in 2010, reflecting the hyperinflation environment in Venezuela. In addition we excluded GSK's Polish CGU, which, due to anticipated future generic competition had a negative terminal growth rate of -13% in 2008.

Fig. 4: Pre-tax discount rates



Long term growth rate observations

- At first glance the range of long term growth rates appears wide, however, the majority of the higher growth rates reflect CGUs with specific circumstances, typically the CGU being based in a high growth economy. Where CGUs are based in the UK, Western Europe or the US, growth rates of 1% to 3%, in line with the median are more common.
- Median long term growth rates have remained relatively stable for each sector. We would anticipate the volatility in long term growth rates would be low given that long term growth prospects for five years and beyond are less influenced by short term fluctuations of economic indicators. We note, however, that in most industry sectors the median long term growth rate has trended downwards

indicating declining confidence in expected longer term economic growth. The oil and gas sector has been the exception, as a rise in prices of commodities such as crude oil and gas, appear to have driven longer term expectations upwards. Financial services prospects also seemed to have improved in 2010, reflecting a recovery from the losses felt during the financial crisis.

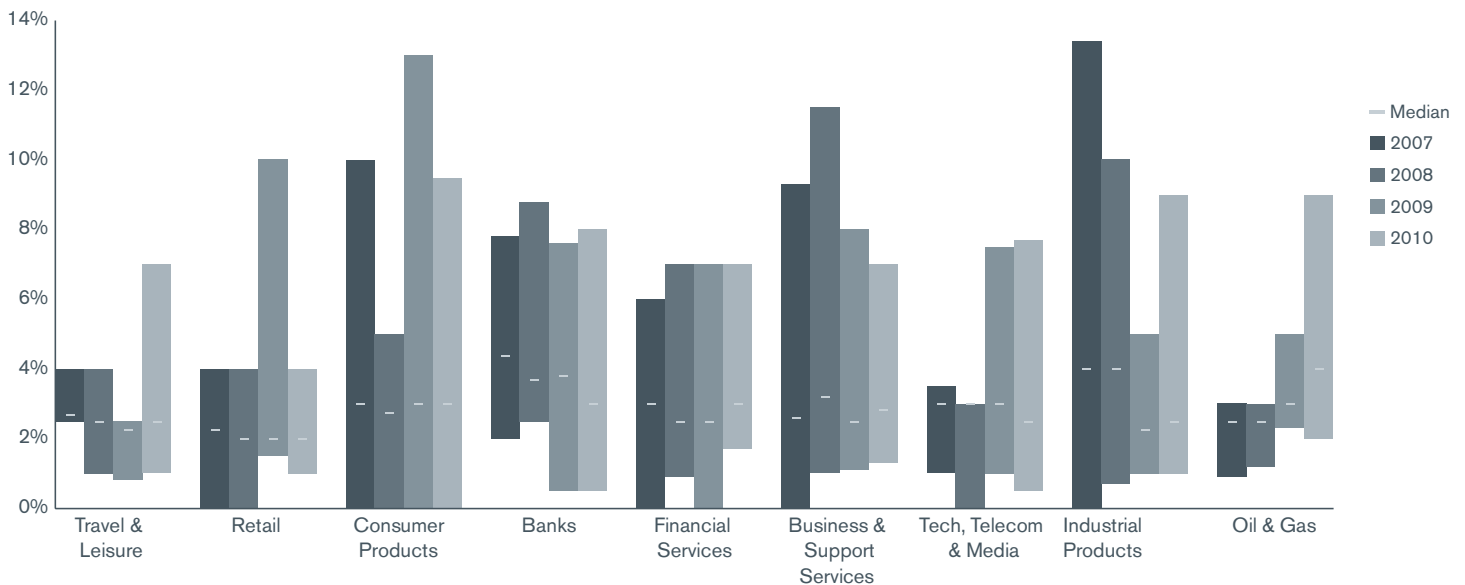
- Insufficient long term growth rate data was available for the mining and utilities sectors and therefore they has been excluded from the graph above. Valuation and forecasting of mining businesses are typically done over the expected life of the mine, thereby making long term growth rates less relevant.

Conclusion

A supportable impairment review requires that the discount rate and the long term growth rate are both technically correct but also consistent with each other and the forecast cash flows. Industry norms can therefore provide a benchmark, but a rigorous review of the specific circumstances of the asset being valued and the risk associated with the expected cash flows is still required.

For more information on the determination of pre and post-tax discount rates; cash flow forecasting; and the determination of the recoverable amount for impairment testing please visit our website or discuss with your Duff & Phelps contacts.

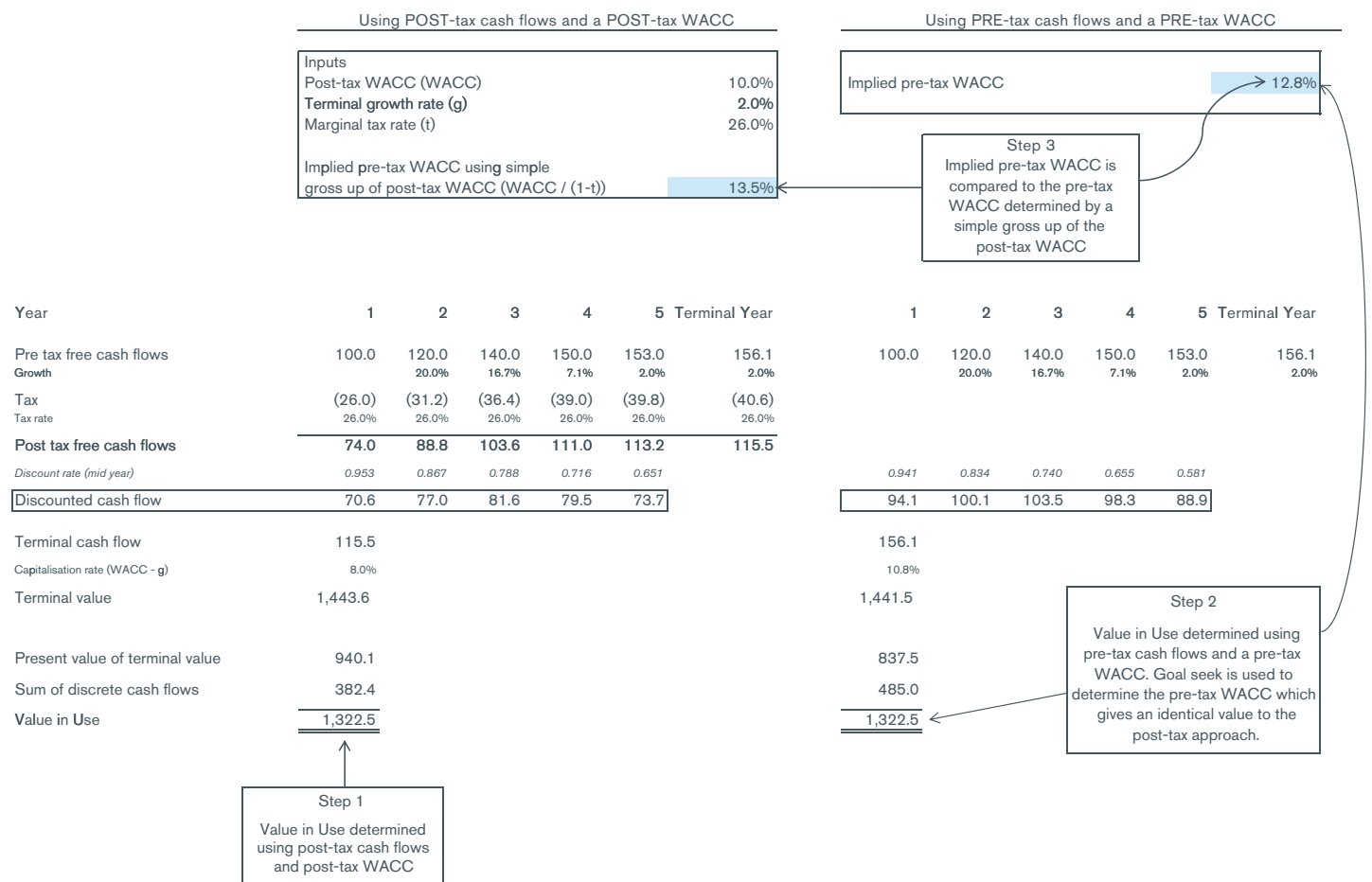
Fig. 5: Long term growth rates



Appendix 1 Example showing determination of the pre-tax WACC

- For any given asset, the fair value using post-tax cash flows and a post-tax WACC must be the same as the fair value using pre-tax cash flows and a pre-tax WACC.
- As we are able to observe inputs in the real world to help us determine the post-tax WACC, valuation practitioners generally consider this the most appropriate approach when valuing a business.
- Having determined the Value in Use on a post-tax basis, we can then use the same cash flows but exclude the impact of tax. As we know that the Value in Use must be identical to that already derived on the post-tax basis, the pre-tax cost of capital can be back solved through an iterative process. In other words, the pre-tax discount rate is derived by determining the discount rate that, when applied to the undiscounted pre-tax cash flows, results in the same post-tax Value in Use amount.
- With the exception of very specific circumstances, this will not be the same as simply grossing up the post-tax WACC for tax, as we mentioned earlier.
- The illustrative example in Fig. 6 details this approach.

Fig. 6: Example: Company ABC determination of the pre-tax WACC



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