

Private Equity Valuation

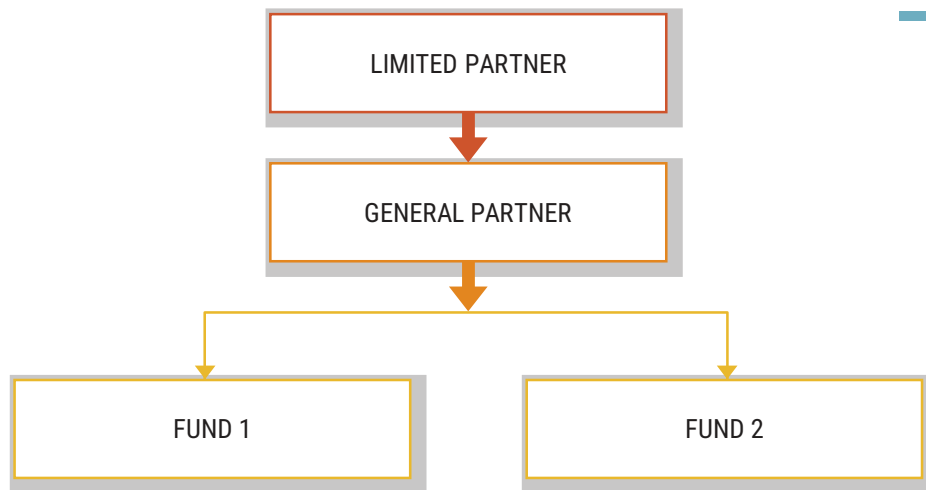
Introduction

Private equity has gained momentum in recent years as an alternative investment category. Investments in private equity typically occur through direct investments in private companies or through buyouts, which may result in the delistings of public companies. Invested companies are commonly referred to as portfolio companies by PE funds.

Below is an overview of the basic structure of a private equity transaction:



There are two types of fund participation in private equity. First, there are general partners in a PE fund. It is their responsibility to obtain capital commitments from limited partners. Due to the partnership structure of PE funds, the general partners constitute the PE firm. This description can be represented diagrammatically as follows in the next page.



The valuation of private equity transactions

A private equity transaction requires valuation for the following reasons:

- i. At the negotiation stage, before the investment is made,
- ii. A periodic report on the investment performance to the limited partners and an exit report at the end of the investment period.

Defining the difference between price and value of PE investments may be helpful before discussing valuation techniques. In many cases, the price paid is not representative of fair value because it is greatly influenced by bargaining power between the parties. PE investments are based on multiple factors other than bargaining power that determine the fair value of the underlying business.

Methods of valuation of private equity investments

Typically, conventional methods of valuation are inapplicable to the valuation of private equity investments in portfolio companies since such investments are different from conventional investments.

Private equity investments can be valued differently depending on their type, such as venture capital or buyouts. Differences between venture capital investments and buyouts can be explained by the following characteristics:

Venture Capital	Buyouts
Cash flows are unpredictable & unrealistic	Consistent & predictable cash flows
Lack of market history and unproven market future	Established market position
Weak asset base	Significant asset base
Primary equity funding and less use of leverage	Extensive use of leverage
Risk assessment is difficult	Risk is measurable
Extensive working capital requirements	Low working capital requirements
Markets for products yet to be established	Established products

1. Venture Capital

Investing in venture capital involves two fundamental concepts: pre-money valuation and post-money valuation. Post-money valuations are based on the company's value after the financing or investing round. Real option methodology and venture capital method are two commonly used methods for valuating venture capital investments.

a) Real Option Methodology

Essentially, a real option represents the right to make a business decision based on a call or put option. The term generally refers to situations in which management or shareholders have the freedom to make radically different strategic decisions (i.e., taking on or abandoning a high-risk, high-return project). Since many decisions are involved at this stage, it applies to some companies in the seed or start-up stage. Therefore, venture capital investments in start-ups can be valued using this methodology.

b) Venture Capital Method

In the venture capital method, the exit year and value of a PE investment are determined. Post-money value represents the potential exit value discounted to present at the PE investor's expected return.

Symbolically, venture capital can be represented as follows:

$$\text{POST} = V / (1+r)^t$$

$$\text{PRE} = \text{POST} - I$$

$$F = I / \text{POST}$$

$$y = x(F / (1 - F))$$

$$p1 = I / y$$

where;

POST = Post money valuation

V = Exit value expected a.k.a. terminal value

T = time to potential

exit

I = investment

PRE = Pre-money valuation

F = fractional ownership of investor after investment

y = Number of shares the investors require to achieve the desired fractional ownership

p1 = Price per share

r = rate of return expected by the PE inv

1. BUYOUT

a) The LBO Model

The model helps determine the maximum price that should be paid for a particular investment. Consequently, the method does not provide a valuation, but provides a range of prices to be paid. Maximum prices are determined by the following factors that contribute to value accretion.

- Earnings growth
- Multiple growth
- Debt reduction

ILLUSTRATION:

Consider an example of a \$5,000 million investment in a private equity transaction financed with 50% equity and 50% debt. The \$2,500 million equity investment is further broken down into \$2,400 million of preference shares owned by the PE fund, \$95 million of equity owned by the PE fund and \$5 million of management equity. The preference shares have been promised a return of 12% per annum. The private equity firm equity is promised 95 percent of the residual value of the firm after creditors and preference shares are paid, and management equity holders are promised the remaining 5 percent. Assumed that at exit at year 5, the investment is worth \$8,000 million and debt of \$900 million has been paid off using operational cash flows. The payoffs to the claimants in order of preference are as follows:

Claimant	Amount of Payoff (in USD million)	Return (%)	Multiple
Debt	1,600	NA	NA
Preference shares – PE fund	$2,400 \times (1.12)^5 = 4,230$	12%	NA
Equity – PE fund	$0.95 \times (8,000 - (4,230 + 1,600)) = 2,061$	85%	21.8
Equity - Management	$0.05 \times (8,000 - (4,230 + 1,600)) = 109$	85%	21.8

	STAGE OF DEVELOPMENT					Bridge/Mezz
	Start-up	First stage	Second stage	Third stage	Fourth stage	
Plummer	70% - 50%	60% - 40%		50% - 35%		35% -25%
Scherlis and Sahlman	70% - 50%	60% - 40%		50% - 35%		35% -25%
Management team	✓	✓	✓	✓	✓	✓
Business Plan	✓	✓	✓	✓	✓	✓
Financing		✓	✓	✓	✓	✓
Expense History		✓	✓	✓	✓	✓
Prototype		✓	✓	✓	✓	✓
Established Market			✓	✓	✓	✓
Revenue Growth				✓	✓	✓
Profitable					✓	✓

STAGE	COMPANY CHARACTERISTICS
Start-up	Generally, they are less than a year old and are involved in early product development and testing.
First stage	Executing market studies, checking prototypes, and producing limited quantity of products.
Second stage	Viable product and an established market. To expand their business, they have either received or are seeking financing. Net income is usually negative or insignificant.
Third stage	Experiencing significant revenue growth. There may be positive net income, but the amount of cash generated internally is insufficient to cover expansion costs.
Fourth stage	Profitable and growing rapidly. Growth may still require additional capital, but the risks associated with investing in an early-stage company have diminished significantly.
Bridge/ Mezzanine	In the process of planning their IPO but need additional funds to make it through to completion. An IPO is usually followed by a mezzanine round within six months..

ILLUSTRATION:

Consider ABC, a start-up looking for venture capital funding. In four years, the founders expect to sell the company for \$25 million. They need to raise \$3 million at this point. Discounting at 50% is the appropriate rate. Post-investment, the founders intend to hold 1 million shares in the company.

Solution: Step 1: Determine the post money valuation

The post money value i.e. the value of the Company post the initial investment is the net present value (NPV) of the terminal value of \$25 million. It is computed as $\$25 \text{ million} / (1.5)^4 = \$4,938,272$.

Step 2: Determine the pre-money valuation

Pre-money value = Post money value - Investment = $\$4,938,272 - \$3,000,000 = \$1,938,272$

Step 3: Determine owner ship fraction of venture capital

Fraction of ownership = $\$3,000,000 / \$4,938,272 = 60.75\%$

Step 4: Compute the number of shares to be issued to venture capital

As the founders want to intend to hold 1 million shares in the Company post investment, the number of shares to be issued to venture capital (y) = $1,000,000 * (0.6075 / (1 - 0.6075)) = 1,547,771$ shares.

Step 5: Determine the per share price

Price per share = $\$3,000,000 / 1,547,771 = \1.94

Private equity and venture capital valuation guidelines

In order to report to the investors in the funds they manage, private equity managers may be required to conduct periodic valuations of investments. As part of the International Private Equity and Venture Capital Valuation Guidelines ("IPEV Guidelines"), recommendations are provided intended to represent current best practices for private equity valuations.

To provide private equity and venture capital practitioners with high-quality, uniform, globally acceptable, principles-based valuation guidelines that ensure compliance with accounting and regulatory requirements in a form that is easy to implement for all practitioners, regardless of size.

The IPEV Board confirms that fair value is the most appropriate way to value private equity portfolio companies (from the perspective of a PE fund) and investments in private equity funds (from the perspective of a PE investor). Investors in funds that use fair value as an indicator of portfolio performance benefit from the Board's support for fair value.

As part of an agreement between the International Private Equity and Venture Capital Board (IPEV Board) and the International Valuation Standards Council (IVSC), the IPEV Board's Valuation Guidelines will be consistent with the International Valuation Standards (IVS). This will allow these valuation guidelines to be positioned as sector-specific application guidance for IVS principles. Therefore, an IVS-based valuation of an equity investment will be in compliance with financial reporting requirements if the valuation guidelines are followed. Additionally, it will maximize investors' trust and confidence.

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