

# Private Equity and Valuation



**Private equity is a distinctive investment strategy with a buy-to-sell orientation. Private equity fund investors typically expect their money returned, with a handsome profit, within 10 years of committing their funds. Private equity investments in the portfolio companies need more careful analysis because, in most private equity transactions (involving high level of risk), there is no direct market evidence on the valuation of the company being acquired. The article throws light on various private equity structures and valuation issues of portfolio companies from the perspective of private equity fund.**



**CA. Nikhil Bagrodia**

*(The author is a member of the Institute. He can be contacted at [eboard@icai.in](mailto:eboard@icai.in).)*

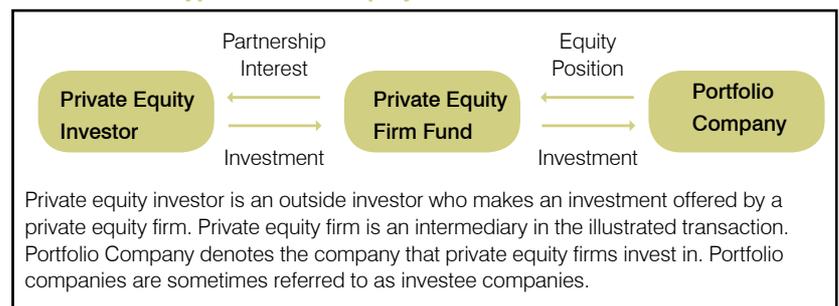
## 1. What is Private Equity?

Private equity is playing a great role in today's global economy. In the last decade, it has grown from a small, niche activity to a critical component of the financial system. Along with a huge amount of equity investment, private equity deals and employs significant amount of debt and, so, the value of the transactions involving private equity funds is often two to three times the actual equity raised. Until recently, few people even knew the names of main private equity players. But, now organizations like Blackstone, Kohlberg Kravis Roberts, and Texas Pacific Group are recognized as major players in global financial system. Private equity firms make investments

ranging from those in the less mature venture capital firms to those in the more mature buyout transactions.

One distinctive characteristic of private equity investment is a buy-to-sell orientation. Private equity fund investors typically expect their money returned with a handsome profit within 10 years of committing their funds. The economic incentives of the funds are aligned with this goal. Most of the money for the private equity fund comes from institutional investors such as insurance companies, pension funds and endowments, although many HNIs also invest directly or through fund-of-fund intermediaries who provide their investors with a more diversified portfolio of investments.

## Structure of a Typical Private Equity Investment Transaction



The private equity class stretches from venture capital (VC) – working in early stage companies that in many cases have no revenues but have potentially good ideas or technology – all

the way to the large buyouts (leveraged buyouts or LBO) in which the private equity firm buys the entire company. In some cases, these companies might themselves be quoted on the

stock market, and a private equity fund performs public-to-private transaction thereby removing the entire company from the stock market. But in majority of cases, buyout transactions will

involve privately owned companies, and very often, a particular division of an existing company. There are many other forms of later-stage financing, e.g. providing capital to

back the expansion of existing businesses, but, for this reading, we would refer simply to venture capital and buyouts as the major forms of private equity:

Broad Category	Subcategory	Brief Description
Venture Capital	Seed stage	Financing provided to research business ideas, develop prototype products or conduct market research.
	Start-up stage	Financing to recently created companies with well articulated business and market plans.
	Expansion stage	Financing to companies that have started their selling effort and may be already breaking even. Financing may serve to expand production capacity, product development, or provide working capital.
	Replacement capital	Financing provided to purchase shares from existing venture capital investors or to reduce financial leverage.
Buyout	Acquisition capital	Financing in the form of debt, equity or quasi-equity provided to a company to acquire another company.
	Leverage buyout	Financing provided by an LBO firm to acquire a company.
	Management buyout	Financing provided to the management to acquire a company, specific product-line or division (carve-out)
Special situations	Mezzanine finance	Financing generally provided in the form of subordinated debt and equity kicker (warrants, equity, etc)
	Distressed securities	Financing of companies in need of restructuring or facing financial distress.
	One-time opportunities	Financing in relation to changing industry trends and new government regulations.
	Others	Other forms of private equity financing are also possible.

### 1.1 Classifications of Private Equity in terms of Stage and Type of Financial of Portfolio Companies

Private equity funds may also be classified depending upon their geographical locations, e.g. regional, national or global, and/or sector focuses, e.g. diversified industrial, telecommunication, healthcare, infrastructure, etc.

### 1.2 Value Creation in Private Equity

The question of how private equity funds actually create value has been much debated inside and outside the private equity industry. The survival of the private equity governance

model depends on some economic advantages it may have over the public equity governance model. These potential advantages can be broadly classified as:

#### 1.2.1 Ability to reengineer the private firm to generate superior returns

In order to reengineer their portfolio companies, many private equity firms have developed in-house high-end consulting capabilities supported frequently by seasoned industry veterans, e.g. CEOs, CFOs and senior advisors, and have a proven ability to execute deals on a global basis. Assuming private equity houses

have a superior ability to reengineer companies would mean that public companies have inherently less ability to conduct reengineering or organizational changes relative to corporations held by private equity. However, many public companies have established long track record of creating value. Thus, only a part of value additions created by private equity houses may be explained by superior reorganization and reengineering capabilities.

#### 1.2.2 Ability to access credit markets on more advantageous terms

Ample availability of credit at

favourable terms, e.g. low credit spreads and few covenants, led in 2006 and the early half of 2007 to a significant increase in leverage available to buyout transactions. In a private equity firm, debt is more heavily utilised and is quoted as a multiple of EBITDA (earnings before interest, taxes, depreciation and amortization) as opposed to multiple of equity, as for public firms.

When considering the impact of leverage on value, we would normally turn to one of the foundations of modern finance: the Modigliani-Miller theorem which states that, in absence of taxes, asymmetric information, bankruptcy costs and assuming efficient markets, value of the firm is not affected by how the firm is financed, whether by equity or debt. However, relaxing the assumption of 'no taxes' from their model, interest tax shield on the acquisition of debt would create a firm value. One would also expect that the financial leverage of a firm would be set at a level where the bankruptcy costs do not outweigh these tax benefits. Unlike public companies, private equity firms may have a better ability to raise higher levels of debt not only as a result of a better control over management, but also as a result of their reputation for having raised and repaid, such high levels of debts in the previous transactions.

Such debt financing is raised initially from the syndicated loan market, but, then, is frequently repackaged via sophisticated structured products,



e.g. collateralized loan obligations (CLOs) which consist of a portfolio of leveraged loans. In some cases, the private equity fund issues high-yield bonds as a way of financing the portfolio company, and these often are sold to funds that create collateralized debt obligations (CDOs). These transactions have resulted in a large transfer of risk to the credit markets. However, the markets have recently slowed, creating less availability of financing of large buyouts.

### 1.2.3 Superior alignment of interest between managers of the firm they control and private equity firm owners.

Another important factor that significantly explains the returns earned by private equity funds is the alignment of economic interest between private equity owners and the managers of the company they control, which can crystallize management efforts to achieve ambitious milestones set by private equity owners. Result-driven management pay packages along with various contractual clauses ensure that managers receive proper incentives to reach their targets and that they will not be left behind after the private equity house exits their investment. The following are some of the examples of contract terms contained in the term sheet that specifies the terms of the private equity firm's investment:

- **Compensation:** Compensations contract for the managers of the portfolio companies contains clauses that are closely linked to long-term goals and firm's performance.
- **Tag along, drag along clauses:** These are contractual provisions in the share purchase agreements that ensure any potential future acquirer of the company may not acquire control without extending an acquisition offer to all shareholders, including the management of the

company. Such clauses ensure management's loyalty to their firm.

- **Board representation:** Corporate board seats ensure private equity control in case of major corporate events, e.g. company sale, takeover, restructuring, IPO, bankruptcy or liquidation.
- **Non-compete clause:** Company founders must sign such clauses that prevent them from competing against the firm within a prescribed period of time.
- **Preferred dividends and liquidation preference:** Private equity firms generally receive their distribution before other owners often in the form of preferred dividends and sometimes may be guaranteed a minimum multiple of their original investment. They also have priority in the firm's assets, if the portfolio company is liquidated.
- **Reserved matters:** Domains of strategic importance, e.g. changes in business plans, acquisition or divestiture, are subject to approval or veto by the private equity firm.
- **Earn outs (mostly in venture capital):** These are mechanisms linking the acquisition price paid by the private equity firm to the portfolio company's future performance over a predetermined time horizon, generally not exceeding 2 to 3 years.

By specifying the appropriate control mechanism, venture capitals

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make investments in companies of considerable risk. In particular, it may allow the private equity firms to significantly increase their control over time and even seize control in case the company fails to achieve the agreed goals.

## 2. General Valuation Issues for Private Equity

Public firms are bought and sold on regulated exchanges daily. Private firms, however, are bought by buyers with specific interests at specific points in time with each potential buyer possibly having a different valuation for the firm. Furthermore, valuing a private firm is more difficult than valuing a public firm, because private equity firms often transform and re engineer the portfolio company such that the future cash flow estimates are difficult to obtain.

There can be two perspectives of valuing private equity investments:

1. Perspective of a private equity

firm that is evaluating potential investments. Evaluation of potential acquisition by a private equity firm is particularly complex, because, in most cases except for public-to-private transactions, there will be no market prices to refer to. Private equity firms can face considerable challenges in valuing these companies and this reading discusses main ways in which valuation is approached.

2. Perspective of the outside investor who is looking at the costs and risks of investing in a fund sponsored by the private equity firm.

## 3. Perspective of a Private Equity Firm – using market data in valuation

In most private equity transactions with the exception of public-to-private, there is no direct market evidence on the valuation of the company being acquired. But, virtually all valuation techniques employ evidence from the market at differing stages in the calculation rather than relying entirely on accounting data and management forecasts. The two most important ways in which market data are used to infer the value of the entity being acquired are by analyzing the comparable companies that are quoted on public market and valuations implied by recent transactions involving similar entities. Typically, these techniques focus on trading or acquisition multiples that exist on public markets or in recent transactions. For instance, valuation is sought in food sector for a retail chain, which is currently a privately owned company; the comparison company approach would look at trading multiples, e.g. enterprise value to EBITDA, of comparable public companies and use this multiple to value the target. Similarly, if there are recent M&A transactions in the food retail sector, the transactions multiple paid could be used to inform the

current market value of the target. However, it is important to make sure that the comparisons are appropriate and this is not always possible especially in businesses that operate in niche sectors or that are pioneering in terms of their products or services.

The use of market data is also important in the DCF approaches, particularly in estimating an appropriate discount rate. Cost of capital of private companies is estimated generally using the same weighted average cost of capital (WACC) formula used for private companies. A serious challenge, however, in a private equity setting is the lack of public historical data on share prices and returns. Therefore, the beta that represents relative exposure of the company share to the market must be estimated by means of a proxy. This is performed typically by estimating beta for comparable companies and, then, by adjusting for financial and operating leverage.

## 3.1 Valuation Issues in Buyout Transactions

A buyout is a form of private equity transaction in which the buyer acquires from the seller a controlling stake in the equity capital of the target company. It comprises a wide range of techniques including but not limited to management buyouts (MBOs), leveraged buyouts (LBOs), or, takeovers. Our focus in this reading would be LBOs that consists of acquisition of a company using borrowed money to finance a significant portion of the acquisition.

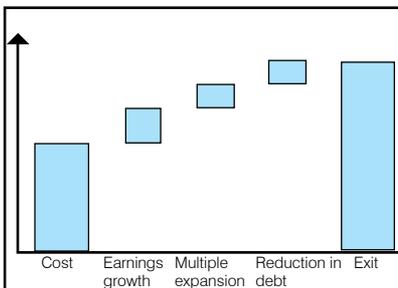
### 3.1.1 LBO Model

The LBO model is not a separate valuation technique but rather a way of determining the impact of the capital structure, purchase price and various other parameters on the returns expected by the private equity fund from the deal. The objective is not to value the

firm but to determine the maximum price in negotiation that the private equity firm should pay for its stake.

The LBO model has three main inputs: target firm's forecasted cash flows, expected return from the providers of financing, e.g. equity, senior debts, high-yield bonds, etc., and the amount of financing available for the transaction. The free cash flow forecasts are provided by the management of the target company and are subject to an extensive due diligence process (strategic, commercial, legal and environmental) to determine the reliability of such forecasts. The exit date, i.e. when the target firm is sold, is evaluated at different dates to determine its influence on the projected returns. The value of the firm at that time is forecast using a relative value of market approach.

### 3.1.2 Value Creation Chart in a Leverage Buyout (LBOs)



On the basis of the input parameters, LBO model provides the maximum price that can be paid to the sellers while satisfying the target returns for the providers of financing. Value creation comes from a combination of factors: earning growth arising from operational improvements and enhanced corporate governance; multiple expansions depending upon pre-identified potential exits and optimal financial leverage and repayment of part of the debt with operational cash flows before the exit.

### 3.2 Valuation Issues in Venture Capital Investments – The Venture Capital Method

In venture capital, pre-money valuation and post-money valuation are the two fundamental concepts. Pre-money valuation (PRE), refer to the agreed value of a company prior to a round of financing or investment. Post-money valuation (POST) is the value of the company after the financing or investing round. Therefore, the post-money valuation of the firm will be:

$$\text{PRE} + \text{Investment} = \text{POST}$$

The proportionate ownership of the venture capital investment is determined by:  $\frac{\text{Investment}}{\text{POST}}$

Typically, both pre-money valuation and the level of venture capital investment are subject to intense negotiations between the founders and venture capital firm, bearing in mind the fundamental issue of dilution of ownership. Dilution of ownership is the reduction in the proportional ownership of a shareholder in the capital of a company resulting from the issuance of additional shares and/or of securities convertible into shares in some stage in the future.

In venture capital transactions, there is significant uncertainty surrounding the projected future cash flows. Consequently, discounted cash flow methodology is rarely used as the first method to determine value. Similarly, there are challenges in applying comparable companies approach, as start-ups generally have unique features and it may be extremely difficult to find comparable quoted companies operating in the same field. Alternative valuation methodologies like the venture capital method or the real option methodology are used to determine value.

In buyouts, given the significant predictability of cash flows, the income based approach (discounted cash flows, adjusted present value, LBO



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model, target IRR) is frequently used as a primary method to determine the value of equity, considering the expected change in leverage until the time of exit of the investment. The initial high and declining financial leverage is the main technical issue that needs to be adequately factored into the income approach when applied to a buyout valuation.

Venture capital method is a simple approach to valuation that is sometimes expressed in the terms of Net Present Value (NPV) and sometimes in the language of Internal Rate of Return (IRR).

### 3.2.1 Venture Capital Method using the Net Present Value (NPV)

Previously, we used the pre-money (PRE) valuation as the starting point and using the venture capital investment in the portfolio firm by the private equity firm, the post-money (POST) valuation was determined. Post-money valuation could also be determined using the present value-future value formulae, and from that we determine the PRE value. Essentially, the PRE value is the net present value (NPV), accordingly this approach is referred to as venture capital method using the NPV.

The steps in venture capital method using the NPV are:

*Step 1:* Discount the future value of the company at exit back to the present

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to obtain the post-money (POST) valuation:

$$\text{POST} = \frac{\text{Future Value (FV)}}{(1 + r)^N}$$

where,  $r$  is the discount rate used by private equity

$N$  is the number of years until exit

*Step 2:* Determine the pre-money (PRE) valuation by netting the Investment from the post-money (POST) valuation:

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

*Step 3:* Determine the required fractional ownership ( $f$ ) for the private equity firm:

$$f = \frac{\text{Investment}}{\text{POST}}$$

*Step 4:* Determine the number of shares the private equity firm ( $S_{pe}$ ) needs to obtain its fractional ownership where  $S_e$  is the entrepreneur's share. We start with the formula for private equity firm's fractional ownership:

$$f = \frac{S_{pe}}{S_{pe} + S_e}$$

And, then solve for  $S_{pe}$ :

$$S_{pe} = S_e [f / (1 - f)]$$

*Step 5:* Determine the stock price per share ( $P$ ):

$$P = \frac{\text{Investment}}{S_{pe}}$$

### 3.2.2 Venture Capital Method using the Internal Rate of Return (IRR)

Venture capital method can also be presented in the language of IRRs. While the IRR is often a problematic method in finance, our venture capital method is sufficiently simple that the IRR and the NPV methods give exactly the same result. For the NPV calculation, we started with a given future value and discounted back to get the post-money (POST) valuation. Here, we begin by going in the other direction, i.e. working forward in time. We start by compounding the investment out to the exit to get the investor's expected future wealth. In this method, the investor's discount rate will be used as the IRR.

The steps in venture capital method using the IRR are:

*Step 1:* Using the IRR, compound the investment out to exit to obtain the investor's expected future wealth ( $W$ ):

$$W = \text{Investment} (1 + r)^N$$

*Step 2:* Determine the required fractional ownership ( $f$ ) for the private equity firm which is the investor's wealth divided by the terminal, future value (FV) of the firm:

$$f = W / \text{FV}$$

*Step 3:* Determine the number of shares the private equity firm ( $S_{pe}$ ) needs to obtain their fractional ownership, where  $S_e$  is the entrepreneur's share:

$$S_{pe} = S_e [f / (1 - f)]$$

*Step 4:* Determine the stock price per share ( $P$ ):

$$P = \frac{\text{Investment}}{S_{pe}}$$

*Step 5:* Divide the investment by the fractional ownership to obtain the post-money (POST) valuation:

$$\text{POST} = \frac{\text{Investment}}{f}$$

or, perhaps more intuitively, we can use

$$\text{POST} = P (S_{pe} + S_e)$$

*Step 6:* Determine the pre-money (PRE) valuation by netting the investment from the post-money (POST) valuation:

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

Or, use:

$$\text{PRE} = P \times S_e$$

## 4. Exit Routes: Returning Cash to Investors

The exit route is among the most critical mechanisms to unlock value in private equity. Most private equity firms consider their exit options prior to investing and factor their assessment of exit outcome into their analysis of target and expected internal rate of return. Generally, there are four exit routes for private equity investments:

### 4.1 Initial Public Offering (IPOs)

An IPO usually results in the highest

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exit value as a result of an enhanced liquidity access to large amounts of capital and the possibility to attract higher caliber managers. But an IPO comes at the expense of a cumbersome process, less flexibility and significant costs. Therefore, an IPO is an appropriate exit route for private companies with an established operating history, excellent growth

prospects and having a sufficient size. Timing of an IPO is also an important consideration.

#### *4.2 Secondary market sale*

In a secondary sale market, stake held by a financial investor is sold to another investor or to strategic investors (companies operating or willing to establish in same sector or market of the portfolio company). Secondary market sale is more frequent in the case of buyouts. The following are the two main advantages of secondary market sale:

The possibility to achieve the highest valuation multiple in absence of an IPO; and with the segmentation of private equity firms, specialised firms have the skill to bring their portfolio companies to the next level (restructuring, merger, new market) and sell either to a strategic investor seeking to exploit synergies or

to another private equity firm.

#### *4.3 Management Buyout (MBO)*

Management buyout is a takeover by the management group using a significant amount of leverage to finance the acquisition of the company. Alignment of interest is optimal under this exit scenario but may come at the expense of excessive leverage that may significantly reduce company's flexibility.

#### *4.4 Liquidation*

Controlling stakeholders have the power to liquidate the company, if the company is no longer viable. This exit route generally results in a floor value for the portfolio company but may come at the cost of negative publicity for the private equity firm, if the portfolio company is large and employee count is significant. ■