Placing a Valuation on a Business

Valuation Concepts

The answer to what is the “value” of a business is “It depends”. Do we mean:

- Fair market value?
- Going concern value?
- Highest and best use?
- Future benefits?
- Substitutes and alternatives?
- Discounted earnings basis?

Among Many Valuation Methods

Cost-based or asset approaches
- Book value
- Adjusted book value
- Liquidation value

Market approaches
- Multiple/Price to earnings
- Multiple/Price to pretax earnings
- Multiple/Price to cash flow
- Multiple/Price to book value

Income approaches
- Capitalization of earnings
- Excess earnings methods
- Discounted future earnings
- Discounted future cash flow

Earnings Valuation

Even if we base value on earnings, which earnings?

- Historical earnings?
- Future earnings under present ownership?
- Future earnings under new ownership?

What Earnings?

- Profit before tax?
- profit after tax ?
- EBIT ?
- EBITDA ?

Book Value

- Book value is one of the easiest numbers to arrive at.
  - In most cases it is one of the least accurate methods
  - In can be used to set a bottom figure
- Basically it is Total assets- Total Liabilities
  - If used at all, it would need to be adjusted up or down for assets that may be worth more or less than what is seen in the accounting statements
    - For example, obsolete or old inventory cannot be sold at what its original value was. Or real estate may be worth more than the depreciated value shown on the Balance statement

More common approach: Capitalizing earnings

- Need realistic earnings figure
  - Average of past three years
  - Current year or
  - Future year
- Realistic rate of return

Value of investment = earnings/rate of return

Capitalized Earnings Method

$$\text{Value} = \frac{\text{Net Earnings (}\textit{After}\text{ Deducting Owner's Salary)}}{\text{Rate of Return*}}$$

*** Rate of return reflects what could be earned on a similar-risk investment**

$$\text{Value} = \frac{\$74{,}000 - \$25{,}000}{25\%} = \$196{,}000$$

Examples

Five year old bioengineering firm: just became profitable, one profitable product, high R&D on projects with uncertain futures.

- Current EBITDA: 550,000
- Rate of return expected: 40%
- $550,000/.4 = $1.38 million

Five year old software designer, three years of profits; good customer roster.

- Current year EBITDA $550,000, up 31% from last year.
- Rate of return expected: 15%
- $550,000/.15 = $3.7 million

More fine tuned: **Discounted Earnings**

What someone is willing to pay today to receive expected future earnings.

- Most common valuation method used by investment banks, consulting and accounting firms.
- Based on the level of risk inherent in the business and the opportunity cost of capital.

- **Discount Rate** – The rate at which future cash flows are discounted

Assumptions:

- net earnings
- discount rate
- a time period

$$\mathbf{NPV = CFYr1/1+DR + CFYr2/(1+DR)^2 + \ldots CFYrn/(1+DR)^n}$$

Discounted Future Earnings Method

<u>Step 1</u>: Project earnings five years into the future:

<u>Use 3 Forecasts:</u>

- Pessimistic
- Most Likely
- Optimistic

Compute a *weighted average* of the earnings:

$$\frac{\text{Pessimistic} + (4 \times \text{Most Likely}) + \text{Optimistic}}{6}$$

Discounted Future Earnings Method

(Continued)

Step 1: Project earnings five years into the future:

Year	Pessimistic	Most Likely	Optimistic	Weighted Average
1	$65,000	$74,000	$92,000	$75,500
2	$74,000	$90,000	$101,000	$89,167
3	$82,000	$100,000	$112,000	$99,000
4	$88,000	$109,000	$120,000	$107,333
5	$88,000	$115,000	$122,000	$111,667

Discounted Future Earnings Method

(Continued)

Step 2: Discount weighted average of future earnings at the appropriate present value rate:

$$\text{Present Value Factor} = \frac{1}{(1+k)^{t}}$$

where...

k = Rate of return on a similar risk investment

t = Time period (Year - 1, 2, 3...n)

Discounted Future Earnings Method

(Continued)

Step 2: Discount weighted average of future earnings at the appropriate present value rate:

Year	Weighted Average	x	PV Factor	=	Present Value
1	$75,500		$1/(1+.25) = .80$		$60,400
2	$89,167		$1/(1+.25)^2 = .64$		$57,067
3	$99,000		$1/(1+.25)^3 = .51$		$50,688
4	$107,333		$1/(1+.25)^4 = .41$		$43,964
5	$111,667		$1/(1+.25)^5 = .33$		$36,593
			Total		$248,712

Discounted Future Earnings Method

(Continued)

Step 3: Estimate the earnings stream beyond five years:

$$\text{Weighted Average Earnings in Year 5} \times \frac{1}{\text{Rate of Return}} =$$

$$= \$111{,}667 \times \frac{1}{25\%} = \$446{,}668$$

Step 4: Discount this estimate using the present value factor for year 6:

$$\$446{,}668 \times .2622 = \$117{,}116$$

$[1/(1+.25)^6]$

Discounted Future Earnings Method

(Continued)

Step 5: Compute the value of the business:

Value = Discounted earnings in years 1 through 5 + Discounted earnings in years 6 through ?

= $248,712 + $117,116 = $365,828

Estimated Value of Business = $365,828

Market Approach

Step 1: Compute the average Price-Earnings (P-E) Ratio for as many similar (though usually public) businesses as possible:

Company	P-E Ratio	
1	3.3	
2	3.8	
3	4.7	Average P-E Ratio = 3.9
4	4.1	

Market Approach

Step 1: Compute the average Price-Earnings (P-E) Ratio for as many similar businesses as possible:

Company	P-E Ratio	
1	3.3	
2	3.8	
3	4.7	Average P-E Ratio = 3.975
4	4.1	

Step 2: Multiply the average P-E Ratio by next year's forecasted earnings:

Estimated Value = 3.975 x $74,000 = $294,150

Valuation

- In the end, may use some combination of methods to settle on a figure.
- Ultimately, value is what someone is willing to pay.

Initial Public Offering (IPO)

- IPO is a company's first sale of stock to the public.
- Most entrepreneurial firms that go public initially trade on the NASDAQ.
- Important milestone for a firm. Typically, a firm is not able to go public until it has demonstrated that it is viable and has a bright future. And roughly $70 million in sales.

Four motivations for going public

Reason 1	Reason 2	Reason 3	Reason 4
Is a way to raise equity capital to fund current and future operations	**Raises firm's public profile, making it easier to attract high-quality customers, alliance partners, and employees**	**A liquidity event that provides a means for a company's shareholders (including its investors) to cash out their investments**	**By going public, a firm creates another form of currency that can be used to grow the company**

Advantages and Disadvantages of Going Public

Advantages

- Large source of interest-free capital for growth
- More prestige and clout in the marketplace
- Good for attracting new employees with stock options
- Achieve liquidity for owners and investors
- Valuation for the enterprise

Disadvantages

- Expensive process
- Time consuming
- Everything becomes public knowledge
- CEO responsible to shareholders first for short-term performance
- Entrepreneur may not have controlling interest
- Sarbanes-Oxley

The IPO Process