Investment Banking 101

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About the Author

Inspired by his family business, Kevin developed a tangible understanding of the commodity markets from an early age. At age 16, his burgeoning interest in financial markets naturally led him to start investing in the equity markets and shortly thereafter qualified, on two occasions, for the most renowned French trading competition on BFM Business.

Kevin graduated from London Business School in 2021 with an executive Masters in Finance. He worked for 4 years as an EMEA investment banker, successively at BNP Paribas, Société Générale, and Citi Bank. In doing so, he progressively mastered the art of corporate finance across a wide range of sectors.

Passionate about shareholder activism, he published a paper titled 'The Golden Age of Activism Investing', which resulted in advisory and speaking engagements with the French Ministry of Economy and Finance and at the Middle East Investment Summit, respectively.

Kevin has always keenly shared his vast knowledge, expertise and insight with students interested in a career in financial services. He has extensive teaching experience as a lecturer at a French business school and well as through one-on-one training. He has a demonstrable track record having helped over 200 students successfully obtain an internship or a job in the most prestigious financial institutions.

Kevin has utilized his multi-faceted perspectives, that of a private investor, a former master's student, a corporate finance lecturer, and a former investment banker, to compose this concise yet comprehensive manual to financial concepts.

Contact the Author

Please contact Kevin Romanteau with any questions, comments or suggestions for future editions at linkedin.com/in/kevinromanteau.

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Finally, sincerest thanks to my dear friend Guillaume who generously shared his knowledge through his experiences in M&A and commodity trading.

Introduction

Investment Banking 101 is a highly accessible and comprehensive reference manual written by a former investment banker that covers the fundamental aspects of Financial Analysis, Valuation, LBOs, IPOs, Mergers & Acquisitions, Credit Analysis and Ratings.

The content progresses from beginner to advanced financial frameworks and covers both the practical and technical elements thereby serving as a go-to reference guide. It can be utilized by students, instructors or professionals alike in the equity research, investment banking, private equity, or hedge fund industries.

Investment Banking 101 'Quicksheet' format is a cornerstone of the manual that provides practical tips and advice with real-world case studies. This manual fills a noticeable gap in financial academic content, which tends to focus on theory without sufficient context and practical application. It focuses on the primary valuation methodology currently used within both the sell-side and buy-side industries.

This manual is designed to:

- Introduce students to the primary valuation methodologies
- Provide early career analysts tools to navigate the complex valuation processes
- Present a step-by-step approach to building a strong technical foundation
- Understand the layouts of the financial statements and accounting principles
- Develop a framework to understand equity value and enterprise value
- Learn the valuation concepts such as valuation multiple and discounted cash flow
- Present an overview of LBOs and comprehensive M&A sale processes
- Provide a merger accretion/dilution, P/E analysis, and balance sheet effects
- Gain an appreciation of the Equity Capital Markets and Credit Analysis process

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Section 2

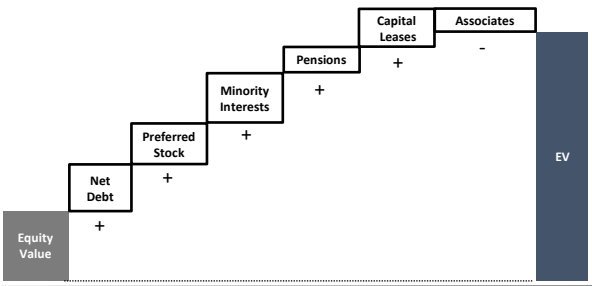
Enterprise Value & Equity Value

From EV to EqV – The Bridge (Part I)

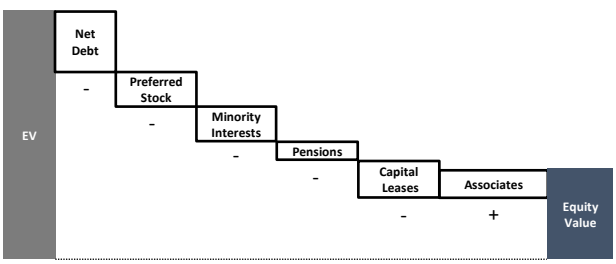
Equity Value	= Share Price x Diluted Shares Outstanding (DSO)	▪ DSO incl. Basic shares outstanding + Shares dilutives securities in-the-money ▪ **Shares dilutives securities:** ITM stock options, warrants, convertible debt
(+) Net Debt	= Debt – Cash	▪ **Debt***:* Long term debt + Short tem debt ▪ **Cash**: Cash deposits, Cash equivalents <90 days, derivative assets
(+) Preferred Stock	▪ Combines features of debt ▪ Pays fixed dividends (priority over common stockholders)	▪ Usually close to book value ▪ Beware that there are many different preference share structures
(+) Minority Interests	▪ Also called Non-controlling Interest, is the part of the parent does mot own ▪ Owns >50% of target but <100% ▪ Fully consolidates balance sheet and income statement	▪ Earnings are fully consolidated – EBITDA incl. 100% of the earnings of the parent company as well as of the subsidiary ▪ EV must include the market value of the NCI if publicly traded (otherwise book value)
(+) Unfunded Pensions	Add only the unfunded portion of the defined benefits plans ▪ Pensions Provisions = Projected Benefit Obligation (PBO) – Fair Value of Assets (FVA) x (1- T) The pension plan is: - Overfunded if FVA > PBO - Underfunded if FVA < PBO	▪ **Projected Benefit Obligation** (PBO) is the net present value of the anticipate pension payment. In thus, represent the future obligations/liabilities towards employees ▪ **Fair Value of Assets** (FVA) is the market value of the stocks, bonds, real estate, and other asset allocated to the fulfilment of the obligations
(+) Capial Leases	▪ Firms often choose to lease long term assets rather than buy them for a variety of reasons ▪ Pre-IFRS 16 reform, two types of leases capital and operating. If work under US GAAP then ignore IFRS rule ▪ Before the reform, operating lease was excluded form the lease	Converting operating to capital (finance) leases: ▪ **Moody's**: Factor model, multiplying the operating leases expense by 7/8x is a rule of thumb* it estimates the equivalent liability of a capitalized leases. Adjust both EBITDA and EV ▪ **S&P**: DCF model to capture the present value of the leases commitments **See Moody's report for specific sector*
(-) Associates	▪ Own between 20-40% of the voting rights ▪ Significant influence, which is the power to participate in the financing and operating decisions of the subsidiary	▪ EBITDA multiple unadjusted for JVs and associates may have in constant numerators and denominators ▪ Value of the investment in JVs and associates should be removed from the EV calculation

Bridge

Equity Value to Enterprise Value



Enterprise Value to Equity Value



From EV to EqV – The Bridge (Part II)

Equity Value to Enterprise Value Bridge

From EV to EqV

Enterprise Value represents the market value of the net operating assets the company owns:

= Equity Value + Total Debt – Cash + Preferred Stock + Unfunded Pensions + Capital Leases + Minority Interests – Associates

For interview case study use: *EV = EqV + Debt – Cash*
As such, EV can be negative if the company has loads of cash. Capital increase or share buyback have no impact on EV.

From EqV to EV

Equity Value represents the market value of the shareholder's investment in the business:

EV = Equity Value – Total Debt + Cash – Preferred Stock – Minority Interests – Unfunded Pensions – Capital Leases + Associates

Equity Value

EqV = Share Price x Diluted Shares Outstanding (DSO)

DSO = # Basic Shares + Number of Potential Shares from Dilutive Instruments (ITM Stock Options, Warrants, Convertible Debt)

Employees Stock Options

Included employee stock options in the value of the equity. Either use the Treasury Stock method (++) or Net Buyout method.
Market Value of Options = (Share Price – Strike Price) x # Options

Preferred Stock

As preferred stock have a fix claim against the assets of the business the market value is usually close to book value so many analysts treat preferred shares in a way to debt. Beware that there are many different preference share structures.

Net Debt

Net debt is including in the EV calculation as it represents the debt providers' claim on the value of the firm. Typically the basic net debt calculation captures the on-balance sheet debt claims on the entity.
Net Debt = Borrowings – Cash and Liquid Resources

- **Borrowings**: Banks Loans, Debentures and Loan Stock, Bonds, Derivative Liabilities
- **Cash & Liquid Ressources**: Cash Deposits, Cash Equivalents <90 days, Derivative Assets

Convertible Bonds

Hybrid security which allows the bondholder to convert the bond into a specific number of shares of common stock in the issuing company. Consists of straight debt + embedded equity call option allows the issuer to pay lower interest rate than straight debt In-the-money converts may result in additional shares (if *share price > strike price*)

Minority Interests

Represents a third party's interest in subsidiary that is fully consolidated by the parent. If parent company owns between >50% but <100% of subsidiary. Then, require full consolidation of the parent company and subsidiary company's financials

- **IFRS:** NCI can be valued at fair value or using the NCI's proportionate share of the acquiree's identifiable net assets
- **US GAAP:** NCI must be valued at fair value

Provisions

Liabilities where there is uncertainty as the amount and timing of the outflow. Can be added to the bridge if match the criteria.

- **IFRS** is taken to be a probability of 50%
- **US GAAP** is taken to be a probability of > 75%

Associates

Associates (a.k.a equity method) is significant influence which is the power to participate in the financing and operating decisions of the subsidiary. The parent company owns between 20-40% of the voting rights.

An EBITDA multiple that is unadjusted for JVs and Associates lead to inconsistency between numerators and denominators. In order to create an appropriate multiple the value of the investment in JVs and Associates should be remove from the EV.

Leases

The only impact on the accounts from operating lease is an expense in the income statement.

Capitalized Lease (a.k.a Finance Lease) is accounted for as though the company purchased the asset using a loan. The depreciation of the asset and the interest expense on the loan is recorded on the income statement. The balance of the loan and the un-depreciation amount of the asset is recorded on the balance sheet.

Operating Leases are expended as an operating cost and so they are included in the EBITDA. Finance leases are expended in the depreciation and interest lines which are excluded from EBITDA.

Converting Operating to Finance Leases
Multiplying the operating leases expense by 7/8x is a rule of thumb which estimates the equivalent liability of a capitalized leases. When you apply the rule of 7/8x multiples valuation you must adjust both EBITDA and Enterprise Value.

	Before	After
Leases Expenses	(10)	0
EBITDA	100	110
Lease Liability	0	80
Enterprise Value	1,000	1,080

Use EBITDAR (R = rents) multiples in industries where large amounts of fixed assets are leases (i.e. airlines)

Pensions & Other Post-retirement Benefit Liabilities

If a company has a unfunded pension plan then we need to make the following adjustments. You must add back the pension expense to operating profit and deduct the service cost. Use the same technique for post-retirement benefit liabilities.

Check the annual report footnotes for details

Retirement Benefit Obligations (PBO)	1,000
Value of Fund Assets	400
Value of Fund Liabilities	1,000
Underfunded Pension Liability	**600**
Less Tax Shield at 30%	420 = 600 x (1-30%)

→ *Treat the above as a claim on the EV*

Then adjust the EBIT or EBITDA:

EBITDA	120
(+) Pensions expense	80
(-) Service cost	(30)
Adjusted EBITDA	**170**

Key Earnings Metrics (Part I)

EV Multiples		
Mutiples	**Pros**	**Cons**
Enterprise Value (x)	✓ Rely on denominators that are less prone to accounting issues ✓ Capital structure neutral ✓ More comprehensive. They capture the full claim on the enterprise ✓ Make it easier to capture off-balance	× Technically harder to communicate to clients × Rely on market values that are 'hard to source' × Require additional technical work to derive equity value from EV
EV / Revenues	✓ Although a relatively crude measure, it is the least prone metric to accounting manipulation and distortion ✓ Very useful when there are significant accounting differences between the comparable ✓ Can be used to value loss making, startup and development stage companies ✓ Can be used when companies have similar margins	× Seasonality can cause comparability issues × Ignores the cost structure of the business. Sales multiples cannot be used to directly derive margin information × Revenues do not necessarily translate into cash flow × Revenue recognition issues can create accounting comparability issues
EV / EBITDA	✓ EBITDA is closer to cash flow measure as it ignores D&A ✓ It captures the impact of the company's cost structure ✓ Most companies will generate positive EBITDA, therefore providing a wider universe to select comparable from than EBIT or Net Income ✓ Most relevant if the comparable universe has a similar level of capital intensity	× Some investors rather prefer EBIT as it reflects depreciation of Capex × It ignores depreciation, interest and tax. These are real costs of doing business and are drivers of value × Cannot be used if EBITDA is negative × Leasing can distrort the use of the metric – better to rely on EBITDAR in this case × Affected by accounting policy issues such as revenue and recognition, leasing
EV / EBITDAR	✓ Ignores the income/expenses in relation to leasing. Provides a level playing field for comparable where lease accounting is inconsistently applied ✓ EBITDAR is closer to a cash flow measure as it ignores D&A ✓ Most relevant if the comparable universe has a similar level of capital intensity	× It ignores rent, depreciation, interest and tax, which are both real costs of value drivers × Cannot be used if EBITDAR is negative × Affected by accounting policy issues such as revenue and cost recognition, and potential proportional consolidation issues
EV / EBIT	✓ It captures the impact of most of the company's cost structure ✓ Useful for capital intensive companies as the metric captures the D&A charges (assumed to be the economic cost of using the asset base) ✓ Useful for comparable universe with comparable D&A policies	× D&A accounting policies may create comparability issues × Leasing can distort the use of the metric – better to rely on EBITDAR × Affected by accounting policy issues such as revenue and cost recognition, leasing, and potential proportional consolidation issues

Key Earnings Metrics (Part II)

Equity Multiples

Mutiples	Pros	Cons
Equity Value (x)	✓ More relevant to equity valuation ✓ Are more familiar to investors ✓ Much more prone to accounting	× Of limited use across a peer group with different capital structures
P/E (x) *Price-to-Earnings*	✓ Widely understood and established with clients ✓ Makes the multiples an easy communicator of ideas ✓ The calculation is quick and easy ✓ Less subjective than EV multiples	× Equity level earnings are very prone to accounting distortion × Cannot be used if earnings are negative × Capital structure dependent × The above make comparability increasingly difficult across a peer group
P/B (x) *Price-to-Book*	✓ A useful measure where tangible assets are the value drivers of the entity. Used mainly in financial institutions ✓ Financials institutions have large assets bases that are used to produce fractional margins on large numbers ✓ Significant elements of their asset bases are valued at fair value on the balance sheet thus making the multiple more reliable	× Unreliable if assets are recognized at book value × Book value may not be comparable due to accounting policy issues. It is not a reliable measure unless the majority of the balance sheet is valued at fair value

Common Ratios

Key Ratios

▪ % 52-week high	Stock Price / 52-week high
▪ Market Cap.	Stock Price x DSO
▪ Enterprise Value	Market Cap. + Net Debt

EV Mutilples

▪ EV / Revenue	Enterprise Value / Revenue
▪ EV / EBIT	Enterprise Value / EBIT
▪ EV / EBITDA	Enterprise Value / EBITDA
▪ EV / EBITDAR	Enterprise Value / EBITDAR

EqV Mutilples

▪ P / E	Stock Price / EPS or Market cap. / Net Income
▪ P / B	Stock Price / Book Value p.s
▪ Price / Cash Flow	Stock Price / Op. CF p.s
▪ 5-year EPS growth	Per equity research estimates
▪ PEG	P/E / 5-year EPS Growth Rate
▪ Dividend Yield	Annual Dividend / Stock Price
▪ Payout (%)	Annual Dividend / EPS

Return Ratios

▪ ROA	NI / Total Assets
▪ ROE	NI / Shareholders' Equity
▪ ROCE	EBIT / Capital Employed
▪ RIC	NOPAT / Invested Capital
▪ CROIC	FCF / Invested Capital

Profitability Ratios

- Revenue CAGR
- Profit margin (EBITDA / Revenue)
- EBITDA margin
- EBIT margin
- Net Income margin
- Net Income CAGR
- Asset Turn (Revenue / Invested Capital)
- Cash Conversion (FCF / EBITDA)

Credit Ratios

- Total Debt / Market Cap.
- Total Debt / EV
- Total Debt / EBITDA
- EBIT / Interest (Interest Coverage)
- EBITDA / Interest
- Debt / Equity (Gearing)
- Credit Rating Score

Acronyms
CAGR: Compound Annual Growth Rate
DSO: Diluted Shares Outstanding
NI: Net Income
Op. CF: Operating Cash Flow
P.S: Price per Share

Key Trading Metrics by Sector

Consumer Brands

- Eq. Value / Pre-goodwill Net Income

Energy & Utilities

- EV / Reserves[1]
- EV / RAB [6]

Financial Institutions Group (FIG)

Asset Managers

- EV / Revenues
- EV / EBITDA
- EV / EBIT
- P / AUM[9]

Life Insurance

- P / Embedded value

Non-Life Assurance

- P / Adj. Net assets

Metals & Mining

Gold Mining

- P / NPV
- EV / Reserves
- EV per production tonne

General Mining

- Ev or Eq.V per production tonne

Smelting

- EV or EqV per production tonne
- EV or EqV per capacity tonne

Media

Pay TV – Cable

- EV / Subscribers
- EV / Homes passed
- EV / (EBITDA – CapEx)

Films Exhibition / Theatres

- EV / Total screens

Broadcasting

- EV / Broadcasting cash flow

Industrials

General

- EV / EBITA

Chemicals

- EV / (EBITDA – CapEx)

Technology

- DSOs[8] (IT services)

Real Estate

Property Companies

- EV / FFO [4]
- EV / FAD[3]

REITs

- EV / FFO
- EV / FAD[3]
- Dividend yield

Telecoms

Fixed

- EV / (EBITDA - CapEx)

Wireless

- EV / (EBITDA - CapEx)
- EV / Subscribers

TALC[4]

- *EV / EBITDAR[2]*
- *EV / EBITA[5]*

Retail

- EV / Square Foot

(1) Major and integrated O&G companies, E&P
(2) Airlines only; EV figures includes capital leases (based on a multiples of: 7-8x; check with manager) while EBITDAR includes leases expenses
(3) Funds available for distributions
(4) Paper making, plastic, paint and coatings, rubber, food, electric cable, pharmaceuticals, cosmetics, and ceramics
(5) Logistics only
(6) Regulated Asset Base
(7) Funds from operations
(8) DataStore Objects
(9) Asset under management

Appendix

Industry Drivers (Part I)

Industry and Sub-Segment	Drivers to Watch	
Hyper Growth		
Internet	▪ GMV growth ▪ MAU growth ▪ Time to spent on the apps ▪ Monetization rate	▪ Advertising spend ▪ Customer acquisition cost ▪ Regulatory changes
Fintech	▪ GTV growth ▪ MAU growth ▪ Financing cost ▪ Credit provision	▪ Average lending rate ▪ Customer acquisition cost ▪ Regulatory changes
Biotechnology	▪ Potential TAM of the drug ▪ Approval process of the drug ▪ Clinical data of the drug	▪ New on competing drugs ▪ M&A in the relevant area ▪ Collaboration among key players
Secular Growth		
Software	▪ Market share changes ▪ New business model ▪ IT spending growth ▪ Clients wins	▪ Outsourcing customer trends ▪ Regulatory changes ▪ Client's industry revenue pool growth
Medical Technology	▪ Volume of patients ▪ Volume of surgeries ▪ Hospital capacity	▪ Clinical data ▪ Approval new products ▪ Regulatory changes ▪ Hospital CapEx budget
Cyclical		
Capital Goods	▪ Economic cycle, such as industrial production ▪ Environmental regulation	▪ Client's industries demand ▪ Replacement cycle
Transport	▪ Passenger traffic ▪ Fleet capacity ▪ Fuel price	▪ Cargo demand ▪ Cost of financing
Energy	▪ Crude oil price ▪ Progress of exploration projects	▪ Refiner demand and supply ▪ Capex cycle
Commodities	▪ Underlying product demand and supply ▪ Demand and supply underlying products	▪ Product inventories ▪ Disruption in mining operation
Chemicals	▪ End product demand ▪ Price of feedstock ▪ Product pricing ▪ Inventory level	▪ Demand and supply of each manufacturing chain ▪ Production capacity expansion and utilization
Autos	▪ New model cycle ▪ Gas price ▪ Consumer sentiment	▪ Interest rates ▪ Currency fluctuation ▪ Emission regulation changes
Cyclical Growth		
Semiconductor	▪ Memory price cycle ▪ CapEx cycle ▪ End product demand outlook ▪ Product substitution	▪ Process technology migration ▪ Market share changes within category
Electronic Components	▪ End product demand outlook ▪ Customer wins and losses	▪ Inventory level ▪ Product substitution
Technology Hardware (Enterprise)	▪ Customer spending ▪ Technology migration	▪ Product cycle ▪ Customer wins and losses
Technology Hardware (Consumer)	▪ Market share changes ▪ New product cycle ▪ Product pricing	▪ Cost of components ▪ Currency fluctuations
Clean Energy	▪ CapEx ▪ Unit price reduction ▪ Demand and supply	▪ Energy prices ▪ Policy changes ▪ Major project launches

Industry Drivers (Part II)

Industry and Sub-segment	Drivers to Watch	
Stable		
Consumer Staples	▪ Consumption trends ▪ Weather ▪ Channel shift	▪ Market share ▪ Product pricing
Retail	▪ Store opening ▪ Same store revenue growth ▪ Increase in private label products ▪ Competition from online retail	▪ Development of new formats ▪ Cost of labour ▪ Cost of rent
Consumer Discretionary	▪ Product cycle ▪ Demand cycle driven by the economy ▪ Market share changes	▪ Weather ▪ Emerging markets demand growth
Pharmaceutical	▪ Changes in TAM of major drugs ▪ New drugs approval process	▪ M&A activity in the relevant areas ▪ Healthcare policies
Media	▪ Consumer sentiment ▪ Profitability of consumer companies	▪ Content acquisition costs ▪ Competition from online media
Business Services	▪ Business trend of client's industry ▪ Outsourcing trends	▪ Competition ▪ Cost of inflation
Interest Rate Sensitive		
REITs	▪ Occupancy rate of underlying assets ▪ Change in rental charges ▪ Asset acquisitions	▪ Change in financing cost ▪ Government policy
Property Developers	▪ Unit sales ▪ Unit pricing ▪ Changes in cap rate ▪ Landbank acquisition	▪ Occupancy rate ▪ Dividend payout ▪ Cost of financing ▪ Government policy
Banks	▪ Industry data on loans and deposits ▪ Interest rates ▪ Capital levels ▪ Interest rate risk management, duration, and rate sensitivity	▪ Asset quality indicators and credit risk management ▪ Liquidity management (loan and deposit ratios) ▪ Regulatory changes
Insurance	▪ Rate pricing and claims trends ▪ Industry products growth ▪ Product penetration ▪ New products	▪ Investment returns ▪ Reserving and capital requirements ▪ Regulatory changes
Regulated		
Utilities	▪ Economic growth ▪ Tariff changes ▪ Utilization	▪ Environmental concerns ▪ Energy mix changes ▪ Regulatory changes
Telecom	▪ Subscriber growth	▪ ARPU changes

Acronyms:
ARPU: Average Revenue per User
GMV: Gross Merchandise Value
GTV: Gross Transaction Value
MAU: Monthly active users
TAM: Total Addressable Market