

Multiples, Cap Rates & Discount Rates

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The income approach is a general way of determining a value indication of a business, business ownership interest, security or intangible asset using one or more methods that convert anticipated economic benefits into a present single amount (from the International Glossary of Business Valuation Terms). Along with the asset and market approach, it is one of the three general approaches to value determination for businesses. All of the methods which comprise the three valuation approaches are based in part on multiples, capitalization rates and discount rates.

Within the income approach, there are two primary types of methods:

- 1) **The multiple period discounting method (MPDM)**
- 2) **The single period capitalization method (SPCM)**

When measuring the pertinent earnings figure (level of economic income), failure to develop the appropriate normalization adjustments may lead to a significant over- or under-valuation of the subject business.

When the dust settles from your rigorous and vigorous review of the income approach basics (theoretical and descriptive analysis), the essential applications can be condensed into one of the three general options:

- 1) **Estimate a multiple to apply against a single earnings figure, e.g. adjusted cash flow (ACF) or net cash flows to equity (NCFE).**
- 2) **Derive an appropriate capitalization rate to apply against a single earnings figure.**
- 3) **Derive an appropriate discount rate to apply against future earnings/terminal value figures.**

As noted earlier, it is possible to “maneuver” from one “converter of income” to the others, i.e. from a multiple to a cap rate to a discount rate and from a discount rate to a cap rate to a multiple, etc. In general, the three most common income approach applications are:

- 1) **Estimate a multiple to apply against ACF (pretax) for both business brokerage and middle-market firms.**
- 2) **Determine a cap rate to apply against net cash flows or ACF or other, typically pretax earnings measures for both business brokerage and middle-market firms.**
- 3) **Derive an after-tax discount rate to apply against future net cash flows to equity (or invested capital) for typically middle-market firms.**

Multiples

A multiple is a quantitative factor applied against one or more measures of earnings (economic income) to derive an estimate of business value. Used throughout the valuation universe and all segments of business valuation (business brokerage, middle-market and M&A segments), multiples of ACF and gross revenues are most commonly used for smaller businesses and multiples of EBIT or EBITDA are most commonly used for middle-market firms.

Publicly-traded, M&A segment firms are of course often described in terms of the “P/E Ratio”, whereby the minority interest, single share price is a multiple of net or after-tax income.

How do you estimate a multiple?

- 1) Use of market data, e.g. Bizcomps, IBA
- 2) Use of Snowden Method (multiple of 1 to 5)
- 3) Use of Jones Methods (multiple of 1 to 3)
- 4) Use of Industry-Specific Rules of Thumb, e.g. Business Reference Guide, Desmond’s Handbook of Rules of Thumb, etc.)

Remember: as ACF amount rises, so too do applicable multiples/cap rates:

<u>Amount of Adjusted Cash Flow</u>	<u>ACF Multiple Range</u>
ACF up to approximately \$250K	1 to 3
\$251K to approximately \$500K	2 to 4
\$501K to approximately \$1 million	3 to 5
\$1 million to approximately \$2 million	4 to 7
Above \$2 million	5 to 10
Publicly-Traded Firm Levels	P/E Ratio of 25 times “net income” (always less than ACF) generates multiple of ACF equal to 40 or more (approximately) or cap rate of 2.5% and discount rate of 10% (assuming g=7.5%)
Market for Corporate Control Segment	ACF Multiple Range
1) Business Brokerage Market	1 to 3 (as high as 4 to 6)
2) Middle-Market	4 to 8 (as high as 10 or more)
3) Publicly-Traded Firms	20 to 50 or more!

Capitalization Rates

Capitalization Rate

Any divisor used to convert anticipated future benefits into an estimate of value, equal to the discount rate minus a long term, sustainable growth rate, i.e. “ $c = d - g$ ”.

How do you estimate a cap rate?

- 1) Use of market data, e.g. Bizcomps, IBA, Pratt’s Stats (pretax)
- 2) Use of Black-Green Method (pretax)
- 3) Use of ValueNetex Method (pretax)
- 4) Use of Schilt’s Risk Premia (pretax)
- 5) Use of “Authoritative Publications” such as Revenue Ruling 68-609 (formula approach/treasury method)
- 6) Use of “arbitrary” methods, e.g. “Prime Rate plus 2%” or “anecdotal evidence”, e.g. Dr. Pratt’s books cite total rate of return on equity of commonly 20% to 40% for small businesses (pretax returns)

Discount Rates

Discount Rate

a rate of return (cost of capital) used to convert a monetary sum, payable or receivable in the future, into present value, i.e. it represents the return an investor requires in order to justify investing in the subject asset (business) based on the type and amount of risk associated with the investment.

In business valuation, it is synonymous with either the “cost of equity” or the “weighted average cost of capital” (depending on whether “equity” or “invested capital” is being valued).

How do you estimate a discount rate?

- 1) Use of market data, e.g. public firm P/E ratios for “similar” companies
- 2) Use of Ibbotson Build-Up Method (for after-tax net cash flow to equity)
- 3) Use of Adjusted CAPM (for after-tax net cash flow to equity)
- 4) Use of Weighted Average Cost of Capital (for after-tax net cash flow to invested capital)
- 5) Use of Arbitrage Pricing Theory, Option Theory and other not so common applications

Key Points to Remember

- 1) Use multiples and cap rates for smaller, business brokerage firms and discount rates and cap rates for middle-market firms (in general).
- 2) As amount of ACF rises, pertinent multiples also rise (all other things equal; reflecting the so-called “size premium”)
- 3) Always match the earnings stream with proper “converter”, e.g. pretax earnings measure require pretax multiple and cap rate, etc.
- 4) To convert from pretax to after-tax, use the “1-t” multiplier, where t stands for applicable income tax rate.
- 5) When desired, it is possible to maneuver between multiples, cap rates and discount rates (while keeping point number 3 above in mind, i.e. maneuver from a pretax multiple to a pretax cap rate and vice-versa, etc.). See pages 14 and 15 of the handout titled “The Income Approach: Back to the Not So Basics” for an example of converting a publicly-traded P/E ratio to a private firm discount rate for net cash flow to equity.
- 6) The discount rate is lowest for net cash flow to equity and rises as the earnings measure moves up the statement of cash flows and income statement, i.e. as each level of economic income (earnings) incorporates ever fewer factors than net cash flow, the discount rate will increase, e.g. the discount rate for “net income” is smaller than that of “pretax income” and the discount rate for pretax income is less than that of EBIT, EBITDA and ultimately gross revenues.

Two Most Common Measures of Cash Flow

Adjusted cash flow (ACF) and net cash flows to equity (NCFE) are subject to the following qualifiers:

Adjusted Cash Flow (ACF)

- Pretax measure of “discretionary earnings” calculated as per the “generally accepted” framework developed in class (pretax income plus addbacks, with other “normalization” adjustments taking place after initial ACF figure is estimated).
- Applicable chiefly to smaller, business brokerage businesses (but also certain middle-market firms).
- Most commonly subject to a “multiple” through either “canned approach” such as Snowden, Jones or through use of market data.
- Adjusted cash flow (ACF), seller’s discretionary earnings (SDE), owner cash flow (OCF) are all synonyms and refer to the same foundational concept of the “pretax, cash equivalent financial resources available to a hypothetical buyer” to use as deemed appropriate.

Net Cash Flow to Equity (NCFE)

- After-tax measure of cash flows available to equityholders after all expenses including taxes, increasing working capital balances, capital expenditures and other “mandatory” cash outflows such as repayment of principal, funding of a sinking fund account, payment of preferred dividends, etc.
- Applicable chiefly to middle-market and M&A segment businesses (rarely for smaller, business brokerage firms except in certain specific circumstances, e.g. SBA’s Discounted Future Earnings method).
- Most commonly discounted via after-tax, equity discount rate such as that generated by the Ibbotson Build-Up Method or the Adjusted CAPM.
- May also be “capitalized” via after-tax cap rate whereby a single net cash flow to equity figure is representative of future earnings.
- While NCFE is discounted or capitalized by “the cost of equity”, certain situations require the usage of Net Cash Flows to Invested Capital (NCFIC) and “the cost of capital” (a weighted average of the cost of equity and the cost of debt).



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