

Wealth tax forced me into the "art" of valuing unquoted shares: multiply the simple or weighted average of past profits by four (whichever yielded the lower sum); resist the revalued assets per share basis - the fall back position was adding the lower capitalised profits and revalued assets per share figures and dividing by two. With time, I became more sophisticated: revalued assets were reduced by potential capital gains tax, balancing charges, etc.

By 1985, I had enough confidence to write an article. However, the logic of established authors in valuing majority interests, voting and non-voting shares, etc. confounded me - the UCD library has many books, articles and research papers on investment theory and practice, so there I went. At first, references to shares being worth:

"the discounted future income they were expected to yield"

were only partially absorbed - assets and earnings were the real meat in valuing unquoted shares, or so I thought. The more I researched, the more that frightening reality dawned on me: like the king, I had no clothes. Worse still, I had "lectured" to members on the subject in 1984 - as my father used to say "there's no point in being ignorant if you can't show it!"

Should Assets and Earnings be Ignored?

Assets and earnings are important, but only as a means to an end:

Cash for the shareholders

In 1938, J. Burr Williams¹² was more lucid:

"If earnings not paid out in dividends are successfully reinvested... these earnings should produce dividends later; if not, they are money

Valuing Unquoted Shares

by

John McElhinney, B.A., FCA

lost.... Our formula will take account of...(earnings successfully re-invested)... when it takes account of all future dividends.... Earnings are only a means to an end. Therefore, we must say a stock derives its value from dividends, not earnings. In short:

A stock is worth only what you can get out of it."

Capital Gains

As capital gains are subsumed in future dividends, they can be ignored for valuation purposes.

Valuing Future Income

There is a simple formula called a dividend discount model (DDM)

for estimating the present value of future income:

$$\frac{D}{R - G}$$

Where:

D = next dividend/income after tax

R = required rate of return

G = average dividend growth.

Example:

Income - end of year 1£1,000

average income growth.....9%

required rate of return26%

$$\text{Present value} = \frac{1,000}{0.26 - 0.09} = \text{£}5,882$$

The model is more sophisticated than it appears: growth is the product of profits retained (internal investment) and the return on capital employed (ROCE):

Expected average:

ROCE15%

retention60%

growth (60% of 15%)..... 9%

Are DDMs solely for Academics?

No. Investment analysts use more elaborate models (multi-period DDMs), based on the above, to accommodate expected variations in the short, medium and long term.

Two weeks before the October 1987 stock market crash, John Curran stated in Fortune magazine:

"...even when highly optimistic earnings forecasts are fed into Wall Street's dividend discount models" - which securities firms use to estimate the present value of expected future earnings - the models respond with a resounding 'sell!'"

In practice, DDMs may not fully reflect the price effect of takeover bids or their anticipation.

As the near future is less uncertain, I prefer to estimate income flow over the first three to eight years and use the above simple formula to value income thereafter:

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Example:

Expected income, years 1 to 3	£1,000, £1,000, £1,600.
ROCE from year 4	14%
Retention rate from year 4	50%
Growth from year 4	50% of 14% = 7%
Required rate of return	22%

$$\text{Value} = \frac{£1,000}{1.22} + \frac{£1,000}{(1.22)^2} + \frac{£1,600}{(1.22)^3} + \left\{ \frac{£1,600 \times 1.07}{0.22 - 0.07} \times \frac{1}{(1.22)^3} \right\}$$

= £8,658.

Estimating the present value of future income forces the valuer to consider all the main elements which affect value: future income flow, investment in fixed and working capital, incidences of taxation, timing of receipt, related risk, etc.

Cash Flow and Taxation

Taxation payable on dividends is of no value to investors; cash flow should be income after tax.

Generally, investors are in the high income tax bracket - investments are the ultimate luxury (Engel's Law).

Timing of Receipt

£1,000 received today is more valuable than £1,000 receivable next year; with high discounting rates, the timing of receipts is important.

Risk

Matching a rate of return to the level of risk is ultimately subjective. The investors' required rate of return comprises two parts: a risk free return (approximately the return from gilts) plus an excess return, called a risk premium.

The risk premiums of quoted companies are constantly changing. Nevertheless, guessing whether

future risk will be greater or less than heretofore is something all investors do.

Studies of returns from different categories of investments over long periods indicate some stability of risk premiums. A US study¹³ of the period 1926 to 1981 indicated, inter alia, a compound annual return of 12.1% for small quoted companies and 3% for long-dated gilts, i.e., risk premiums of 9.1%.

Hoare-Govett's Index study of small UK companies - market capitalisation up to £185m (average £36m) - for the period 1955 to June 1991 indicated compounded annual returns of 14% for large companies and 19.2% for small companies. As gilts returned about 7% in that period, the annual average risk premiums were 7% for large companies and 12% for small companies. Curiously, the risk premium for small companies (12%) approximated to the average annual capital gain (12%) over the period.



John McElhinney is in partnership since 1972 in a general practice founded by his father.

One factor giving rise to the higher risk premiums is the relative infrequency in trading for small companies' shares.

Unquoted companies are more risky than "small" quoted companies: generally they are in one trade (undiversified); share transfers are restricted, etc.

Discount for being Unquoted

This disadvantage was the subject of several studies of quoted US companies¹⁷⁻²⁰ with restricted stock (stock ranking pari passu with the quoted stock but not saleable on the stock market for a limited period). Comparative sales of quoted and restricted stocks indicated an average discount of 35% - the researchers reckoned this discount would have been significantly higher if the restricted stock could never be sold on the stock market.

Restrictions on transfers, pre-emption rights etc. in the Articles of Association would be additional disadvantages.

The discount for lack of a quotation, etc., is applied after the income is valued on the basis of stock market returns. In the second example, it would be applied to £8,658. In valuing majority interests, only the lack of a quotation is relevant.

Value of Control and Votes

As value is derived from future income, voting shares without income rights have no value as an investment.

Generally, special purchasers are prepared to pay more than the shares' investment value, e.g., an executive director wishing to secure his position, i.e., his future income.

Most actual sales of unquoted shares are to "special purchasers".

Investment Value

Consider this first: it provides the base for all - the special purchaser and vendor can add to it. It is equivalent to open market value required for tax (fiscal) purposes.

Fiscal Valuations

Some ground rules should be noted:

1. Establish investment value by standing in the investor's shoes - the vendor is presumed to sell at the best price the investor will pay, given alternative investment opportunities;
2. The extra sum a special purchaser may pay should not be added to the shares' investment value, unless an offer exists at the valuation date;
3. Propriety should be presumed - profit diversions e.g., excessive salaries, etc., should be excluded;
4. Control, per se, has no investment value (the investor's cash comes from dividends). However a controlling investor with income rights would probably distribute surplus cash as quickly as possible, thereby increasing share value.

5. The investor ultimately wants a cash return - if it is a final dividend the gain would be subject to capital gains tax.

6. In valuing a majority interest, a discount for lack of a quotation should be applied when the required rate of return is based on stock market returns.

Other valuation methods

While profit multiples and net assets are used for estimating value, invariably, the "future" and the "fundamental elements determining value" are superficially considered, if at all.

In short, neither theory nor fact, i.e., research papers support valuation methods based on profit multiples or revalued net assets.

Furthermore, my experience indicates these methods overvalue unquoted shares, particularly their investment value.

Profit Multiples

In the 1960's and 1970's, many articles and research papers which considered the usefulness of P/E ratios were published in various US

and UK professional magazines. On the whole, the results were negative, e.g., Brealey⁹ concluded that, in the period 1950-63, only 17.4% of share price changes could be explained by changes in earnings. In some cases, the title was a giveaway:

Earnings per share Don't Count:
Stern¹

The Rise and Fall of the P/E Ratio:
Larcier²

One blunt analyst referred to the multiple of earnings approach as "Business witchcraft" (Valuing a Company for Acquisition - Hichens: The Investment Analyst, May 1967).

Investment Analysts use P/E ratios as rough indicators of the relative value of quoted shares (but present value P is already known), not as a measure of value.

Conclusion

An asset's value and its future income are different sides of the same coin: the former is the present value of the latter.

As an income tax increase would reduce future income and, therefore, asset values, income tax is the most efficient and equitable form of capital taxation. ♦

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