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Investment Banking

The First Step

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Bharat

Preface To The Second Edition

"Bharti Airtel signed a deal to acquire the African operations of Kuwaiti telcom company Zain at an enterprise valuation of $10.7 billion. The deal was concluded at an EBITDA multiple of 8.2x."

"Goldman Sachs Invested $450 million in Facebook, which valued Facebook at $50 Billion. At $50 billion, Facebook is trading at a multiple of about 100 times of its earnings."

These are the kind of statements we often read in newspapers or hear on business channels on television. And many of us often wonder as to how these values were derived and how the multiples were calculated? This is what, this book exactly explains. The Book acts as a self-guide and helps you in valuation of any company you wish to value for, using two most commonly used valuation tools.

- Trading Comps – Analysis of The Comparable Listed Companies
- Deal Comps – Precedent Transaction Analysis

This book is originally inspired by and is designed for the capital markets' aspirants and participants. The book acts as the first guide to the capital markets' aspirants who wish to make a fruitful career in finance or in investment banking domain and as a useful resource & reference for the capital market participants who quickly wish to learn the valuation of companies or refine & fine-tune their skills and compare the companies on fundamental basis for mergers, acquisitions, private equity investments etc. This book is also highly beneficial for investment baking trainers providing various training programmes on valuation of companies.

The book starts with the history (origin) of investment banking and discusses in detail the various functions of the investment bankers, and moves to the different equity fund raising ways (IPOs and PE).

Before it moves to the most widely used valuation tool (valuation based on multiples), the book invests sometime in understanding the key financial statements with the help of different ratios and multiples. And finally it moves to the valuation of companies and discusses in detail the two above mentioned valuation tools.

We have tried to keep the book as simple as possible and have tried to explain the concepts in the plain vanilla language in such a way that you can easily apply them on your own. This book tries to fulfill an important need as a valuable training material and reliable handbook for finance professionals. Stay with it, and I believe the payoff for both beginning and experienced professionals will be huge.

Contents of the Book

1.1 INTRODUCTION to INVESTMENT BANKING

Investment banking is a complicated industry of traders, analysts, brokers, hedgers, fund managers and bankers. The business of investment banking is as creative as it is mechanical and as qualitative as quantitative. Its clients range from newly created firms to multinational giants, from high net-worth individuals to governments and non-profit institutions.

Till some decades back, the main purpose of the investment banks was to raise capital and advice on mergers and acquisitions. Investment banking services were considered either as financial advisory or as underwriting. With the change of the time, the definition changed and it now involves almost all the functions of the capital markets. Now Investment banking isn't one specific service or function. It is an umbrella term for a range of activities: underwriting, selling and trading securities (stocks and bonds); private placements, strategic advisory services, financial advisory services, such as mergers and acquisition advice; and managing the assets.

Investment Banking is considered to be an American phenomenon. But it where came from? Does the origin lies in 1933 when Banking Act of 1933 was passed or does it phenomenon. But it where came from? Does the origin lies in 1933 when Banking Act of 1933 was passed or does it have its roots to the birth of the New York Stock Exchange in the May month of 1792, when 24 merchants and brokers signed the historic "Buttonwood Agreement", under which they agreed to trade securities on a commission basis? Lawyers answer it to be 1933, while the investment bankers take it to 1792. But it cannot be 1933, as The Glass-Steagall Act of 1933 separated commercial banking from investment banking which means Investment Banking was already in existence. For many a people in the industry, it is John Pierpont Morgan who invented investment banking in early 1900s.

2.2 WHAT IS INVESTMENT BANKING

Is it Investing? Is it Banking? Is it financial investment in the banking sector? It is neither of these. Investment Banking is the business of raising capital for companies and advising them on financing and merger alternatives.

At a very macro level, Investment Banking is concerned with the primary function of assisting the capital markets in its function of capital intermediation, i.e. the movement of financial resources from those who have them (the investors), to those who need to make use of them for generating GDP (the issuers).

It is not one specific service or function. It is an umbrella term for a range of activities; the scope of investment banking includes all major capital market activities like underwriting, selling, and trading securities (stocks and bonds); private placements, providing financial advisory services, such as mergers and acquisition advice and managing assets.

Investment banks are included in the security and commodity brokers and dealers groups. These major groups include establishments engaged in the underwriting, purchase, sale or brokerage of securities and other financial contracts on their own account or for the account of others.

2.8 FUNCTIONS OF INVESTMENT BANK

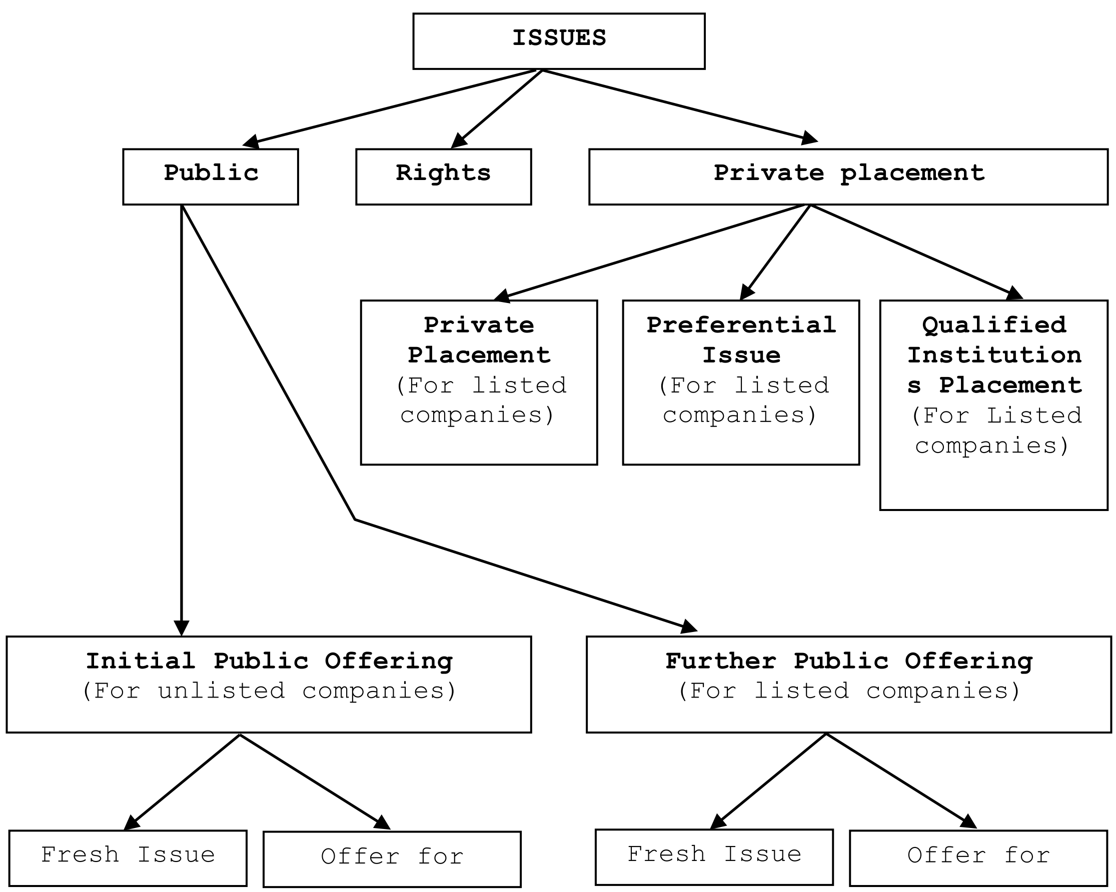
They say that money makes the world go round. And, if it does, investment bankers help direct and facilitate its flow. Investment banks provide a wide *range of financial services to clients. They structure M&A deals, raise capital (equity or debt) to help companies grow, analyse the prospects of listed companies, and trade in securities on behalf of clients.*

The core functions of investment banking include—

1) Raising Capital
2) Sales and Trading of securities
3) Mergers & Acquisitions
4) Research

3.0 Equity Raising

Raising equity capital has been the traditional role of the investment banks. Equity can be raised for a company in one of the following ways—



4.1 WHAT IS PRIVATE EQUITY

Raising equity for companies via Private Equity (PE) route has been one of the most important aspects of the investment banking services after mergers and acquisitions.

Simply put, PE is a form of investment in equity capital of a company that is not quoted on a public exchange. In other words, Private equity investments are normally focused towards unlisted entities that cannot or do not want to raise equity in public market (*via* IPO route) in near future. Obtaining private equity is very different from raising debt or a loan from a lender, such as a bank. Lenders have a legal right to interest on a loan and repayment of the capital, irrespective of your success or failure.

4.1.1 The Most Important Features of PE Investing

The most important features of private equity investing are:

It's about capital

PE investing means putting capital into a business to expand, develop new products or fund changes to ownership and management. PE investors do more than buy the rights to share in a company's return – they provide working capital.

And more than just capital

PE investors generally provide their capital in exchange for a sizeable stake in the business. They also invest their expertise – in management, finance, marketing, strategic direction and networks. By exercising some control through board seats and management agreements, PE investors can protect and grow their investment. This alignment of interests and the ability to add value to the business often means that private equity investors can generate higher returns than those available from traditional 'hands-off' equity investing.

4.4 WHAT PRIVATE EQUITY FIRMS LOOK FOR

There are different private equity funds – some invest in some particular sector (e.g. a PE fund focused only on Education Sector), while invest in a particular region (e.g. PE fund focused only on investments in India), and some are hybrid PE funds that invest sectors and/or geographies. Irrespective of the type of PE funds, there are some common characteristics that most PE firms look for in the target company:

- **Strong management**

  Strong leadership/management of the company is the core of the characteristics PE firms looks for. As they say "a private equity investment is not the investment in the company, but an investment in the key personnel of the company."

- **Low capital intensity**

  Private equity firms don't like to spend the profits, so if your business does, and does so significantly just to stay competitive (let alone grow), let's just say this doesn't help.

- **Diverse customer base**

  Customer concentration is a definite deal killer. Deriving maximum revenues form a limited number of clients is something not preferred. A service company may have 20 clients, but if 80-90% of revenues are coming from 2-3 clients, it might not be a attractive case for PE Firms, as the business is sitting on a big risk – 'what if 1 or 2 of those top 3-4 clients stop doing business with the target company?'

- **Growth potential**

  Whether organic or through add-ons, some sort of growth is preferable. Operating in a sizeable and growing industry is certainly part of the story.

- **Profitable**

  While some PE firms look for turnarounds, most don't. The more consistent your company's earnings, the better it is. Still they have certain parameters like minimum EBITDA margins, net margins, IRR etc.

4.6 PRIVATE EQUITY IN INDIA

The PE industry, once a rather obscure collection of specialist investment firms, is now a major force in the world. It annually attracts and deploys hundreds of billions of dollars. Some (but not all) people and institutions that have allowed private equity firms to invest their money have enjoyed stellar returns. This record of success (or perceived record of success) has led to private equity enjoying a high degree of interest from investors, corporate executives, young professionals, regulators, politicians, the press and the general public.

Private Equity has gained importance in India only in last 10-12 years, although its origin goes back to 1970s.The seeds of the Indian private equity industry were laid in the mid 80's. Financial institutions like ICICI and IFCI launched the first generation venture capital funds that can be looked at as a subset of private equity funds.

5.3 UNDERSTANDING FINANCIAL STATEMENTS

Now once we have sourced the company reports and the financial statements, one must understand how to read those statements.

There are four basic financial statements

(1) Income Statement

(2) Statement of Financial Position

(3) Statement of Cash Flows

(4) Statement of Shareholders Equity

For the purpose of this book, we will deal with only with the first three types of financial statements.

Statement of Financial Position

Gives a snapshot of the company's financial position at a given point of time – showing what the company owns and what it owes

Total Assets must be equal to sum of total of liabilities and equity

Income Statement

States how the company has performed over a period of time

Reports whether the company is in profit or loss (Gross profit, Operating profit and Net profit is calculated)

Statement of Cash Flows

Cash Flow statement completes the picture of a company's financial status

Reports on company's cash movements during the period(s), separating them into operating, investing and financing activities

5.5.11 Non Controlling Interest

Non controlling interest (NCI) deduction in the income statement is an allocation of consolidated net income to the NCI, not an expense.

NCI refers to the portion of a subsidiary company's stock that is not owned by the parent company. When Company A has more than 50% stake in Company B, Company A is termed as Holding Company, and Company B as Subsidiary Company.

Accounting Standards, IFRS and GAAP mandates that the holding company has to include full 100% results of subsidiary company in its books even when they hold stake less than 100% but more than 50%. And then the proportionate share of net income is shown as non controlling interest in profit and loss account after PAT.

Lets take an example where Company A has 75% stake in Company B. Company A must have consolidated the 100% financials (income statement, statement of financial position and cash flow statements) of Company B, as required by accounting standards. However, Company A owns only 75% stake in B, which means rest 25% will go as Non controlling Interest Expense in the Income Statement.

6.3 DISCOUNTED CASH FLOWS

In addition to the multiples approach, another useful technique for valuation is Discounted Cash Flows (DCF) analysis. The approach involves the calculation of Free Cash Flows (FCF) over a projection horizon and then arriving at their present value using an appropriate discount rate. In addition to these cash flows, the terminal value is determined — the value for the cash flows generated beyond the projection horizon.

Discounted cash flow analysis is a fundamental valuation methodology that derives the value of a company/business from the present value of its forecasted free cash flows.

"*DCF valuation is the present value of future free cash flows discounted at a specific rate for the valued entity*"

Project Financials, and Forecast Free cash flows to the firm. The typical forecast period of 5-10 years, but the range can vary according to the company's individual

Use the weighted average cost of capital to determine the appropriate discount rate

Since it is impossible to estimate free cash flows forever, estimate the 'Terminal Value' of the business at the end of the forecast period

Calculate EV adding up the present value of free cash flows and terminal value discounting them with WACC

Calculate Intrinsic value of equity subtracting net debt from the enterprise value calculated above

Perform Sensitivity Analysis

6.4 ASSETS BASED VALUATION

An asset-based valuation approach is commonly used when a business has a very low or negative value as a going concern. E.g., consider the value of an airline company that has few routes, high labour and other operating costs, and is losing millions of dollars each year. Using the other valuation approaches discussed below, the company may have a negative value. However, to one or more of the company's existing competitors, the company's routes, landing rights, leases of airport facilities, and its ground equipment and airplanes may have substantial value. An asset-based approach to valuing this company would value the company's assets separately and aside from the money-losing business in which they are presently being utilized.

6.5 BREAKUP ANALYSIS

Break-up analysis is basically the sum of the parts (SOTP) valuation based on different business lines. Each part of the business would be valued separately using above methodologies and then summed together. This approach is very much suitable to value the conglomerates having separate business lines like Electrotherm (India) Ltd.

7.1 TRADING COMPS (RELATIVE VALUATION)

Relative valuation is the multiples comparisons with other similar or comparable companies in the same sector. This valuation methodology values a target company based on the operating multiples and financial ratios of its peer group companies. Simply, it gives us a means to compare a company's current valuation to that of its peer group and determine if it is over or under valued in the market. The simple fact why relative valuation is appealing is because the idea makes some intuitive sense – why should we pay more for every dollar earned by company A, compared with company B?

Compare to the DCF approach, Comparable Analysis is elegantly simplistic because it does not require analysts to make wild assumptions such as those regarding the company's future growth rate.

For What Trading Comps Are Used

Trading comps methodology is mostly used for:

- Comparison of publicly listed companies (where company A needs to be compared with company B or C or with the industry)
- For valuation of IPO (Initial public offering)
- For valuation of Private Companies
- For complete or partial stake acquisition (M&A or Joint Venture)

Summary of Steps for trading Comparables

1	Selection of Right Set of Peer Group Companies	▪ Companies from the same sector ▪ Look at the key characteristics like size, products & services offered, geographical concentration, profitability etc.
2	Calculate EV	▪ EV of the selected peers after considering convertible securities
3	Making the financials comparable of the target and peer group companies	▪ Calculation of Financials for the 'Last Twelve Months' (LTM) ▪ Clean the reported financial numbers adjusting non-recurring/ exceptional items
4	Calculate multiples	▪ Calculate Equity and EV based multiples
5	Benchmarking and Valuation	▪ Benchmark the multiples derived ▪ Determine valuation of target based on appropriate benchmarked multiple

Dilution Impact on Shares

Calculation of Dilution Impact			
Options in-the-money	Yes	→	Exercise Price is less than Current Price
Cash assumed to be generated by the company	₹40,000	→	In the money options **x** Exercise price

No. of shares assumed to be issued	1,000	→	Equal to in the money options
No. of shares assumed to be bought back	800	→	Cash assumed divided by current market price
Dilution Impact	**200**	→	Shares issued less shares repurchased

Cleaning the Reported Financial Numbers

Reported financial numbers have to be cleaned else they may lead to distorted valuations. An adjustment to historical financial statements should be made if the effect of the adjustment will present more accurately the true operating performance of the enterprise. Therefore, all appropriate adjustments should be made, regardless of whether they reflect positively on the company.

Examples of items to be adjusted:

- Impairment of Asset
- Restructuring Expenses
- Litigation Charges
- Strikes and other types of work stoppages
- Discontinuation of operations
- Uninsured losses due to unforeseen disasters such as fire or flood
- Gain or loss on the sale of a business unit or business assets

Enterprise Value to EBITDA (EV/EBITDA)

EV/EBITDA is the most widely used valuation metric for most of the industries. The main advantage of EV/EBITDA over the PE is that it is unaffected by a company's capital structure. Consider what happens if a company issues shares and uses the money it raises to pay off its debt. This usually means that the EPS falls (because of increased number of shares, even after the fact that profits will increase as there would not be any interest expense) and the PE looks higher (i.e. the shares look more expensive). The EV/EBITDA should be unchanged. What the "before" and "after" cases here show is that it allows fair comparison of companies with different capital structures

EV/EBITDA is independent of capital structure, taxes and any distortions that may arise from differences in D&A among different companies. E.g. one company may have spent heavily on new machinery and equipment in recent years, resulting in increased D&A for the current and future years, while another company may have deferred its capital spending until a future period. In the interim, this situation would produce disparities in EBIT margins between the two companies that would not be reflected in EBITDA margins. This perhaps is one of the key reasons that EV/EBIT is less commonly used than EV/EBITDA.

EV/EBITDA is affected by a firm's level of capital intensity (measured as depreciation as a percentage of EBITDA). All things being equal, higher capital intensity results in a lower EV/EBITDA multiple.

7.1.6 Step V: Benchmarking & Valuation

When Target is a Public Company

Trading Comps technique is very useful in case of sale or purchase of public companies as the potential target company can be compared with its peers to find if the target company is expensive or cheaper buy.

Lets say the EV/EBITDA multiple of the target company is 6.9x. The multiple of 6.9x states that target company is cheaper compared to Company C and E, and is expensive compared to Company A, B and D. because for buying the target company you have to shell out 6.9 times of EBITDA while for Company C and E one has to shell out 8 times and 7.7 times respectively.

Similarly the target company can be compared with the industry EV/EBITDA multiple i.e. with median multiple of the selected peers. Compared with industry multiple, target company is expensive as industry multiple is 6.5x

When Target is a Private Company

How do we value private companies? EV cannot be calculated the way did for public companies. As private companies are not listed on the stock exchange, so there cannot be direct market capitalization of private companies.

There are primarily two ways to calculate EV of private companies. One is we use discount cash flows approach calculating free cash flows and weighted average cost of capital, and the other way is we value private companies using trading comps methodology.

With trading comps method, we follow almost the same process for public companies. Firstly the publically listed peers are identified for private companies and then the industry median multiple of the selected peers is applied on the financials of that private company. The implied value derived from such way indicates the value of the private company what market is recognizing. For example an implied value of ₹100 million indicates that the market is valuing this company at ₹100 million inspite of the fact that the book value is less than the market value.

7.1.7 Summary of Data Required and Sources for Trading Comps

Source	Information Item	Filing to be Used	Used for
Statement of Financial Position	▪ Cash & Cash Equivalents ▪ Total Debt ▪ Preferred Stock ▪ Non Control-ling Interest	Latest available Filing which can be an annual report or can be quarterly report if any quarterly report has come after the latest annual	Calculation of EV
Income Statement	▪ Revenues ▪ EBIT ▪ Net Income ▪ EPS	Both Latest annual and quarterly filings to be used for calculation of LTM Financials	Calculation of Multiples
	MD&A Section	Both Latest annual and quarterly filings to be used	Cleaning the financial numbers adjusting exceptional items
Statement of Cash Flows	Depreciation & Amortization	Both Latest annual and quarterly filings to be used	Calculation of EBITDA to be used for Multiples

7.2 TRANSACTION COMPS (DEAL COMPS)

Transaction comps is another multiples-based approach to derive an implied valuation range for a given company. The process for completing the transactions comps is quite similar to the trading comps approach, but the multiples derived from the two methods have different meanings. *The multiples form trading comps are the potential multiples on which the deals can happen or on which the premiums or discount will be applied while doing a deal, while the multiples derived from the transaction comps are the historical multiples on which deals had happened and they are inclusive of premium or discounts given at the time of deal.*

"It is very similar to trading comps analysis except deal comps use actual transaction data instead of using publicly traded companies. They are highly subjective because of a number of factors, including, but not limited to, industry trends, nature of transaction and negotiations, considerations, and structure. It differs from trading comps analysis in that control premiums of the Target Company, social issues, technical transaction elements, and strategic benefits and synergies can be measured."

Potential buyers or investors look very closely at that have been paid for comparable acquisitions as it gives them the indications for negotiations while closing the deal. Precedent transactions have a broad range of applications, most notably to help determine a potential.

7.2.1 Step-by-Step Approach for Precedent Transactions Analysis

1	**Selection of Right Set of Comparable Transactions**	▪ Sourcing the Transactions ▪ Considerations like period, sector, market conditions etc. to be kept in mind
2	**Calculate EV**	▪ Derive EV of the target based on the purchase consideration paid to target
3	**Source Key Financials**	▪ LTM financials, priori to announcement date, are required
4	**Calculate multiples**	▪ Calculate Equity & EV based multiples
5	**Benchmarking and Valuation**	▪ Benchmarking ▪ Valuation of the target based on multiples derived above

7.2.4 Step III: Source Key Financials

Once the EV /implied EV of the acquired is calculated, analysts move towards calculation of LTM Financials.

If the acquired company is Public Company

LTM Financials are calculated based on the date of announcement of the deal. For example if company A announces the acquisition of B on 1 March, 2012, and Company B ends its financial year on 31 March every year the LTM financials will be calculated as below:

If the acquired company is Private Company

In case of private companies, information normally is not available, as annual or quarterly reports are not available for private companies. In such a case, one relies on the information as given, if any, in the press releases for the deal. One can also look the reports of the acquirer if they have disclosed any financials of the acquired company.

7.2.6 Step V: Benchmarking and Valuation

Just calculation of multiples is not enough for valuation. One has to benchmark those multiples to derive valuation out of them. Benchmarking helps in analyzing and comparing each of the comparable transactions. For example if you have taken a universe of five transactions as comparable transactions, the highest, the lowest, median and mean of the multiples is calculated to see the range of the multiples in the industry in transactions scenario.

Lets say the median EV/EBITDA multiple of the selected transactions is 7.0x. The analysts will apply this median multiple on the financials of Target Company to be sold or purchased, and derive the valuation of the company.

7.3 SUMMARY

Academics normally emphasize on DCF Valuation, however, practitioners prefer to use market based multiples based on comparable companies or transactions for valuing the businesses. One of the important benefits of using valuation multiples is that it assists analysts in estimating the valuation of company/value of an investment without making explicit estimates of either the entity's future cash flows or the discount rate.

However the reality is that using valuation multiples based on comparable peers or transactions is not as easy as it might at first look. The reason being that finding the perfect set of comparable peers and transactions sometimes is a very difficult and tedious task.

APPENDIX 1 – SUMMARY OF MULTIPLES

Equity Valuation Multiples		
	When to Use	**Estimated Stock Price**
P/E	Companies with an established record of positive earnings that do not have significant non-cash expenses.	(EPS) Firm **x** (P/E) Industry
P/BV	Companies whose 'statement of financial positions' are reasonable reflections of the market value of their assets. Examples: Financial Institutions	(BVPS) Firm **x** (P/BV) Industry

Enterprise Valuation Multiples		
	When To Use	**Implied Enterprise Value**
EV/EBITDA	Companies that have significant non-cash expenses (D&A). Examples: Telecommunications, Oil and Gas	(EBITDA) Firm **x** (EV/EBITDA) Industry
EV/Sales	Young Firms/Start Ups that do not have an established history of earnings. Companies running into losses.	(Sales) Firm **x** (EV/Sales) Industry

In their words . . .

"The book covers a very important aspect of investment banking – the linkage with practical concepts. It gives aspiring candidates a sneak peak into the lives of investment bankers and analysts. Through this book, the author has addressed a long felt need of every IB student. The contents have been chosen very judiciously and use of undesirable jargon is missing, which makes the reading very smooth and concepts easier to understand."

Ravi Gupta, Fidelity Investments

". . . Apparently positioned as a quick and complete conceptual guide. However, those looking for something on the "practical aspects" of valuation and investment banking will be pleasantly surprised to have all under one roof. This book by Tapan Jindal imparts an unparalleled clarity and rationale in the inter-linkages between financial concepts, making valuation a logical rather than a mathematical exercise. The author made each component/concept fit like clockwork making the guiding principles absolutely clear, which deserves a second look. . ."

Jagadeesh Basina, Ernst & Young

"This book truly lives up to its name by providing you an insight of Investment Banking. The book defines and explains the Investment banking domain in the simplest form possible. The use of simple language coupled with examples makes the learning process very easy and most efficient. The book not only provides you theoretical knowledge but also explains its practical application. It has certainly helped me in understanding the Investment banking industry in a great way. Therefore, I would recommend this book to all who are trying to break in this Industry."

Gurpreet Sachdeva, Analec Securities

"This book is an appropriate book for MBA college students; they do not get such practical exposure; they may have heard the name 'investment banking' but no clues on what's the working. The book provides insights into the investment banking domain."

Saurabh Gupta, Moody's

"A good book to understand Investment Banking and truly explained in simple terms for those making baby steps in investment banking."

Hari Raj, IL & FS

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