

**A Study applying DCF Technique for valuing Indian IPO's: Case Studies of CCD, Equitas Holdings & Infibeam**

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**Introduction:**

Initial Public Offer (IPO) is the first issue of shares made by a Private Ltd. Company to public. Companies opt for IPOs to raise capital, to meet working capital requirements, debt repayments, acquisitions and a host of other uses.

After years of muted activity in the IPO market, due to slower economy and lackluster demand from investors, year 2015 proved to be a big bash for raising capital in India. During the period, April 2015 to December 2015, 45 companies came up with their IPOs, the highest in the past few years. The biggest IPO of the year was by InterGlobe Aviation, the operator of IndiGo- launched in October 2015 and raised around \$459 million. The momentum in the IPOs market is expected to continue in the coming years.

Year 2016 also witnessed the bullish trend of IPOs market since its beginning. Around 30 companies launched their IPOs as of August 2016. A major revival is seen in the IPOs market in India after few disappointing years.

One important factor of IPO process is the IPO price, the amount which an investor will pay to purchase stock of the company. Pricing of an IPO involves deep insights of the factors which affect the price of a stock. Some of the factors are:

- ✓ Amount of stock being sold in the IPO.
- ✓ Potential growth of the company.
- ✓ Profitability of the company's business model.
- ✓ Current stock prices of the public companies in that industry.

Apart from above mentioned factors, the company's history, management, reputation also influences the price of a stock. Since, a stock price is influenced by a number of factors; it is practically not possible to come up with a fair and exact price. Below is the table showing some of the major IPOs from April 2015 to August 2016 with their listed, issued and current prices:

S. No.	Company Name	List Price	Issue Price	Current Price
1	Adlabs Ent	162.2	180	99.50
2	Inox Wind	400	325	199
3	PNC Infratech	387	378	116.30
4	ManpasandBever	300	320	752.60
5	AmrapaliFincap	120	120	98
6	Mangalam Seeds	50	50	102.85
7	Prabhat Dairy	117.70	115	117.20
8	InterGlobe Aviation	855.80	765	916.05
9	Dr Lal PathLab	720	550	1076.55
10	Narayana Hruda	291	250	332.10
11	Quick Heal Tech	304.95	321	219.45
12	Parag Milk Food	217.50	215	294.35
13	Mahanagar Gas	540	421	660.35
14	L&T InfoTech	667	710	618.25
15	S P Apparels	275	268	336.50

The above table clearly gives an idea that the price of a stock cannot be an accurate one. As some of the stocks are underpriced against their listed price while some are overpriced. For a retail investor, it is very difficult to make a decision which stock to buy as different companies follow different methods of fixing the price of a stock. One cannot say which method of valuation is right or wrong. In that case, how a retail investor will make a decision? How can he be sure of his decision of choosing a particular stock?

This case study, based on contemporary research, tries to find out the intrinsic value of a stock using DCF model. For this purpose, a sample of 3 IPOs have been taken into consideration.

#### **Literature review:**

**SupriyaKatti and B.V. Phani(2016)** have already done a study on underpricing of IPOs. Their paper reviews different factors presented in the extant literature that influence the price discovery mechanism of initial public offerings (IPO) in various economies. They concluded that the degree of underpricing is dynamic and various markets forces interact simultaneously in observing the variation in pricing the new equity issues. The paper points out the significance of regulatory framework in explaining the degree of IPO underpricing.

**Gopalakrishnan, M. (2015)** has made a Study on the Performance of the Initial Public Offerings in Indian Stock Market. According to his research, subscribers to IPOs are able to generate better return on the listing day and on the next day, investors must also aware of the fact that all companies are not generating positive return on the listing day and on the next day. He also suggests that, since in the long run returns are attractive, investors should exit from the IPOs at the earliest possible time further his study concludes that the investors of IPOs should exit the market based on the returns of the IPOs on the day of exit.

**K. Hema Divya (2013)** undertook a study on Performance of Indian IPOs during the financial year 2010-2011. Her research has found that IPOs are underpriced an average of 15 percent. A common explanation for this gap between the initial and close-of-the-first-day prices is that firms going public are risky ventures and investment banks are prudent to set initial prices low.

**Michael Adams, Barry Thornton and George Hall (2008)** made a research on IPO Pricing Phenomena: Empirical Evidence of Behavioral Biases. According to their study, given a desired market capitalization value, firms going public must determine the number of shares and the price. While this marketing decision would seem to have little economic significance, the empirical evidence from stock splits suggests that firms do not choose their IPO share price level arbitrarily. The results of their study suggest that economically significant differences exist across firms choosing different IPO prices in the amounts of “money left on the table.”

**Sanjay Sehgal and Bhushan Kumar Sinha (2013)** have made an attempt to study the valuation of IPOs in India. According to them, mispricing of IPOs seems to negatively impact the investment banks’ reputation in the next period. Their results are in conformity with the previous findings of developed market. The findings of this research have strong implications for the policy makers, market intermediaries as well as investors. The present study contributes to the capital market literature, especially for emerging economies.

#### **Objectives:**

Objectives of this study are:

- ✓ To determine the intrinsic value of selected IPO issues using Discounted Cash Flow approach.
- ✓ To evaluate the DCF technique used in determining the intrinsic value.

#### **Research methodology:**

**Sample:** Sample for the study are 3 IPOs, namely, CCD, Infibeam, Equitas Holdings. The sample is selected using convenience sampling technique.

**Analytical Technique Used:** We have used Discounted Cash Flow (DCF) technique of intrinsic valuation.

#### **Data and results:**

The financial data of the 3 selected companies can be referred from Annexure -1.

**Calculation of Cost of Capital:**

**CCD**

Cost Of Debt					
Long Term Borrowings	4355.66	4226.63	3713.46	3937.66	2844.03
Finance Cost	464.56	431.9	399.8	449.4	554.98
Rate Of Interest	10.7%	10.2%	10.8%	11.4%	19.5%
Pre Tax Cost Of Debt	12.5%				
Rate Of Tax	30%				
Post Tax Cost Of Debt	8.75%				
Beta	D/A	D/E	Asset Beta	Average Asset Beta	
Hul	0.55	1.05%	0.01	0.546177	0.645392
Nestle	0.38	0.63%	0	0.38	
Jfw	1.01	0	0	1.01	
Beta Of Ccd	0.66		0.03		
Risk Free Return	7.20%	We		Wd	
Market Return	13.66%	Equity	7693.05	Debt	6936.04
Beta Of Cdel	0.66	New Equity	11500	Repayment	-6328
Capm	11.4617%	Total Equity	19193.05	Total Debt	608.04
Wacc	11.04%	We	96.93%	Wd	3.07%
		Cost Of Equity	11.11%		

**Equitas Holdings**

COST OF DEBT					
long term borrowings	1866.67	2950.01	6403.94	6759.15	14569.99
finance cost	688.29	642.14	1076.28	1895.21	2947.02
rate of interest	36.9%	21.8%	16.8%	28.0%	20.2%
pre tax cost of debt	24.7%				
RATE OF TAX	30%				
post tax cost of debt	17.29%				
PARTICULAR	beta	d/e	asset beta	average asset beta	
cholamandalam	0.55	2.98	0.18	0.80	
repcO	0.81	0	0.81		
BHARAT financial inclusion ltd	1.41	0	1.41		
EQUITAS HOLDINGS	1.76	1.73			
risk free return	7.20%	WE		WD	
market return	13.66%	equity	11706.3	debt	32618.03
beta	1.76	new equity	7200	repayment	0
capm	18.6008%	total equity	18906.3	total debt	32618.03
cost of equity	6.83%	WE	36.69%	WD	63.31%
WACC	13.45%				

**INFIBEAM**

COST OF DEBT					
long term borrowings+short term	144.88	553.42	427.1	86.01	49.49
finance cost	1.81	10.52	11.81	7.91	13.68
rate of interest	1.2%	1.9%	2.8%	9.2%	27.6%
PRE TAX COST OF DEBT	8.6%				
RATE OF TAX	30%				
POST TAX COST OF DEBT	6.0%				
risk free return	7.20%	WD		WE	
market return	13.66%	debt	540.68	equity	2127.03
beta	0.16	repayment	0	new equity	4500
capm	8.23%	total debt	540.68	total equity	6627.03
WACC	8.06%	WD	0.075433	WE	0.924567

**Computation Of Free Cash Flow:**

**CCD**

FREE CASH FLOW STATEMENT					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH (Rs. In millions)				
	2011	2012	2013	2014	2015
revenue from Operations	9538.12	10326.13	11075.6	11435.02	12626.5
other income	415.81	377.57	188.3	106.9	91.12
TOTAL INCOME	9953.93	10703.7	11263.9	11541.92	12717.62
cost of goods sold	6492.49	7075.02	7205.34	7076.89	7751.94
other expenses	1994.49	2150.65	2355.52	2570.32	2983.1
EBITDA	1466.95	1478.03	1703.04	1894.71	1982.58
depreciation	792.45	935.69	1208.55	1540.76	1579.54
EBIT	674.5	542.34	494.49	353.95	403.04
finance cost	464.56	431.9	399.8	449.4	554.98
EBT	209.94	110.44	94.69	-95.45	-151.94
tax expense	101.18	104.78	93.55	-1.37	44.46
EAT	108.76	5.66	1.14	-94.08	-196.4
ADD:- depreciation	792.45	935.69	1208.55	1540.76	1579.54
OPERATING PROFIT	901.21	941.35	1209.69	1446.68	1383.14
LESS:-					
capital expenditure	2005.8	2689.87	2452.1	1650.63	1460.67
changes in working capital	1109.1375	-2107.36	1758.91	-333.05	-237.23
FREE CASH FLOW	4.5475	358.84	516.5	129.1	159.7
average FCF	233.7375				

Year	2016	2017	2018	2019	2020	TERMINAL
FCF	237.8201996	241.9742	237.8202	241.9742	246.2008	4887.582

**EQUITAS HOLDINGS**

FREE CASH FLOW STATEMENT					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH (Rs. In millions)				
	2011	2012	2013	2014	2015
revenue from Operations	2388.14	1980.6	2821.53	4824.28	7550.64
other income	3.89	5.89	10.2	10.89	8.62
<b>TOTAL INCOME</b>	<b>2392.03</b>	<b>1986.49</b>	<b>2831.73</b>	<b>4835.17</b>	<b>7559.26</b>
cost of goods sold	738.63	688.24	869.56	1186.95	2055.29
other expenses	476.24	475.69	409.89	552.94	837.1
EBITDA	1177.16	822.56	1552.28	3095.28	4666.87
depreciation	48.47	72.57	69.6	61.96	84.29
EBIT	1128.69	749.99	1482.68	3033.32	4582.58
finance cost	688.29	642.14	1076.28	1895.21	2947.02
EBT	440.4	107.85	406.4	1138.11	1635.56
tax expense	155.24	143.55	78.66	394.92	565.68
EAT	285.16	-35.7	327.74	743.19	1069.88
ADD:- depreciation	48.47	72.57	69.6	61.96	84.29
<b>OPERATING PROFIT</b>	<b>333.63</b>	<b>36.87</b>	<b>397.34</b>	<b>805.15</b>	<b>1154.17</b>
LESS:-					
capital expenditure	0	0	0	0	0
changes in working capital	0	159.73	2315.95	2038.16	3811.44
<b>FREE CASH FLOW</b>	<b>333.63</b>	<b>-122.86</b>	<b>-1918.61</b>	<b>2843.31</b>	<b>-2657.27</b>
<b>AVERAGE FCF</b>	<b>-304.36</b>				

Year	2016	2017	2018	2019	2020	TERMINAL
FCF	-373.6418	-458.69426	-563.10732	-691.28804	-848.64666	-13984

**INFIBEAM**

YEAR	2016	2017	2018	2019	2020	TERMINAL
FCFF	179.1814137	-480.1827499	1286.827	-3448.53	9241.603703	-1199412

**Computation Of Intrinsic Value Of The Firm:**

**CCD:**

At sustainable growth rate of 1.75%, we determine that the intrinsic value of Café Coffee Day is 153.726. It can be observed that this rate is an average of the three industry players, two of which are operating at the maturity stage of their business life cycle i.e. HUL and Nestle. As companies at this stage will have lesser requirement to retain their earnings, as they pay out most of their earnings which leads to a lower sustainable growth rate.

Considering that CCD is at the growth phase of its business cycle, it may be apt to assign a higher growth rate. Therefore, presented below is a scenario analysis of the intrinsic value at different growth rates:

Growth Rate	1.75%	3%	5%	7%
Intrinsic Value of Firm	153.726	159.89	170.018	180.512
<b>VALUE OF THE FIRM</b>	<b>3784.88</b>			
VALUE OF DEBT POST IPO	608.04			
VALUE OF EQUITY	31768398389.89			
NUMBER OF SHARES	206655029.7			
INTRINSIC VALUE	153.7267127			

***EQUITAS HOLDINGS:***

In case of Equitas Holdings, we found that the company has been generating negative cash flows in past few years and also the sustainable growth rate is closer to zero. Applying Discounted Cash Flow technique in this case has led to a negative intrinsic value. In this case purely going by quantitative valuation is not feasible, which is also proven with the computation presented below:

<b>VALUE OF THE FIRM</b>	<b>-9380.78</b>			
VALUE OF DEBT POST IPO	32618.03			
VALUE OF EQUITY	-419988115630.61			
number of shares	276495709.5			
price	-1518.967931			
Growth Rate	0.23%	3%	5%	7%
Intrinsic Value of Firm	-1518.97	-1315.14	-1328.94	-1344.01

***INFIBEAM***

VALUE OF FIRM	-809336.36
VALUE OF POST DEBT	540.68
VALUE OF EQUITY	-809877044809.49
NUMBER OF SHARES	54038291.36
INTRINSIC VALUE	-14987.09571

In case of INFIBEAM, we found that the company has been generating earnings as well as negative cash flows in the previous four years .This has resulted in negative ROE, and an obvious zero payout ratio.

Therefore, the sustainable growth rate becomes negative (as multiplying negative ROE). These two factors have made application of DCF valuation technique giving a negative value of the firm. There are two conclusions that one can draw. One, theoretically the value of the firm according to DCF technique is the present value of all the future cash flows discounted at the application cost of capital. For a firm like Infibeam, which is generating a negative cash flow with a negative earnings margin, the future is bleak and its not a worthy investment option. Hence, irrespective of the size of the value of the firm we get using DCF, as long as the value is negative; it's a firm that cannot be considered for investment. Two, DCF technique demands a positive earnings and positive growth rate for determining the value. And hence, the technique will not be applicable in such scenarios. Despite attempting to conduct a scenario analysis with a series of subjective growth rates, as presented in the below table, the value of the firm is negative. This leads to conclude that even if the growth rate is positive, if the free cash flow is negative, the DCF approach fails in estimating the intrinsic value. The best course of action in such cases would be to apply other valuation techniques like multipliers or asset-based valuation.

GROWTH RATES	-3.68	0%	3%	5%	7%	10%
INTRINSIC VALUE	-14987.09571	-55.5968	-63.9242	-70.1728	-77.0305	-88.5633

**Conclusion**

This research paper aimed to determine the applicability of DCF technique of valuation in the case of IPOs of Indian companies. The case studies of three major IPOs in Indian markets – Café Coffee Day, Equitas Holdings and InfiBeam revealed that, DCF technique is not a generally adoptable approach in valuing companies. Situations like negative cash flows, and negative ROE or no dividend payment scenarios make it impractical to apply discounted cash flow method. This was illustrated by the cases of Equitas holdings and Infibeam. The case of Café Coffee Day demonstrated above by this research paper, lead to various inferences. One, the cost of equity computation need to be computed by selecting the right competitors and beta adjustments for their respective capital structures. Two, intrinsic value need not be specific, it can be range bound and a scenario analysis can be conducted to have an idea of the value. Three, sustainable growth rate can be obtained in case of IPOs, which do not have dividend payment history, comparable companies’ dividend payout ratios can be considered as proxies to determine the expected growth rate.

Thus, DCF technique for valuing unlisted companies or IPOs, is applicable mostly in cases where, (a) free cash flows are positive (at least average of previous few years) (b) ROE is positive (c) comparable company information is available to the satisfaction of valuer (d) when the valuer is not looking for an accurate value of the stock, instead looking for a range of stock value.

**ANNEXURE – 1**

***Café Coffee Day Financials:***

Consolidated Balance Sheet ( Rs. In Millions)					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH				
	2011	2012	2013	2014	2015
Shareholder's Funds	7566.96	7369.69	7344.04	7281.88	7693.05
Long Term Borrowings	4355.66	4226.63	3713.46	3937.66	2844.03
Current Liabilities	2735.78	3076.19	3146.95	3292.07	4092.01
Current Assets	7627.3	5860.35	4172.2	3984.27	4546.98
Non Current Assets	7384.3	9302.07	10700.71	11251.42	10794.61
Retained Earnings	5529.8	5332.53	6667.82	7436.48	7438.58
Total Assets					15,341.59

Cash Flow Statement (Rs. In millions)					
Particulars	FOR THE YEAR ENDED 31st MARCH				
	2011	2012	2013	2014	2015
Cash Flow From Operating Activities	103.78	1520.04	1600.01	2304.6	3131.45
Cash Flow From Investing Activities	-2121.22	-54.01	-1078.1	-1492.73	-1147.97
Cash Flow From Financing Activities	2646.03	-611.97	-852.16	-803.87	-1354.25
Purchase Of Fixed Assets	-2005.8	2689.87	-2452.1	-1650.63	-1460.67

CONSOLIDATED MULTI-STEP INCOME STATEMENT					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH (Rs. In millions)				
	2011	2012	2013	2014	2015
Revenue From Operations	9538.12	10326.13	11075.6	11435.02	12626.5
Other Income	415.81	377.57	188.3	106.9	91.12
TOTAL INCOME	9953.93	10703.7	11263.9	11541.92	12717.62
Cost Of Goods Sold	6492.49	7075.02	7205.34	7076.89	7751.94
Other Expenses	1994.49	2150.65	2355.52	2570.32	2983.1
EBITDA	1466.95	1478.03	1703.04	1894.71	1982.58
Depreciation	792.45	935.69	1208.55	1540.76	1579.54
EBIT	674.5	542.34	494.49	353.95	403.04
Finance Cost	464.56	431.9	399.8	449.4	554.98
EBT	209.94	110.44	94.69	-95.45	-151.94
Tax Expense	101.18	104.78	93.55	-1.37	44.46
EAT	108.76	5.66	1.14	-94.08	-196.4

CHANGES IN WC					
PARTICULARS	2011	2012	2013	2014	2015
Current Liabilities	2735.78	3076.19	3146.95	3292.07	4092.01
Current Assets	7627.3	5860.35	4172.2	3984.27	4546.98
Net Working Capital	4891.52	2784.16	1025.25	692.2	454.97
CHANGES IN WC	0	-2107.36	-1758.91	-333.05	-237.23

***Equitas Holdings Financials:***

CONSOLIDATED BALANCE SHEET ( Rs. in millions)					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH				
	2011	2012	2013	2014	2015
Shareholder's Funds	3017.97	3022.52	4719.42	7416.65	11706.3
Long Term Borrowings	1866.67	2950.01	6403.94	6759.15	14569.99
Current Liabilities	4755.29	3488.91	7287.63	13170.46	18048.04
Current Assets	7475.23	6368.58	12483.25	16327.92	25016.94
Non Current Assets	1966.31	2989.28	5819.65	10915.39	19164.44



Cash Flow Statement (Rs. In millions)					
Particulars	FOR THE YEAR ENDED 31st MARCH				
	2011	2012	2013	2014	2015
Cash Flow From Operating Activities	-1222.6	221.22	-5809.01	-7880.23	-11546.86
Cash Flow From Investing Activities	-432.65	-706.2	-1200.98	860.71	-2299.08
Cash Flow From Financing Activities	1619.96	160.8	8483.62	7705.24	15043.51
Purchase Of Fixed Assets	0	0	0	0	0

CONSOLIDATED MULTI-STEP INCOME STATEMENT					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH (Rs. In millions)				
	2011	2012	2013	2014	2015
Revenue From Operations	2388.14	1980.6	2821.53	4824.28	7550.64
Other Income	3.89	5.89	10.2	10.89	8.62
TOTAL INCOME	2392.03	1986.49	2831.73	4835.17	7559.26
Cost Of Goods Sold	738.63	688.24	869.56	1186.95	2055.29
Other Expenses	476.24	475.69	409.89	552.94	837.1
EBITDA	1177.16	822.56	1552.28	3095.28	4666.87
Depreciation	48.47	72.57	69.6	61.96	84.29
EBIT	1128.69	749.99	1482.68	3033.32	4582.58
Finance Cost	688.29	642.14	1076.28	1895.21	2947.02
EBT	440.4	107.85	406.4	1138.11	1635.56
Tax Expense	155.24	143.55	78.66	394.92	565.68
EAT	285.16	-35.7	327.74	743.19	1069.88

CHANGES IN WC					
PARTICULARS	2011	2012	2013	2014	2015
Current Liabilities	4755.29	3488.91	7287.63	13170.46	18048.04
Current Assets	7475.23	6368.58	12483.25	16327.92	25016.94
Net Working Capital	2719.94	2879.67	5195.62	3157.46	6968.9
CHANGES IN WC	0	159.73	2315.95	-2038.16	3811.44

***Infibeam Financials:***

CONSOLIDATED BALANCE SHEET ( Rs. in millions)					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH				
	2011	2012	2013	2014	2015
Shareholder's Funds	114.36	6.31	240.94	825.04	2127.03
Long Term Borrowings	11.68	0.02	54.44	44.36	20
Current Liabilities	199.24	635.42	878.79	459.67	520.68
Current Assets	122.06	145.88	509.23	369.6	1211.89
Non Current Assets	260.54	597.72	837.07	976.7	1468.78
Retained Earnings	-181.45	-289.5	-135.09	429.33	1701.43

Cash Flow Statement (Rs. In millions)					
Particulars	FOR THE YEAR ENDED 31st MARCH				
	2011	2012	2013	2014	2015
Cash Flow From Operating Activities	18.22	-402.55	-106.72	-107.39	-209.38
Cash Flow From Investing Activities	-40.2	-56.8	-168.07	-169.8	-909.86
Cash Flow From Financing Activities	21.91	460.11	285.48	295.94	1232.43
Purchase Of Fixed Assets	-21.6	-53.73	-162.67	-151.63	-495.86

CONSOLIDATED MULTI-STEP INCOME STATEMENT					
PARTICULARS	FOR THE YEAR ENDED 31st MARCH (Rs. In millions)				
	2011	2012	2013	2014	2015
Revenue From Operations	542.61	1278.8	1511.49	2073.43	2882.78
Other Income	1.97	13.12	14.09	17.16	69.45
TOTAL INCOME	544.58	1291.92	1525.58	2090.59	2952.23
Cost Of Goods Sold	479.59	1267.33	1443.58	1906.68	2437.08
Other Expenses	39.34	109.75	288.1	370.68	468.32
EBITDA	25.65	-85.16	-206.1	-186.77	46.83
Depreciation	6.73	12.49	31.31	74.19	130.95
EBIT	18.92	-97.65	-237.41	-260.96	-84.12
Finance Cost	1.81	10.52	11.81	7.91	13.68
EBT	17.11	-108.17	-249.22	-268.87	-97.8
Tax Expense	0	0	0	0.05	0.08
EAT	17.11	-108.17	-249.22	-268.92	-97.88

CHANGES IN WC					
PARTICULARS	2011	2012	2013	2014	2015
Current Liabilities	199.24	635.42	878.79	459.67	520.68
Current Assets	122.06	145.88	509.23	369.6	1211.89
Net Working Capital	-77.18	-489.54	-369.56	-90.07	691.21
CHANGES IN WC	0	-412.36	119.98	279.49	781.28

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