

## Valuation

“How much is your company worth?” investors will eventually ask. With the right investor in place, it will be worth a fortune! Is the right answer... but you don’t want to come across as a smart aleck. The real question should be , “How much will your company be worth?”

Remember that investors will not even begin to address valuation unless and until they feel comfortable with your Company. Only after they are satisfied with market demand, product development and management capabilities will they seriously consider valuation. The assumptions data entered on this page (in blue) provides the basic data used by investors to calculate the value of your business *today*, presuming it does what you think it will do in the *future*.

The **blue variables** ask you make some assumptions about possible future financing. **The big number to research is the likely Price/Earning Multiple (P/E)** – we enter an assumed ‘10’ = your company would be worth 10 times your profit. Depending upon your industry, this could range from .5 to 50+. Take a look at <http://www.bizstats.com> for some possible ratios that you can quote from a reliable and up-to-date source. You can leave rounds two out and set it to zero if you like, but you should enter an estimate of when you would likely be acquired go public.

Investor Equity Valuation Calculation		Your Company Name Here				
		2013	2014	2015	2016	2017
Revenue		\$ 21,446	\$ 34,383	\$ 55,065	\$ 111,760	\$ 232,933
Net Income		\$ 9,646	\$ 8,662	\$ 14,541	\$ 30,302	\$ 64,531
Cash Flow		\$ 8,303	\$ 8,668	\$ 13,681	\$ 31,387	\$ 63,495
Earnings per Share (EPS)		\$ 0.00	\$ 0.00	\$ 0.01	\$ 0.02	\$ 0.03
Profit Growth Rate			-10%	68%	108%	113%
Shares used for EPS computation		2,011,667	2,016,167	2,017,000	2,017,000	2,020,958
<b>Valuation Base Data</b>						
Estimated Cost of Money - Interest Rate	8.0%					
Number of years assumed for Calculations	3					
Estimated Price/Earnings Multiple (P/E)	30					
Expected Investor Rate of Return	40%					
Expected Payoff (# times Investment Amount)	4					
Internal Rate of Return based on Expected Payoff	59%					
Current Shares Outstanding	14,000,000					
Founders Shares	12,000,000					
Founders Ownership %	86%					
<b>Round One - Series A</b>						
Date of Round One Investment					Mar 2013	
Included in Fiscal Year					2013	
Investor Capital (000)					\$ 1,000,000	
Use of Funds - How much will be used prior to Round 2					\$ 1,000,000	
<b>Round Two - Series B</b>						
Date of Round 2 Investment					Mar 2014	
Included in Fiscal Year					2014	
Investor Capital (000)					\$ 5,000,000	
Use of Funds - How much will be used prior to Round 3					\$ 5,000,000	
<b>Round Three - Acquisition /IPO</b>						
Date of Round 3 Investment					Mar 2017	
Included in Fiscal Year					2017	
Dividend Yield on Preferred Stock (paid quarterly)					8.00%	
Percent of Company Sold in IPO					20.0%	

The formulas on this page use the revenue and profit numbers carried forward from your projected Income Statement.

## Harvard Model

This model is a fairly simplistic calculation of the net present value (NPV) of the possible future value of your company.  $(\text{Profit Year 5}) \times (\text{P/E}) / (1 + \text{IRR})^5$  You can also substitute 3 in both places where there is a 5, for a year 3 valuation.

		Harvard Model	Discounted Cash Flow	First Chicago			Weighted Average	Conventional VC Method	Average of all 4 Methods
				Base Revenue	Revenue / Profit Growth -15%	Revenue / Profit Growth -50%			
<b>Pre-Money Valuation</b>									
<b>Harvard Model</b>									
Net Income for 2015 - Year 3		\$ 14,541							
<b>Company Valuation Prior to Investment</b>		<b>\$ 158,972</b>							
<b>Discounted Cash Flow</b>									
Estimated Cumulative Cash Flow through 2014 - Year 2			\$ 16,971						
Residual Value based on earnings for 2015 - Year 3 and a PE of 30			\$ 436,218						
Present Value of Cash Flows			\$ 15,339						
Present Value of Residual Value			\$ 158,972						
<b>Company Valuation Prior to Investment</b>			<b>\$ 174,310</b>						
<b>First Chicago</b>									
3 Year Comparative Growth Rates				Plan	Sideways	Pessimistic			
				0%	-15%	-50%			
Cumulative Revenue through 2015 - Year 3				\$ 110,894	\$ 94,260	\$ 55,447			
Estimated Cumulative Net Income through 2015 - Year 3				\$ 32,849	\$ 27,922	\$ 16,424			
Estimated Market Value assuming a PE of 30				\$ 985,466	\$ 837,646	\$ 492,733			
Present Value @ 40% Discount Rate (from Investor Rate of Return above)				\$ 359,135	\$ 305,265	\$ 179,567			
Scenario Probability (must total 100%)				50%	30%	20%			
<b>Weighted Average Valuation Prior to Investment</b>				\$ 179,567	\$ 91,579	\$ 35,913	<b>\$ 307,060</b>		
<b>Conventional VC Method</b>									
Net Income for 2015 - Year 3								\$ 14,541	
Estimated Market Value assuming a PE of 30								\$ 436,218	
<b>Company Valuation Prior to Investment</b>								<b>\$ 109,054</b>	
<b>Average of all 4 methods</b>									<b>\$187,349</b>

## Discounted Future Cash-Flow

The Discounted Cash Flow technique is the most commonly used valuation method that accounts for the present value of the Company's projected pre-interest cash flow for a determined period of 3 to 5 years (expected date of an IPO or acquisition). These cash flow projections are derived from assumed revenue generation on product sales, less operating costs and debt repayment on capital investments (not including interest payments), plus an estimate of the Company's residual value at the end of 3 to 5 years. These projections are then discounted back to the present by the risk-adjusted, weighted-average cost of capital. This cost of capital accounts for interest payments and/or equity returns expected by investors.

## First Chicago

The First Chicago Method values the Company based on the cumulative impact of the probability of different earnings scenarios. While different scenarios can be generated under the either the DCF, Hockey Stick or Conventional Methods - the First Chicago Method requires management and the investors to consider the likelihood of earnings scenarios, thereby accounting for a range of possible outcomes in a single analysis. As you can see on the screen, we ask for several growth scenarios.

## Common VC Formula

- The VC first decides what return on investment it seeks through the projection period.
- Then applies a price/earnings ratio to earnings at the end of the projection period to determine the market valuation of the Company in the future.

- The future market valuation of the Company is discounted to the present using a discount rate resulting from a desired payoff of  $xx$  times investment over  $x$  years.
- The investor's ownership in the Company is determined by taking the initial investment of  $\$xxx$  as a percentage of the  $\$xxx$  present value of the Company - which equal  $xx\%$ .

Parts excerpted from Venture Law Firm **White & Lee** on investor valuation.

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