

International Valuation Professional Board:

**Commentary on *TIP1: The Discounted Cash Flow (DCF) Method*  
- *Real Property and Business Valuations*.**

I would like to compliment the Board on their excellent work in drafting the current Technical Information Paper 1.

A few suggested changes are set out below, using the track changes feature in Word. The suggestions have also been highlighted in grey. The "Questions for respondents" are answered at the end.

A handwritten signature in blue ink, appearing to read 'V Ghyoot', written in a cursive style.

Prof V Ghyoot

FPD Business School, South Africa

10 February 2011

Page 6, under Definitions:

**Discounted Cash Flow (DCF)** – is a method utilizing explicit assumptions regarding the monetary value of benefits and liabilities of ownership over the asset's life including an exit or terminal value."

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OR

**Discounted Cash Flow (DCF)** – is a method utilizing explicit assumptions regarding the benefits and liabilities of ownership over the asset's life, expressed in monetary terms, including an exit or terminal value.

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Page 6, under Definitions:

"**Discount Rate** – is a **market** rate of return used to convert a monetary sum, payable or receivable in the future, into a present value."

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The word "market" should be deleted, as it does not apply to investment value, only to market valuation.

Explanations could be added to the paragraph, as follows:

**Discount Rate** – is a **market** rate of return used to convert a monetary sum, payable or receivable in the future, into a present value. For market value, the discount rate should be a market rate. For investment value, additional considerations may apply, including the target (hurdle) rate of return of the investor.

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**"Gross Present Value (GPV)** – is the summation of the discounted inflows and outflows of the asset or business at the appropriate discount rate over the holding period in a DCF model. In a valuation that is done to arrive at market value, where discounted cash flows and the discount rate are market derived, the resulting GPV should be indicative of the market value. If the price is already known and deducted from the GPV, the resultant benchmark will be the Net Present Value (NPV)"

GPV is a new term, not found in the international textbooks on Real Estate Valuation, Real Estate Investment Analysis, Time Value of Money or DCF Analysis, or the User Guides of financial calculators. However, it is a clear concept and will probably aid in communicating information and in teaching students. Without detracting from the generic term "Present Value (PV)", the use of GPV can do no harm, and will probably be beneficial to the industry.

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**"Internal Rate of Return (IRR)** – is the discount rate that equates the present value of the net cash flows of a project with the present value of the capital investment. It is the rate at which the Net Present Value equals zero."

In this definition, the terms "present value of the net cash flows" and "present value of the capital investment" are not mutually exclusive, although practitioners will understand what is meant.

A simplified definition, with no ambiguity, follows:

**"Internal Rate of Return (IRR)** – is the discount rate that equates the present value of the net cash inflows of a project with the present value of the ~~capital investment~~ net cash outflows. It is the rate at which the Net Present Value equals zero."

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" 11 The discount rate will reflect the risk associated with the cash flows.

Where the objective of the DCF model is to estimate market value, the discount rate should reflect market participants' view of risk, which may be determined from the discount rates, or return, implied by recent transactions involving similar assets. If there have been no recent transactions then it may be necessary to estimate an appropriate discount rate by considering the risk premium that would be required by an investor, ie the additional return required over that obtainable from a 'risk free' asset such as a AAA rated bond. Calculating the risk premium requires consideration of matters such as the certainty and security of the income, the strength of any counterparty and the prospects for future income growth. A discount rate may also be estimated by considering the target (hurdle) rates of active market participants."

Note the sentence added at the end. It is self explanatory.

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" **13** The use of the DCF method in a market valuation makes use of available market evidence and should reflect the thought processes, expectations, and perceptions of investors and other market participants as best as they can be understood. As a technique, the DCF method should not be judged on the basis of whether or not the specific DCF expectation was ultimately realized but rather on the degree of market support for the DCF expectation at the time it was undertaken. When the purpose of the valuation requires market value it is therefore important that the inputs into the DCF model are based on market evidence or reflect common market sentiment. If criteria specified by a particular owner or prospective owner is to be used it should be compared with market evidence and expectations. If it differs then it can only be used for giving an indication of *investment value*, not *market value*"

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" e) An appropriate discount rate needs to be applied to the cash flow. If the frequency of the time points selected for the cash flow is, for example, quarterly, the discount rate must be the effective quarterly rate and not a nominal rate. Expenses may be placed at the accounting point in time rather than the point of time at which they are incurred. The best solution is to have a cash flow frequency that matches the timing of the most frequent aspect of the periodic cash flow."

Computer spreadsheets and financial calculators accept nominal rates as input, not effective rates. An effective rate may be mentioned in a report, but it is not used as an input to a DCF calculation. An example: An effective annual discount rate is known, but the DCF is modelled on a quarterly basis. The effective annual rate has to be converted to a nominal annual rate and then divided by 4 to give a nominal quarterly discount rate. This nominal quarterly rate is used as discount rate in the computer spreadsheet or the financial calculator. See, for example, page 135, example 2, in the *HP12c User's Guide* of 2005/7/29 (attached at the end). Paragraph e should read as follows:

" e) An appropriate discount rate needs to be applied to the cash flow. If the frequency of the time points selected for the cash flow is, for example, quarterly, the discount rate must be the nominal effective quarterly rate, ~~and not a nominal rate.~~ Expenses may be placed at the accounting point in time rather than the point of time at which they are incurred. The best solution is to have a cash flow frequency that matches the timing of the most frequent aspect of the periodic cash flow."

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"**19** The cash flows may be market derived or be specific to the asset or business being valued. The discount rate ~~will~~ used will normally be determined by entity specific criteria, eg a target rate of return, an opportunity cost or the entity's WACC rate. An example could be where a DCF model is used to calculate the investment value to a prospective buyer of a business. The prospective buyer may wish to determine at what value the actual cash flows of the target would generate its required target rate of return before entering the market."

Small text edit only.

Page 12:

" **22** The nature of the cash flows used will need to be reflected in the discount rate adopted. ~~For example the cash flows in a model might have explicitly taken into account forecast inflation over the duration of the cash flow.~~ It would therefore be important to adopt a discount rate that reflected only the risks associated with the forecasts, and not one that reflected the potential for the current income to grow in line with inflation. In other words if a growth explicit cash flow is used, the discount rate should also be growth explicit. Care should be taken to ensure consistent assumptions in the analysis of any data used to support both the cash flow and the discount rate used in the model. Providing all other inputs remained constant and that the discount rate assumptions are ~~is~~ consistent with the cash flow assumptions there should be no difference in the result of a valuation carried on either alternative. ~~"~~"

Four small text edits and a query: The highlighted sentences are not clear. I suggest that they simply be omitted.

## Questions for Respondents

**1 Do you agree that the DCF method, if properly applied, can be used as a method to arrive at market value?**

**Yes.**

**2 Do you agree that the underlying DCF method described in this paper applies equally to the valuation of real property and businesses? If not, please explain the differences that you believe exist?**

**Yes.**

**3 This Exposure Draft states that the discount rate should be determined based on the risk associated with the cash flows (para 10), whether the DCF model is being used to determine a market value or investment value.**

**Do you agree, or do you consider that other matters should be taken into account in determining the appropriate discount rate?**

**No. Any hurdle rate (target rate) specified by the client should also be taken into account. This reflects the client's policy and may have no direct relation to risk.**

**4 Do you agree that the most commonly adopted terminal value calculation at the end of the explicit forecast period is the ‘constant growth’ model, cross-checked for sensibility to an implied capitalisation rate or exit multiple? If not please identify what other method you most commonly use?**

**No. Direct capitalisation of following year's Net Operating Income (NOI), using an exit capitalisation rate, is used as often, or more often.**

**5 Do you agree that providing a discount rate is used that is consistent with the financial assumptions made in calculating the cash flows that the choice of using explicit or implicit financial assumptions in the cash flows should not affect the valuation result?**

**Yes.**

**6 Do you agree that more detailed discussion and examples of the valuation inputs into a discounted cash flow model are inappropriate? If not how much additional information do you think should be included in best practice guidance?**

**Yes, at this stage. Eventually the Board may have to provide more detail.**

-----end of submission-----

