

# Venture Capital Method



Amar Rapaka

## 1 Introduction to VC Method

VC Method is a commonly used valuation method in the venture capital industry for valuing startups. Investors seek a return equal to some multiple of their initial investment.

Venture capital firms are pure financial investors. The purpose of venture capital firms is not to keep themselves invested in a startup indefinitely but to exit the investment at some point in the future. Typically, venture capitalists look for an exit within 3–7 years.

Unlike strategic investors that have other strategic reasons, such as technology and market access, venture capital firms invest for pure financial reasons. For this reason alone, the exit value of the startup assumes high importance in making an investment decision.

Another reason typical of venture capital investments is that venture capital firms invest in startups on behalf of other investors, hence fund management fee and carried interest assumes importance in their valuations.

Unlike other valuation methods, such as methods based on free cash flows or comparable companies, venture capital method incorporates the exit value, management fee, and carried interest in the valuation. Hence, the venture capital method is a widely adopted method in the venture capital industry.

---

A. Rapaka (✉)  
London Business School, Andhra University, Hyderabad, India  
e-mail: [arapaka.sln2011@london.edu](mailto:arapaka.sln2011@london.edu)

## **2 Seven Steps to Value a Startup Using the Venture Capital Method**

There are seven steps to value a company using the venture capital method. Deciding on the quantity of investment is the first step. The second step is to find the investment exit value. Finding the present value of the exit value is the third step. Finding the value of the company is the fourth step. The fifth step is to estimate the value of the company owned by the VC. Estimating the management cost and carried interest, and incorporating them into the valuation is the sixth step. The last step is to decide on the investment.

Now let us look at each of the steps mentioned above in detail.

### ***2.1 Step 1: Determine the Investment Required***

Studying the business plan prepared by the entrepreneur is the first step to determine the investment required. The business plan summarizes all crucial information about the company; it includes the strategic plan, the competitors, and the financial projection. The financial projections focus on the use of funds and sources of funds. This gives an idea of the funds required by the startup. The business plan also will outline in detail how much the entrepreneur plans to raise in this round.

The financial projections from the business plan should be taken as a starting point, but not to be relied upon. Most startups have little to no sales, and the entrepreneur may have only the faintest idea about how the startup is going to perform in the future. With mature companies, forecasting sales, profits, and cash flow are relatively straightforward. However, for startups, VCs must put much more effort into getting inside the business and the opportunity. Deciding the investment required is both a science and art. Information such as on the size of the market, capability and experience of the management team, competitive edge of the product with respect to the competition, patents, and assessment of various risks can help decide on the quantum of investment.

### ***2.2 Step 2: Finding the Exit Value***

The focus of this step is to value the company at the time of exit. A successful exit is likely an IPO or a competitive sale. There are many techniques to estimate the exit value. The three main approaches are (1) relative valuation, (2) absolute valuation, and (3) successful exit method in the same industry.

### 2.2.1 Relative Valuation

In the relative valuation, we find a set of companies that can be compared to our startup. Among VC, among all the exit methods, relative valuation is by far the most popular method to value a company.

There are many multiples that can be used to estimate the target value. Some of the popular multiples are EV/EBIT, EV/EBITDA, P/E, EV/Revenue.

Out of all the ratios, P/E is probably the most widely used valuation multiple. Price refers to the market cap and earning refers to net income.

Let us see how we can use P/E valuation multiple to arrive at the exit valuation. Let us say our company, Startup Co, projected revenue, EBITDA, and net income are as follows:

|            | Year 1 | Year 2 | Year 3 | Year 4 | Year 5  |
|------------|--------|--------|--------|--------|---------|
| Revenue    | \$5 M  | \$10 M | \$20 M | \$50 M | \$100 M |
| EBITDA     | \$0 M  | \$2 M  | \$10 M | \$20 M | \$40 M  |
| Net income | \$0 M  | \$1 M  | \$3 M  | \$5 M  | \$10 M  |

Let us say comparable public companies are trading at the 20X their earnings, then the exit value of Startup Co using P/E multiple is  $\$10 \text{ M} \times 20 = \$200 \text{ M}$ .

### 2.2.2 Absolute Valuation

In absolute valuation, we use the discounted cash-flow (DCF) model. There are two key inputs to DCF models. The first is the discount rate, and the second is the cash flow models.

Free cash flow (FCF) is the cash a company generates after considering all cash outflows, such as CAPEX, working capital, etc.

Free cash flows are estimated for a period until the company is stable. The perpetual value of the company at the point when the company is stable is estimated. Both the forecasted cash flows and the perpetual value of the company are discounted back to the time of the exit and are added to get the value of the company at the time of exit. Discount rate is the opportunity cost of the investment. It measures the required return from the investment given the riskiness of the future cashflows. This discount rate can be high given the high-risk nature of the startups.

### 2.2.3 Successful Exit Method in the Same Industry

This method is more prevalent than the above two methods in the venture capital industry. In this method, the venture capitalist will use the average valuation of successful exits in the same industry to arrive at the exit value.

For example, suppose the average valuation of successful IPOs in the same industry is \$500 M. Then the venture capitalist can assume the exit value to be \$500 M.

### 2.3 Step 3: Finding the Present Value of the Exit Value

To convert the exit value to today's date, we need an appropriate discount rate. VC usually uses high target return, reflecting the high failure rates of startups. Estimating the rate of return is a challenge, given that startups have little historical data to calculate betas. This discount rate represents not the target return, but the cost to the venture capital company. The cost to a venture capital company is calculated with a probability that indicates a successful exit. Let  $p$  represent the probability of a successful exit.

The expected value at exit is the exit value got from the previous step multiplied by  $p$ .

As explained in the previous step, the exit can be calculated using DCF, relative method, or exit method.

Let us assume that the expected exit will be after  $T$  years.

Then, the present discounted value at exit is an exit value multiplied by

$$\frac{p}{(1 + VC\_discount\_rate)^T}$$

where  $VC\_discount\_rate$  is the cost of capital for the venture capital company, and  $\frac{p}{(1+VC\_discount\_rate)^T}$  is the discount factor.

The inverse of the discount factor is the called target multiple of money. The target multiple of the money is later used in valuing the company.

Let us say  $VC\_discount\_rate$  is 25%, and the probability of successful exit probability is 40%. Also, let us assume that a successful exit time is 7 years.

Then the target multiple of the money =  $\frac{(1+VC\_discount\_rate)^T}{p} = \frac{1.25^7}{0.4} = 11.9$ .

The target multiple of money is one of the key parameters in the overall valuation and depends on assumptions regarding the value of  $T$  and  $p$ . So, conducting a sensitivity analysis on various values of  $T$  and  $p$  gives the venture capitalist a range of company's valuation.

## 2.4 Step 4: Estimating the Value of the Company

The value of the company is discounted value of exit value adjusted for retention rate. The reason for using the retention rate is to take into account later rounds of fundings.

Most startups need further rounds of funding as they don't turn cash flow positive for a considerable time. This results in dilution of ownership percentage for the previous investors. In reality, it is hard to predict the dilution of ownership that can arise from future funding rounds, hence most VCs use educated guesses and experience to arrive at the dilution.

To calculate the dilution, we take all the diluted share count of the startup after the current round of investment. The diluted share count is arrived when we add shares that have not been yet vested to the basic share count. The reason is that at the time of a successful exit, all the shares that have been vested will be realized.

The next step is to estimate the number of shares at the time of exit. This can be through an educated guess or experience.

The retention percentage = percentage of ownership after the current round of investment for the VC/percentage of ownership at the time of investment exit.

Let us say a VC buys 1 M share out of 4 M share of a startup. This means 25% (1 M/4 M) of the ownership of the startup is held by the VC. Now at the time of exit, the startup raised another 1 M. The share count now is 5 M shares, the ownership now fell to 20% (1 M/5 M).

The retention percentage is the percentage of ownership after the current round of investment/percentage of ownership at the time of investment exit =  $0.20/0.25 = 80\%$ .

Total valuation = exit valuation \* retention%/target multiple of money.

Let us say the target multiple of money is 11.9, the retention is 80% and the exit value is \$500 M.

Then the total valuation at present is  $\$500 \text{ M} * 80\%/11.9 = \$33.6 \text{ M}$ .

## 2.5 Step 5: Estimating the Value of the Company Owned by the VC

Total valuation gives the valuation of the entire company, but the VC doesn't own the entire company, but part of the company. There are two major ways to value the part owned by the company.

The first one is through the option valuation. The second one is to make a simple approximation of the total company value multiplied by the proposed ownership of the company by the VC. In general, most VCs use the second one. We too will use the second one here.

Let us say the proposed ownership percentage by the VC today is 20%, and the total valuation is \$33.6 M.

Then the partial valuation is  $20\% * \$33.6 \text{ M} = \$6.7 \text{ M}$ .

## ***2.6 Step 6: Including Fund Management Fee and Carried Interest into the Valuation***

The expenses of VCs, such as salaries, rents, administrative costs, legal costs, etc., should be included while deciding on the cost-benefit analysis of the investment. This cost is called the fund management fee.

Carried interest is the portion of future profits from an investment paid to general partners (GP) by the limited partners (LP) of the fund. Simply put, carried interest is a performance fee.

Limited partners (LP) are those who invest their capital in the venture capital fund. General partners (GP) are investment professionals who are responsible for making investment decisions and running the fund.

Committed capital is the money that LPs invest for venture capital fund. Investment capital is committed capital minus the fund management fee. Investment capital is the money available for investing for the GPs.

The fund management fee is calculated based on committed capital. Let us say the committed capital is \$500 M. The life of the fund is 10 years, and management fees for years 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 are 2%, 2.5%, 2.5%, 2%, 2%, 1.5%, 1.5%, 1%, 1%, and 1.5% respectively. In general, management fees are high at the beginning of the fund's life and taper out at the end time of the fund's life.

Then the 10-year management fee = committed capital \* (2% + 2.5% + 2.5% + 2% + 2% + 1.5% + 1.5% + 1% + 1% + 1.5%), which is  $\$500 \text{ M} * 13\% = \$87.5 \text{ M}$ .

Investment capital = committed capital – management fee =  $\$500 \text{ M} - \$87.5 \text{ M} = \$412.5 \text{ M}$ . \$412.5 M is the money available for investments in companies and not \$500 M. Typically, 2% of the committed capital goes into fund management fee.

Let us say the VC is considering investing \$10 M in a startup from the total available \$412.5 M investment capital.

Then LPs cost for the \$10 M investment =  $(\$500 \text{ M}/\$412.5 \text{ M}) * \$10 \text{ M} = \$12.1 \text{ M}$ .

Now let us investigate carried interest. The typical carried interest rate charged to LPs is 20%, although some GPs can receive even higher compensation. A carried interest rate of 20% means that after LPs have been paid their original investment back, the GPs will get 20% of the total profits from the investment fund, and the remaining 80% of fund's profits are paid to the LPs.

The general idea behind carried interest is that if the overall VC fund is profitable, some profits will belong to the GPs of the VC fund, and the rest will go to the LPs. This act has an incentive on the part of GPs to perform well.

Let us say the fund earned twice the invested capital at the end of 10 years, given the 20% carried interest of the GP, the GP profits are

$$(2 * \$412.5 \text{ M} - \$500 \text{ M}) * 20\% = \$65 \text{ M}$$

The GP% in the total profits =  $\$65 \text{ M} / (2 * \$412.5 \text{ M}) = 8\%$ .

LPs valuation =  $(1 - \text{GP\% in the total profits}) * \text{partial valuation} = 92\%$  of  $\$6.7 \text{ M} = \$6.1 \text{ M}$ . (Here, as calculated in the previous step  $\$6.7 \text{ M}$  is the partial investment.)

## 2.7 Step 7: Making the Investment Decision

Investment recommendations are based on comparing costs to benefits. The costs are the money invested by the VC. The benefits are the present value of the exit valuation of the company. Investment recommendations are based on analyzing costs to benefits.

A good investments analysis takes a range of possible input values to test the sensitivity cost benefits analysis for various assumptions.

For some VC such an angel investor the management fee and carried interest doesn't make much sense as they invest their own money. For this section of VCs, we need not take the management fee and carried interest into consideration. Whatever fund management fee that is needed can be assumed to be included in the target multiple of money.

In this case, the investment decision is made based on comparing partial valuation to the investment amount.

For professional VC that run funds raised from LPs, the above may not be the ideal case. First, it mixes costs into valuation. Second, professional VCs need fund management fees to run the funds as it can take anywhere from 3 to 7 years to realize the investments. Last, the carried interest ties the VCs' interests to that of LPs' interests.

In this case, the investment decision is made based on comparing LPs' valuation to LPs' costs.

## 3 A Case to Illustrate the VC Method

Let us consider a VC is considering investing \$10 M in a startup.

The committed capital is \$150 M, and a 3% management fee over the fund life of the 10 years.

The founders of the Startup currently hold 10 M shares of common stock.

The VC proposes to add 5 M shares. Thus, following the investment, the Startup will have 15 M common shares outstanding.

The cost of venture capital fund (discount rate) is 20%.

The VC estimates a 40% probability for a successful exit, with an expected exit time in 5 years case.

The carried interest is 20%.

Now let us find out whether to invest.

### 3.1 Step 1

Suppose that, after due diligence, the VC estimates the startup needs an investment of \$10 M.

The VC came to the \$10 M required investment based on founders' business plans, industry trends, and the VC's own experience investing in this sector and previous transactions in the same industry.

### 3.2 Step 2

Exit value can be estimated based on relative valuation multiples, discounted cash flow valuation or exit valuation, as described in the above sections.

Let us say in this case, the VC has used an IPO exit of a similar transaction in the same industry to come with the exit value.

The average IPO exit in this industry is \$500 M. We can use \$500 M as our estimate for the exit value.

### 3.3 Step 3

As given in the case the cost of venture capital of 20%, 40% is the success rate for an IPO exit, and a successful exit time of 5 years.

As described in the above section, the required multiple of money.

$$= \frac{(1+VC\_discount\_rate)^T}{p} = 1.2^5 \cdot 40\% = 6.2$$
, where say  $VC\_discount\_rate = 20\%$ ,  $T = 5$  years and  $p = 40\%$ .

### 3.4 Step 4

To estimate the total value of the startup, we need exit valuation, target multiple of money, and retention rate. We already have the exit valuation, target multiple of money from the previous steps.



To find expected retention, we use stocks holding of the startup at different timelines.

The founder's stock before the investment = 10 M (from the case).

The proposed additional stock by the VC = 5 M (from the case).

After the investment, the VC holds  $5\text{ M}/15\text{ M} = 33\%$  of the company.

The startup is estimated to add another 20 M of shares in future funding rounds (from the case).

After the future rounds of funding, the VC will hold  $5\text{ M}/35\text{ M} = 14\%$ .

The expected retention rate =  $14\%/33\% = 43\%$ .

Now the total valuation = exit valuation \* retention/M =  $\$500\text{ M} * 43\% / 6.2 = \$34.45\text{ M}$ .

### 3.5 Step 5

The partial valuation is the proposed ownership \* total valuation.

The proposed ownership percentage today is  $5\text{ M}/15\text{ M} = 33.3\%$ .

The partial valuation is  $33.3\% * \$34.45\text{ M} = \$11.48$ .

### 3.6 Step 6

To calculate the management fee, we need to calculate the investment capital.

The committed capital is \$150 M. It is given in the case that the management fee is 3% over the fund life of the 10 years equaling \$45 M.

The invested capital is committed capital – management fee = \$105 M.

Then LPs cost = (Committed Capital/investment capital) \* proposed investment.  
=  $(\$150\text{ M}/\$105\text{ M}) * \$10\text{ M} = \$14.29\text{ M}$ .

Now it is given in the case that the fund earned 2.5 times the invested capital at the end of 10 years, given the 20% carried interest of the GP, the GP profits are  $(2.5 * \$105\text{ M} - \$150) * 20\% = \$12\text{ M}$ .

The GP% in the total profits =  $\$12\text{ M} / (2.5 * \$105\text{ M}) = 8.6\%$ .

Now the LPs Valuation =  $(1 - \text{GP}\% \text{ in the total profits}) * \text{partial valuation}$ .  
=  $(1 - 8.6\%) * \$11.48 = \$10.50\text{ M}$ .

### 3.7 Step 7

In this step, we need to decide on the investment.

*Case 1:* When a VC has negligible management fee and carried interest, to arrive at the investment decision, we need to compare the investment to the partial valuation.

As calculated, the partial valuation is \$11.48 M, which is greater than the \$10 M of investment. The VC should go ahead with the investment.

*Case 2:* In case the VC incurs fund management fees and carried interest, to arrive at the investment decision, we need to compare the LP's cost to the LP's valuation.

As calculated, the LP's cost = \$14.29 M and LP's valuation = \$10.50 M.

As the LP's cost is greater than the LP's valuation, the VC should not go with this investment.

### 3.8 Sensitivity Analysis for the Above Case

As described in this chapter, the target multiple of money is so important in the overall valuation that there is a need for doing a sensitivity analysis on various values of T and p that goes into calculating the target multiple of the money.

The following table is a sensitive table to calculate Target Multiple of Money by varying T and p for the above case.

|                  | Probability of exit (p) |      |     |     |
|------------------|-------------------------|------|-----|-----|
|                  |                         | 30%  | 40% | 50% |
| Time of exit (T) | 5                       | 8.3  | 6.2 | 5   |
|                  | 6                       | 10   | 7.5 | 6   |
|                  | 7                       | 11.9 | 9   | 7.2 |

Given the various Target Multiple of Money, various valuation figures.

| Target multiple of money | Valuation (in million) |
|--------------------------|------------------------|
| 5                        | \$43.06                |
| 6                        | \$35.88                |
| 6.2                      | \$34.45                |
| 7.2                      | \$29.90                |
| 7.5                      | \$28.71                |
| 8.3                      | \$25.83                |
| 9                        | \$23.92                |
| 10                       | \$21.53                |
| 11.9                     | \$17.94                |

So, the range of valuations is from \$17.94 M to \$43.06 M. The venture capitalist should conduct a sensitivity analysis to understand the sensitivity of valuations before arriving at an investment decision.

## 4 Disadvantages of VC Method

There are two major disadvantages of the VC Method:

First, the VC Method demands the projection of company revenues and growth into the future, and this can be extremely difficult. Second, the VC Method needs the valuation multiples to arrive at a terminal valuation, which can be subjective and can change from investor to investor, which can give rise to less certain valuations.

Second, the discount rate required to decide on the valuation is subjective and is based on the risk perceived by the investor. Hence is not a universally accepted another for assessing risk, hence can change from one investor to another. Therefore, the VC Method can produce different valuations for the same startup from one investor to another and is based on the assumptions and risk perception among investors.

## 5 Conclusion

The VC Method is a favorite method for valuing companies in most venture capital companies across the world because its advantages outweigh its disadvantages.

Unlike strategic investors, venture capital firms exit the startup at some point in the future to realize their investments. For this reason, the exit value of the startup assumes high importance in making an investment decision.

Another reason for the popularity of the VC Method is that venture capital firms invest in startups on behalf of other investors, hence fund management fee and carried interest assume importance in their valuations.

Last, no venture capital company owns all the startups. There are founders, and future rounds of funding making sure there are other stockholders, hence partial valuation assumes importance.

VC Method accommodates all the above reasons, and hence, is widely adopted by the VC industry.

### Terminology

|                       |   |
|-----------------------|---|
| General partners (GP) | General partners (GP) are investment professionals who make investment decisions and running the fund.                                  |
| Limited partners (LP) | Limited partners (LP) are those who invest their capital in the venture capital fund.   |
| Required investment   | Capital needed by the startup to fund its operations.   |
| Exit value            | Value of a company/startup when venture capital firm plans to realize its investment. Typically, a value at an IPO or a strategic sale. |

|                                  |  |
|----------------------------------|--|
| Exit time                        | Time when a venture capital firm plans to exit the investment. Typically, venture capitalists look for an exit within 3–7 years.   |
| Discounted cash flow (DCF)       | Discounted cash flow (DCF) is a valuation method that estimates the value of a company/investment using its expected future cash flows.  |
| Relative valuation               | Relative valuation is a valuation method that estimates the value of a company/investment by comparing it to other similar company/investment based on metrics such as EV/EBITDA, EV/Revenue, and P/E ratios, etc. |
| Successful exit valuation method | The average valuation of successful exits, such as an IPO or a strategic sale in the same industry.  |
| Target multiple of money         | The multiple of money that a venture capital firm expects when an investment goes to a successful exit, such as an IPO or strategic sale.  |
| Retention rate                   | Retention rate is the ratio of current ownership to final ownership of the venture capital firm in the startup.  |
| Fund management fee              | Fund management fee is a charge levied by general partners (GP) for managing a venture capital fund.   |
| Carried interest                 | Carried interest is a share of profits earned by general partners (GP) of the venture capital fund. It is the fee for performing the general partners (GP).  |
| Total valuation                  | Total valuation is the present discounted value of the exit value, adjusted for the retention rate.  |
| Partial valuation                | Part of the value of the company/startup that the venture capitalist owns.   |
| LP valuation                     | The profits earned by limited partners (LP) from an investment in a venture capital fund   |
| GP valuation                     | The profits earned by general partners (GP) from making the investment.  |
| LP costs                         | Cost incurred by limited partners (LP) to invest in a venture capital fund. This includes investment committed, fund management fee, and carried interest.   |