Private Company Valuation

Valuation is a process used to determine what a business is worth. Determining a private company's worth and knowing what drives its value is a prerequisite for deciding on the appropriate price to pay or receive in an acquisition, merger transaction, corporate restructuring, sale of securities, and other taxable events.

Each valuation methods will yield a different result based on the sensitivity of inputs/assumptions. In addition, there are certain modifications necessary to adjust for the private status of the private companies. The cost of capital for private companies is different since they do not have access to capital via equity markets.

The key to establishing a starting point for any private company valuation is to understand the key drivers of the company in addition to the type of the business it is engaged, its industry dynamics as well as how it fits into the broader economy.

Private company valuation methodologies	There are several methods for estimating the value of a particular private company. However, the following three techniques are most commonly used – • Asset Based Approach – Based on the value of Company's net assets • Market Approach – Based on pricing multiples from similar companies • Income Approach – Based on the present value of expected future cash flows or income
Asset Based Approach	The underlying principle of asset-based approach is equivalent to the fair value of its assets less the fair value of its liabilities. This method is most appropriate for resource firms, financial services firms, investment companies (real estate investment trusts, closed-end investment companies) and small businesses with limited intangible assets or early stage companies. ***In asset based approach, it is very important to take opinions from multiple top tier Accounting & Audit firms to determine fair value of assets and liabilities.***
	This valuation method is seldom used for going concern firms as it is difficult to value intangible assets, special purpose tangible assets and individual assets. However, depending on the type of business and industry this is an important of the valuation process.
Market Approach	Multiple based analysis or comparable analysis is the most popular tools used in private company valuation. Comparable company trading multiples analysis or trading comps utilize the valuation multiples of similar or comparable **publicly or privately** traded companies to value a target private company. Peers can be grouped based on any number of criteria, such as industry focus, private company size, or growth. The multiples can be Equity based multiples like **Price to Earnings (P/E), Price to Book Value of Equity (P/B)** and Enterprise Value (EV) /Sales etc. The multiples derived from this type of analysis are at a given point in time and generally change over time. Among many following are most relevant multiples widely used to derive an implied equity value of a Private Company. 1. Price/Book (market equity value / book value of equity)

	2. Price/Earnings (market equity value / net income to common shareholders) **3.** Price/Cash Flow (market equity value / after-tax cash flow)
	A disadvantage of this valuation method is that it is often difficult to determine the right comparable private companies. Very rarely does one find two identical private companies. Hence, adjustments should be made to reflect differences, such as business mix, geographic spread and capital structure. For instance, conglomerates may have unrelated lines of businesses that probably will requires multiples from two different unique companies and then deriving a blended multiple.
Income Approach	Discounted cash flow analysis is one of the primary tools used in income approach based valuation. This method uses the forecasted free cash flow of the target private company (meeting all the liabilities) discounted by the firm's weighted average cost of capital (the average cost of all the capital used in the business, including debt and equity), plus a risk factor measured by beta. Beta is a historical measure of a stock's volatility versus the market as a whole. Since private companies do not have equity traded on any exchange, there is no concrete method for determining the beta of a private company's equity. Therefore, the estimation of beta is taken from comparable public companies. It is important to normalize cash flows to reflect an arm's-length approach to management. Recasting cash flows for the private company is to determine the true value of the private company based on "real" cash flows. It is important to make sure that all adjustments are reasonable and defensible. Many financial analysts use this approach and needless to say that performing a DCF based valuation is partly art and partly science since small changes in the Model may materially impact the valuation. Nevertheless a skilled analyst with strong understanding the company and industry dynamics can derive valuations that may be appropriate.
	The major disadvantage of this method is that the precision of the valuation is not always accurate. The outcome of the valuation is highly dependent on the quality of the assumptions made regarding Free Cash Flow (FCF) , Terminal Value (TV), and the discount rate. As a result, DCF valuations are usually expressed as a range of values rather than a single value by using a range of values for key inputs.
Current Valuation techniques accepted by SEC in Bangladesh (For	For IPO purposes SEC has accepted certain valuation techniques and given instructions to the issue managers to follow two methods for valuing a company. • P/E multiple based valuation – Average of the last five years EPS

IPOs)	is taken and is multiplied by a trading P/E multiple of the comparable sector. • NAV based valuation – Net asset value (audited) of the most recent year. • Finally, issue managers take the average of both methods to find a fair value.
Valuation of private companies in Bangladesh.	Given the complexity and nuances of valuation techniques, it is prudent to come up with a range of valuations using all three methods and come up with the range that is reasonable to set the floor and the ceiling value of the company. Once we determine the range then we reduce the margin of error and outliers in valuation. Once we determine the range certain subjective matters becomes very relevant and important to come up with the actual price within the range. The ultimate valuations practice highly negotiated but generally fall within the methods discussed in this paper. The next section will elaborate on Sample Valuation Model that may be used as a reference.

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Sample Valuation Model using different valuation techniques

Company Name	"A" Pharmaceuticals Ltd	**Industry type**	Pharmaceuticals
Products	Human & Animal drugs	**Years of Operation**	10
Business Cycle	Growth Stage	**Earnings Consistency**	Consistent

Sample income statement

Income Statement (BDT million)	2011	2012	2013
Sales	**16,975**	**19,798**	**20,202**
Cost Of Goods Sold	9,401	10,872	10,364
Gross Profit	**7,573**	**8,927**	**9,838**
Administrative Expense	2,668	3,077	3,521
EBITDA	**4,905**	**5,850**	**6,317**
Depreciation	1088	1234	1228
Other income	454	420	378
EBIT	**4,271**	**5,035**	**5,467**
WPPF	191	220	247
Interest Expense (income)	310	465	357
EBT	**3,770**	**4,350**	**4,863**
TAX	939	1,225	1,310
Profit After Tax	**3,259**	**3,620**	**4,129**

Sample Balance Sheet

Balance Sheet	2011	2012	2013
Assets			
Current Assets			
Cash & Cash Equivalent	429	748	981
Accounts Receivable & prepayments	5,462	5,127	3,561
Inventories	3,179	3,179	3,091
Total Current Assets	**9,070**	**9,053**	**7,633**
Total Long Term Investment	**4,503**	**4,877**	**5,103**
Total Fixed Assets	8,947	10,446	14,520
Total Assets	**22,520**	**24,377**	**27,257**
Current Liabilities			
Accounts Payable	1,208	531	7
Liabilities for other expense	882	1,069	1,426
Short Term Bank Loan	2,914	2,237	1,302
Current Portion of Long Term Debt	518	477	540
Total Current Liabilities	**5,522**	**4,315**	**3,275**
Total Non Current Liabilities	**1,034**	**941**	**1,611**
Total Liabilities	**6,557**	**5,257**	**4,886**

Sample Balance Sheet (Continued)

Balance Sheet	2011	2012	2013
Shareholder's Equity			
Share Capital	1,962	2,648	3,708
Share Premium	2,035	2,035	2,035
Reserve	1,933	976	826
Retained Earnings	10,034	13,460	15,801
Total Shareholder's Equity	**15,964**	**19,120**	**22,370**
Total Liabilities & Shareholder's Equity	**22,520**	**24,377**	**27,257**

Asset Based Approach

In this approach, Net Asset Value of the target company has been calculated (Net Assets after meeting all the liabilities) and that value would be the fair value of that company. An emerging country like Bangladesh, lacks proper financial reporting due to a lack of qualified and professional accounting & audit firms and business practices issues especially for valuing a private company through **Asset Based Approach. Therefore, close attention is required to evaluate the integrity of financial statements.**

One thing that needs to be considered here is asset based approach often indicates the most conservative valuation as it does not take into account the value of intangible assets (such as goodwill). Also this approach fails to incorporate the future growth potential of a going concern. This method is most appropriate for resource firms, financial services firms, investment companies (real estate investment trusts, closed-end investment companies) and small businesses with limited intangible assets or early stage companies.

For "A" Pharmaceutical Company, asset based approach gives us a fair value of **BDT 22.370 billion derived from the Balance Sheet - Total Shareholder's Equity above** .

Market Approach

The challenges for Valuation of private companies in Bangladesh is amplified due to the fact that there are limited information is readily available on comparable transactions as precedence of mergers & acquisitions or buy-out & exits.

Historically, many listed securities have been traded at a higher than fair price due to shortage of scripts in the capital market. Conversely, some industries may experience lower than fair price in the market due to many reasons (such as large cap companies with higher free float, inefficiency of the market etc). While using listed securities as reference It is very important to consider the industry and company specific growth factors as well as the overall capital market sentiment while doing valuation based on **Market Approach.**

In order to overcome the challenges while using market approach, we have incorporated multiple based analysis of comparable companies from different regions include India, Pakistan and Vietnam.

 In choosing the companies to compare to, the following steps are considered:

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1. To select the comparable universe or peer group for a given private company target it must be ensured that its peers share similar industry, business, and financial characteristics.
2. After selecting a universe of comparable companies, a list of ratios and values has been created to compare the target company with its peers. In this case, Price to Earnings (P/E), Price to Book (P/B) and Price to Cash flow (FCF) multiples have been chosen and then calculated.
3. After calculating different multiples within the local and regional peers, **we have taken lower of weighted average multiple or median multiple in order to address issues related to sampling and outliers.**
4. After deriving the lower multiples from each region, we have taken average of each multiple.
5. Finally, a range of valuation has been obtained by multiplying different multiples to the latest available corresponding numbers.

Following these steps on the target company, "A" Pharmaceutical Ltd, below is the table (containing a range of values) has been obtained:

Valuation Multiples	Bangladesh	India	Pakistan	Vietnam	Average	Final Value (BDT MM)
Price to Book	5.7x	1.0x	3.7x	1.8x	3.1x	68,229*
Price to Earnings	33.8x	13.1x	13.1x	11.6x	17.9x	73,909**
Price to Cash Flow (FCF)	11.1x	55.5x	8.2x	3.2x	19.5x	71,955***

* Avg. Price to Book (3.1) * NAV of 2013 (BDT 22,370 MM)   = BDT 68, 229 MM
**   Avg. Price to Earnings (17.9) * PAT of 2013 (BDT4,129 MM)   = BDT 73,909 MM
** * Avg. Price to Cash flow (19.5) * FCF of 2014E (BDT 3,690 MM) = BDT 68, 229 MM

Based on Market Approach, target company value will **fall between BDT 68.2 bn to 73.9 bn.**

Income Approach

Valuing private companies following income approach is most complex and it is highly sensitive to assumptions of future cash flows. As different analyst has different perspectives on a certain industry or company outlook, this approach may give a wide range of values and may often confuse the investors. However, we believe an Analyst who understands the key dynamics of the company, industry and as it relates the economy can come up with values that are reasonable. However, in practice Income Approach is not used in isolation and used a one of the drivers to determine the final price.

Income Approach are primarily driven by three key inputs i.e. Free cash flow, Terminal Value and Discount rate, an analyst should carefully verify all the inputs and then validate them by rational assumptions. In making assumptions for the target company, following steps were considered:

1. Identify the historical growth pattern for pharmaceutical industry
2. Forecast the industry outlook in next two to three years by doing market research & taking opinions from industry experts
3. Identify the Key Success Factors for "A" Pharmaceutical Ltd
4. Make rational assumptions on the sales growth, capital expenditure and working capital management
5. Calculate beta of peer companies that are listed in the stock exchange and taking an average of them
6. Calculate terminal value by forecasting terminal growth rate
7. Projecting future free cash flow based on the assumptions

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8. Calculate present value of future free cash flow to estimate the fair value of the firm

Following these steps, one may determine the fair value of the targeted company as below:

DCF		2012	2013	2014E	2015E	2016E	2017E	2018E	2019E
EBIT*(1-TAX)	(1)	3,617	3,995	5,215	5,921	6,720	7,454	8,252	9,122
Depreciation	(2)	1,234	1,228	1,233	1,467	1,476	1,500	1,539	1,593
Capital Expenditure	(3)	2,587	5,308	1,212	1,394	1,561	1,717	1,889	2,078
Change in working capital	(4)	1,105	(579)	1,546	1,036	953	890	979	1,077
Net Cash Flow (1+2-3-4)	(5)	1,159	494	3,690	4,957	5,681	6,346	6,923	7,561
Terminal Value									112,106
Free Cash Flow (FCF)	(6)	1,159	494	3,690	4,957	5,681	6,346	6,923	119,667
PV Factor (PVF) (7)				1.00	0.90	0.81	0.73	0.66	0.59
PV of Future FCF (6)*(7)				**3,690**	**4,467**	**4,612**	**4,642**	**4,563**	**71,064**

Present Value of Future Free Cash Flow = Sum of Present Value of Future FCF (Yellow marked cells)

Assumptions for cash flow projection

- Considering rise in per capita income, increased health consciousness and a huge consumer base, pharmaceuticals sector is expected to grow more than 12% p.a. As "A" pharmaceuticals is a leading pharmaceutical company due to its brand image and superior product quality, we expect, it will grow at a faster pace than the average market growth. In the model, 20% growth in top line has been assumed.
- To achieve this growth, Company "A" Pharmaceutical Ltd has already increased its capacity by about 40% in 2013. Second phase of expansion has been started in January 2014 & expected to be completed in 2017 at a cost of BDT 2,000 million. This expansion will further increase the production capacity by around 30%.
- As the capital required for the expansion project will mostly met from company's internal cash flow, it will not increase any financial expenses.
- COGS have been assumed to maintain historical trend which is quite steady.
- Administrative expense as percentage of sales is assumed to decrease slightly with the 20% expected rise in sales volume.

In this case, present value of future FCF has been calculated as **BDT 93 billion.**

Conclusion:

Finally, after taking into account all three approaches we derived three separate values for "A" Pharmaceutical Ltd as following that determine the range for the final valuation.

Asset Based Approach	**BDT 22 billion**
Market Approach	**BDT 68.2 - 73.9 billion**
Income Approach	**BDT 93 billion**

According to our experience, in most cases asset based approach gives the most conservative value for a company, however, as we mentioned earlier this approach may not address certain critical factors of valuations (valuing intangible assets, future growth potential etc). Nevertheless, we can use this indicative price as a floor and as a rational starting point. On the other hand, income approach in this case provide the higher value as it takes into account future cash flow potential of a particular business based on certain critical assumptions determined by an experienced independent analyst. Valuation based on market approach from credible sources in most cases fall between Asset based and Income approach as demonstrated above.

Utilizing the process the range of the fair value of this particular company is between **BDT 22 - 93 billion**.

In conclusion, to determine the final valuation of the target company within the established range one must consider the following factors that could place the valuation at the bottom, middle or top of the range. These factors are subjective and at a minimum must include the following:

- Integrity, depth of management in terms of expertise & corporate governance
- Integrity of Financial Statements and disclosure
- Track record of the leadership and overall performance in previous years & consistency
- Are the sponsors planning to exit and why?
- Liquidity penalty/premium for Private Company

In conclusion, valuing a private company is partly art and science and highly negotiated, however, we believe the above process provides an effective tool to determine the fair value of Private Companies in Bangladesh addressing many of the challenges.

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Appendix I: Bangladesh Market Data - Dhaka Stock Exchange

		P/B	P/E	P/FCF
Consumer Discretionary	Weighted Average	2.5	28.2	86.1
	Median	2.1	25.2	22.4
	Min	0.4	8.6	6.0
	Max	9.9	150.0	716.1
Consumer Staples	Weighted Average	16.5	37.1	35.7
	Median	9.6	35.0	37.7
	Min	1.3	16.5	5.0
	Max	74.5	100.2	590.4
Financials	Weighted Average	8.0	14.6	17.8
	Median	1.5	15.4	7.2
	Min	0.6	1.4	1.0
	Max	154.0	105.9	206.8
Health Care	Weighted Average	6.3	36.0	740.2
	Median	5.8	44.5	46.7
	Min	1.2	24.2	11.1
	Max	11.3	176.9	836.3
Industrials	Weighted Average	5.3	50.1	601.9
	Median	3.0	41.5	51.0
	Min	0.3	9.3	1.9
	Max	11.3	120.0	836.3
Information Technology	Weighted Average	1.7	24.9	8.3
	Median	1.6	25.3	8.3
	Min	1.2	11.7	8.3
	Max	1.9	28.7	8.3
Materials	Weighted Average	5.6	26.7	33.9
	Median	4.0	26.4	21.0
	Min	1.2	15.3	9.8
	Max	9.5	256.4	169.2
Telecommunication Services	Weighted Average	2.1	17.5	9.7
	Median	2.0	17.3	11.9
	Min	1.1	11.3	4.9
	Max	3.9	26.4	18.0
Pharmaceuticals	Weighted Average	6.3	33.8	36.1
	Median	5.7	41.4	11.1
	Min	1.2	24.2	6.1
	Max	11.3	74.8	55.4

Source: Bloomberg

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Appendix II: **India Market Data - Bombay Stock Exchange**

		P/B	P/E	P/FCF
Consumer Discretionary	Weighted Average	7.9	48.5	86.3
	Median	0.9	11.1	9.9
	Min	0.3	0.8	0.5
	Max	121.5	95.5	955.6
Consumer Staples	Weighted Average	12.5	50.7	53.7
	Median	1.0	13.2	17.0
	Min	0.3	0.8	0.4
	Max	39.0	138.0	611.2
Financials	Weighted Average	3.0	65.5	14.7
	Median	1.0	18.7	7.4
	Min	0.3	1.0	0.0
	Max	107.4	107.5	2,912.5
Health Care	Weighted Average	7.0	38.4	166.9
	Median	1.3	17.0	28.1
	Min	0.3	1.7	1.3
	Max	55.1	150.5	2,038.0
Industrials	Weighted Average	3.9	35.2	78.4
	Median	0.9	12.6	17.2
	Min	0.3	0.4	0.5
	Max	91.6	80.7	5,945.5
Information Technology	Weighted Average	6.0	70.5	32.9
	Median	1.0	17.2	16.4
	Min	0.3	1.4	0.4
	Max	64.7	100.6	6,786.6
Materials	Weighted Average	5.2	24.6	75.8
	Median	0.8	9.2	6.4
	Min	0.3	0.4	0.7
	Max	20.0	50.6	303.6
Telecommunication Services	Weighted Average	2.3	43.0	14.5
	Median	2.2	28.0	15.2
	Min	0.7	18.9	5.8
	Max	9.8	49.7	24.4
Pharmaceuticals	Weighted Average	7.0	40.6	67.2
	Median	1.0	13.1	55.5
	Min	0.3	5.6	34.6
	Max	33.3	65.5	413.3

Source: Bloomberg

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Appendix III: Pakistan Market Data - Karachi Stock Exchange

		P/B	P/E	P/FCF
Consumer Discretionary	Weighted Average	2.0	10.7	63.6
	Median	1.1	6.4	6.2
	Min	0.4	1.3	1.3
	Max	8.9	135.3	412.4
Consumer Staples	Weighted Average	32.4	65.3	189.9
	Median	3.0	24.1	77.6
	Min	0.4	2.1	6.6
	Max	94.7	101.3	322.0
Financials	Weighted Average	1.7	11.8	14.2
	Median	1.0	11.7	8.2
	Min	0.4	3.1	1.2
	Max	4.5	79.3	153.6
Health Care	Weighted Average	4.3	24.6	23.3
	Median	3.4	13.4	24.1
	Min	1.3	12.0	16.3
	Max	5.4	36.2	29.4
Industrials	Weighted Average	4.7	16.5	9.7
	Median	1.3	12.0	8.9
	Min	0.4	5.1	2.4
	Max	10.6	95.2	45.1
Information Technology	Weighted Average	0.5	2.6	3.7
	Median	0.5	2.6	3.7
	Min	0.5	2.6	3.7
	Max	0.5	2.6	3.7
Materials	Weighted Average	1.8	10.0	8.6
	Median	1.5	6.9	6.3
	Min	0.3	3.8	3.3
	Max	8.3	295.8	73.3
Telecommunication Services	Weighted Average	1.3	23.9	4.5
	Median	1.0	28.1	4.5
	Min	0.4	18.0	4.5
	Max	1.3	38.1	4.5
Pharmaceuticals	Weighted Average	4.4	25.3	23.1
	Median	3.7	13.1	8.2
	Min	1.3	4.2	5.0
	Max	5.4	36.4	29.6

Source: Bloomberg

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Appendix IV: Vietnam Market Data - Ho Chi Minh City Stock Exchange

		P/B	P/E	P/FCF
Consumer Discretionary	Weighted Average	1.8	20.4	7.6
	Median	1.0	9.7	7.1
	Min	0.4	5.5	0.3
	Max	2.6	249.7	163.0
Consumer Staples	Weighted Average	5.4	69.5	22.5
	Median	1.0	8.7	6.6
	Min	0.4	3.2	0.4
	Max	6.8	213.1	239.9
Financials	Weighted Average	1.5	18.8	17.5
	Median	1.0	19.8	9.7
	Min	0.4	5.9	0.8
	Max	2.7	55.0	127.9
Health Care	Weighted Average	3.5	15.6	38.7
	Median	1.7	14.5	12.3
	Min	0.5	6.4	2.8
	Max	4.8	64.6	136.8
Industrials	Weighted Average	1.4	22.5	20.5
	Median	0.7	9.3	4.6
	Min	0.3	2.2	0.2
	Max	2.7	45.0	102.6
Information Technology	Weighted Average	2.5	16.1	31.2
	Median	0.7	13.1	5.3
	Min	0.3	4.3	0.9
	Max	2.8	65.0	40.1
Materials	Weighted Average	1.8	19.0	35.2
	Median	0.8	9.4	5.3
	Min	0.3	4.7	0.2
	Max	48.3	71.0	113.1
Telecommunication Services	Weighted Average	1.4	8.4	7.7
	Median	1.2	7.9	5.3
	Min	0.9	4.7	0.1
	Max	2.6	17.0	226.6
Pharmaceuticals	Weighted Average	3.8	15.1	39.1
	Median	1.8	11.6	3.2
	Min	0.6	3.4	-
	Max	4.8	22.2	52.6

Source: Bloomberg