Equity Analysis of a Project

INPUT SHEET: USER ENTERS ALL BOLD NUMBERS

INITIAL INVESTMENT	
Initial Investment=	**50000.00**
Opportunity cost (if any)=	**7484.00**
Lifetime of the investment	**10.00**
Salvage Value at end of project=	**10000.00**
Deprec. method(1:St.line;2:DDB)=	**2.00**
Tax Credit (if any)=	**0.10**
Other invest.(non-depreciable)=	**0.00**

CASHFLOW DETAILS	
Revenues in year 1=	**40000.00**
Var. Expenses as % of Rev=	**50%**
Fixed expenses in year 1=	**5,000.00**
Tax rate on net income=	**25%**

DISCOUNT RATE	
Approach(1:Direct;2:CAPM)	**2.00**
1. Discount rate =	**10%**
2a. Beta	**90%**
b. Riskless rate=	**8%**
c. Market risk premium =	**7%**
d. Debt Ratio =	0.30
e. Cost of Borrowing =	9%
Discount rate used=	12%

WORKING CAPITAL	
Initial Investment in Work. Cap=	**10000.00**
Working Capital as % of Rev=	**0.25**
Salvageable fraction at end=	**1.00**

GROWTH RATES	*1.00*	*2.00*	*3.00*	*4.00*	*5.00*	*6.00*	*7.00*	*8.00*	*9.00*	*10.00*
Revenues		10%	10%	10%	10%	0%	0%	0%	0%	0%
Fixed Expenses		10%	10%	10%	10%	0%	0%	0%	0%	0%

Default: The fixed expense growth rate is set equal to the growth rate in revenues by default.

CAPITAL BUDGETING WORKSHEET

YEAR

	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00

INITIAL INVESTMENT

Net Investment	45000.00
+ Working Cap	10000.00
+ Opp. Cost	7484.00
+ Other invest.	0.00
Initial Investment	62484.00

SALVAGE VALUE

	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
Equipment		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10000.00
Working Capital		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14641.00

OPERATING CASHFLOWS

	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
Lifetime Index		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Revenues		40,000.0	44,000.0	48,400.0	53,240.0	58,564.0	58,564.0	58,564.0	58,564.0	58,564.0	58,564.0
-Var. Expenses		20,000.0	22,000.0	24,200.0	26,620.0	29,282.0	29,282.0	29,282.0	29,282.0	29,282.0	29,282.0
- Fixed Expenses		5,000.0	5,500.0	6,050.0	6,655.0	7,320.5	7,320.5	7,320.5	7,320.5	7,320.5	7,320.5
EBITDA		15,000.0	16,500.0	18,150.0	19,965.0	21,961.5	21,961.5	21,961.5	21,961.5	21,961.5	21,961.5
- Depreciation		10,000.0	8,000.0	6,400.0	5,120.0	4,096.0	3,276.8	2,621.4	485.8	0.0	0.0
EBIT		5,000.0	8,500.0	11,750.0	14,845.0	17,865.5	18,684.7	19,340.1	21,475.7	21,961.5	21,961.5
-Tax		1,250.0	2,125.0	2,937.5	3,711.3	4,466.4	4,671.2	4,835.0	5,368.9	5,490.4	5,490.4
EBIT(1-t)		3,750.0	6,375.0	8,812.5	11,133.8	13,399.1	14,013.5	14,505.0	16,106.8	16,471.1	16,471.1
+ Depreciation		10,000.0	8,000.0	6,400.0	5,120.0	4,096.0	3,276.8	2,621.4	485.8	0.0	0.0
- ∂ Work. Cap		0.0	1,000.0	1,100.0	1,210.0	1,331.0	0.0	0.0	0.0	0.0	0.0
NCFAT	**-62,484.0**	13,750.0	13,375.0	14,112.5	15,043.8	16,164.1	17,290.3	17,126.5	16,592.6	16,471.1	16,471.1
Discount Factor	**1.0**	1.1	1.2	1.4	1.6	1.7	1.9	2.2	2.4	2.7	3.0
Discounted CF	**-62,484.0**	12,311.4	10,722.7	10,130.2	9,668.9	9,302.0	8,909.1	7,901.4	6,854.2	6,092.1	13,615.1

Investment Measures	
NPV =	**33,023**
IRR =	**20%**
ROC =	**53%**

BOOK VALUE & DEPRECIATION

	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
Book Value (beginning)		50000.00	40000.00	32000.00	25600.00	20480.00	16384.00	13107.20	10485.76	10000.00	10000.00
Depreciation		10000.00	8000.00	6400.00	5120.00	4096.00	3276.80	2621.44	485.76	0.00	0.00
BV(ending)	50000.00	40000.00	32000.00	25600.00	20480.00	16384.00	13107.20	10485.76	10000.00	10000.00	10000.00

Investment	100000				
Discounting Rate	13.45%				

Year	Cash Flows	Indirect Benefts	Incremental Cash Flows	PV Factor	PV. Of Cash Flows
0	**-100000**			1	-100,000
1	15,000	2,000	17,000	0.881	14,985
2	24,000			0.777	18,647
3	34,000			0.685	23,284
4	28,000			0.604	16,902
5	50,000			0.532	26,604
Cash Inflows	**151,000**				**100,422**
Net Cash Flow	51,000				422

	Weightage	Capital	Cost of funds (K)	
Equity	20%	20,000	20%	4.0%
Internal Acruals	20%	20,000	18%	3.6%
Debt	60%	60,000	9.8%	5.9%
13%	100%	100,000	**WACC**	**13.5%**

Accounting Rate of

		Investment into CAPEX						INR Million
Year	EBIT(1-t)	Beginning BV	Capital Exp	Depreciation	Ending BV	Average BV	Incremental Working Capital	Return on Capital
1	447.17	2127.50	280.50	226.78	2181.22	2154.36	100.00	20%
2	569.12	2181.22	402.45	361.60	2222.07	2201.65	102.00	25%
3	628.87	2222.07	462.21	455.44	2228.84	2225.46	104.04	27%
4	607.65	2228.84	440.98	473.64	2196.18	2212.51	106.12	26%
5	588.55	2196.18	421.89	452.53	2165.54	2180.86	108.24	26%
6	571.36	2165.54	404.70	433.53	2136.71	2151.13	110.41	25%
7	555.89	2136.71	389.23	416.42	2109.52	2123.12	112.62	25%
8	541.97	2109.52	375.30	401.03	2083.79	2096.66	114.87	25%
9	529.44	2083.79	362.77	387.18	2059.38	2071.59	117.17	24%
10	518.16	2059.38	351.50	374.71	2036.17	2047.78	119.51	24%
11	508.01	2036.17	341.35	363.49	2014.03	2025.10	121.90	24%
12	498.88	2014.03	332.21	353.39	1992.85	2003.44	124.34	23%
13	490.66	1992.85	323.99	344.30	1972.54	1982.70	126.82	23%
14	316.59	1972.54	316.59	336.12	1953.01	1962.78	129.36	15%
15	284.93	1953.01	284.93	315.01	1922.93	1937.97	131.95	14%
16	256.44	1922.93	256.44	283.51	1895.86	1909.40	134.59	13%
17	230.80	1895.86	230.80	255.16	1871.50	1883.68	137.28	11%
18	207.72	1871.50	207.72	229.64	1849.58	1860.54	140.02	10%
19	186.94	1849.58	186.94	206.68	1829.84	1839.71	142.82	9%
20	168.25	1829.84	168.25	186.01	1812.08	1820.96	145.68	9%
Average	**435.37**					**2034.57**	**121.49**	**20%**

Calculating Cash

Year	EBIT(1-t)	Depreciation	Capital Exp	Incremental Working Capital	Salvage Value	CFAT
1	447.2	226.8	280.5	100.0		293.5
2	569.1	361.6	402.5	102.0		426.3
3	628.9	455.4	462.2	104.0		518.1
4	607.7	473.6	441.0	106.1		534.2
5	588.6	452.5	421.9	108.2		510.9
6	571.4	433.5	404.7	110.4		489.8
7	555.9	416.4	389.2	112.6		470.5
8	542.0	401.0	375.3	114.9		452.8
9	529.4	387.2	362.8	117.2		436.7
10	518.2	374.7	351.5	119.5		421.9
11	508.0	363.5	341.4	121.9		408.3
12	498.9	353.4	332.2	124.3		395.7
13	490.7	344.3	324.0	126.8		384.1
14	316.6	336.1	316.6	129.4		206.8
15	284.9	315.0	284.9	131.9		183.1
16	256.4	283.5	256.4	134.6		148.9
17	230.8	255.2	230.8	137.3		117.9
18	207.7	229.6	207.7	140.0		89.6
19	186.9	206.7	186.9	142.8		63.9
20	168.3	186.0	168.3	145.7	600.0	640.3

Payback Period

Year	EBIT(1-t)	Depreciation	Capital Exp	Incremental Working Capital	Salvage Value	CFAT	Cumulative Cash Flows		
0	**0.00**	**0.00**	**2127.50**			(2,127.5)	(2,127.5)		
1	447.2	226.8	280.5	100.0	-	293.5	(1,834.1)		
2	569.1	361.6	402.5	102.0	-	426.3	(1,407.8)		
3	628.9	455.4	462.2	104.0	-	518.1	(889.7)		
4	607.7	473.6	441.0	106.1	-	534.2	(355.5)		
5	588.6	452.5	421.9	108.2	-	510.9	155.4	5.30	Payback Period
6	571.4	433.5	404.7	110.4	-	489.8	645.2		
7	555.9	416.4	389.2	112.6	-	470.5	1,115.7		
8	542.0	401.0	375.3	114.9	-	452.8	1,568.5		
9	529.4	387.2	362.8	117.2	-	436.7	2,005.2		
10	518.2	374.7	351.5	119.5	-	421.9	2,427.0		
11	508.0	363.5	341.4	121.9	-	408.3	2,835.3		
12	498.9	353.4	332.2	124.3	-	395.7	3,231.0		
13	490.7	344.3	324.0	126.8	-	384.1	3,615.2		
14	316.6	336.1	316.6	129.4	-	206.8	3,821.9		
15	284.9	315.0	284.9	131.9	-	183.1	4,005.0		
16	256.4	283.5	256.4	134.6	-	148.9	4,153.9		
17	230.8	255.2	230.8	137.3	-	117.9	4,271.8		
18	207.7	229.6	207.7	140.0	-	89.6	4,361.4		
19	186.9	206.7	186.9	142.8	-	63.9	4,425.3		
20	168.3	186.0	168.3	145.7	600.0	40.3	4,465.6		

Discounted Payback

DR **15%**

Year	EBIT(1-t)	Depreciation	Capital Exp	Incremental Working Capital	Salvage Value	CFAT	Cumulative Cash Flows	PV Factor @ 12%	PV of Cash Flows	Cumulative Disc. Cash Flows			
0	**0.00**	**0.00**	**2127.50**	**0.00**	**0.00**	**-2127.50**	**-2127.50**	**1.00**	**-2127.50**	(2,127.5)			
1	447.2	226.8	280.5	100.0	-	293.5	(1,834.1)	0.9	255.2	(1,872.3)			
2	569.1	361.6	402.5	102.0	-	426.3	(1,407.8)	0.8	322.3	(1,550.0)			
3	628.9	455.4	462.2	104.0	-	518.1	(889.7)	0.7	340.6	(1,209.4)			
4	607.7	473.6	441.0	106.1	-	534.2	(355.5)	0.6	305.4	(903.9)			
5	588.6	452.5	421.9	108.2	-	510.9	155.4	0.5	254.0	(649.9)			
6	571.4	433.5	404.7	110.4	-	489.8	645.2	0.4	211.7	(438.2)			
7	555.9	416.4	389.2	112.6	-	470.5	1,115.7	0.4	176.9	(261.3)			
8	542.0	401.0	375.3	114.9	-	452.8	1,568.5	0.3	148.0	(113.3)	7.23	Years	Discounted Payback Period
9	529.4	387.2	362.8	117.2	-	436.7	2,005.2	0.3	124.1	10.9			
10	518.2	374.7	351.5	119.5	-	421.9	2,427.0	0.2	104.3	115.1			
11	508.0	363.5	341.4	121.9	-	408.3	2,835.3	0.2	87.8	202.9			
12	498.9	353.4	332.2	124.3	-	395.7	3,231.0	0.2	74.0	276.9			
13	490.7	344.3	324.0	126.8	-	384.1	3,615.2	0.2	62.4	339.3			
14	316.6	336.1	316.6	129.4	-	206.8	3,821.9	0.1	29.2	368.5			
15	284.9	315.0	284.9	131.9	-	183.1	4,005.0	0.1	22.5	391.0			
16	256.4	283.5	256.4	134.6	-	148.9	4,153.9	0.1	15.9	406.9			
17	230.8	255.2	230.8	137.3	-	117.9	4,271.8	0.1	11.0	417.9			
18	207.7	229.6	207.7	140.0	-	89.6	4,361.4	0.1	7.2	425.1			
19	186.9	206.7	186.9	142.8	-	63.9	4,425.3	0.1	4.5	429.6			
20	168.3	186.0	168.3	145.7	600.0	40.3	4,465.6	0.1	2.5	432.1			

Risk free Rate	10 year bond	7.05%
market Return (Rm)		18%
		1.2
		20%

Net Present Value	432.1	+ve
PI	20%	

IRR	**19.02%**	
MIRR	**13.91%**	@Reinvestment rate of 12%

	A	B	C
Units Sold	100	150	200
Sale Price			