Evaluating an LBO

Giddy Partners is considering the leveraged buyout of a small private forestry con

The cost of the buyout including expenses is estimated at	$6,500,000
The company's revenue in the current year is	$3,600,000
Current operating expenses before depreciation are	$2,200,000

Revenue and operating expenses are projected to grow at
per year for the next 5 years and after that, at a steady rate of
In the current year, capital expenditures are $125,000
and depreciation is $100,000
Both are expected to grow at the same rate as revenue for five years, and to
be equal to one another after that.
Working capital change as a percentage of revenue is 4%

Discussions with lenders suggest that the LBO can be financed with this capital s

Debt	$4,500,000
Equity	$2,000,000

The debt would be provided in the form of a fixed-rate amortizing term loan from b
while the equity would come 10% from management and 90% from the LBO firm.
The interest rate on the debt would reflect a rating of B
(See rating table below)
The intent of Giddy Partners is to pay down the debt at the annual rate of
during the next 5 years, after which the remaining debt will be refinanced.

The beta of the firm is estimated to be	3.7
The risk-free rate of interest is	4.5%
The market risk premium is assumed to be	5.50%
The firm's overall marginal tax rate is	35%

In estimating its weighted-average cost of capital, the firm uses
its target debt-to-equity ratio of $1 of debt for each dollar of equ

The firm makes the projections shown in the table below. Based on these,
1. Calculate the free cash flow to equity holders and to the firm
2. Calculate the cost of capital
3. Calculate the terminal value of equity
4. Will the buyout generate sufficient cash flow to cover contractual payments?
5. At what price can Giddy Partners expect to sell their stake if the firm
is sold in 5 years?

Table 1 Rating Table
If interest coverage ratio is

greater than	≤	Rating is	Spread is
-100000	0.500	D	14.0%
0.5	0.800	C	12.7%
0.8	1.250	CC	11.5%
1.25	1.500	CCC	10.0%
1.5	2.000	B-	8.0%
2	2.500	B	6.5%
2.5	3.000	B+	4.8%
3	3.500	BB	3.5%

3.5	4.500	BBB	2.3%
4.5	6.000	A-	2.0%
6	7.500	A	1.8%
7.5	9.500	A+	1.5%
9.5	12.5	AA	1.0%
12.5	100000	AAA	0.8%

Table 2 Financial Projections

	Year 1	Year 2	Year 3	Year 4
Revenues	3,600,000	3,924,000	4,277,160	4,662,104
Operating expenses	(2,200,000)	(2,398,000)	(2,613,820)	(2,849,064)
Depreciation	(100,000)	(109,000)	(118,810)	(129,503)
EBIT	1,300,000	1,417,000	1,544,530	1,683,538
Interest	(495,000)	(462,000)	(429,000)	(396,000)
Tax	(281,750)	(334,250)	(390,436)	(450,638)
Net Income	523,250	620,750	725,095	836,900

npany.

9.0%
3.0%

structure:

banks,

$300,000

uity

Year 5	Terminal Year
5,081,694	5,234,145
(3,105,480)	(3,198,644)
(141,158)	(145,393)
1,835,056	1,890,108
(363,000)	(330,000)
(515,220)	(546,038)
956,836	1,014,070

Free Cash flow Calculations

	Definitions	Example	Example assumptions
	Revenues	3,600,000	Revenues
-	Operating expenses	(2,200,000)	Expenses
-	Depreciation	(100,000)	Growth rate
=	**EBIT**	1,300,000	Stable growth rate
-	Interest	(495,000)	Depreciation
-	Tax	(281,750)	Cap Ex
	Net Income	523,250	Working capital change, % of reve
	EBIT	1,300,000	Tax rate
+	Depreciation	100,000	Initial debt
=	**EBITDA**	1,400,000	Initial equity
	EBIT*(1-T)	845,000	Annual principal repayment
+	Depreciation	100,000	Riskfree rate
-	Cap Ex	(125,000)	Initial credit spread
-	Chg in working cap	(144,000)	Interest rate
=	**FCFF**	676,000	Initial equity beta
-	Interest*(1-T)	(321,750)	Market risk premium
-	Principal repayment	(300,000)	Target debt/equity ratio
+	New debt issued	-	
-	Preferred dividends	-	
=	**FCFE**	54,250	

$3,600,000
$2,200,000
9%
3%
$100,000
$125,000
4%
35%
4,500,000
$2,000,000
300,000
4.5%
6.5%
11%
3.7
5.50%
1.30

Betas and Leverage

Find the unlevered beta	
Enter the current beta of the company =	3.70
Enter the marginal tax rate for the company =	35%
Enter the debt/equity ratio	2.25
Unlevered Beta for the firm =	1.50

Find the levered beta	
Enter the unlevered beta of the company =	1.50
Enter the marginal tax rate for the company =	35%
Enter the debt/equity ratio	2.25
Levered Beta for the firm =	3.70

LBO Calculations

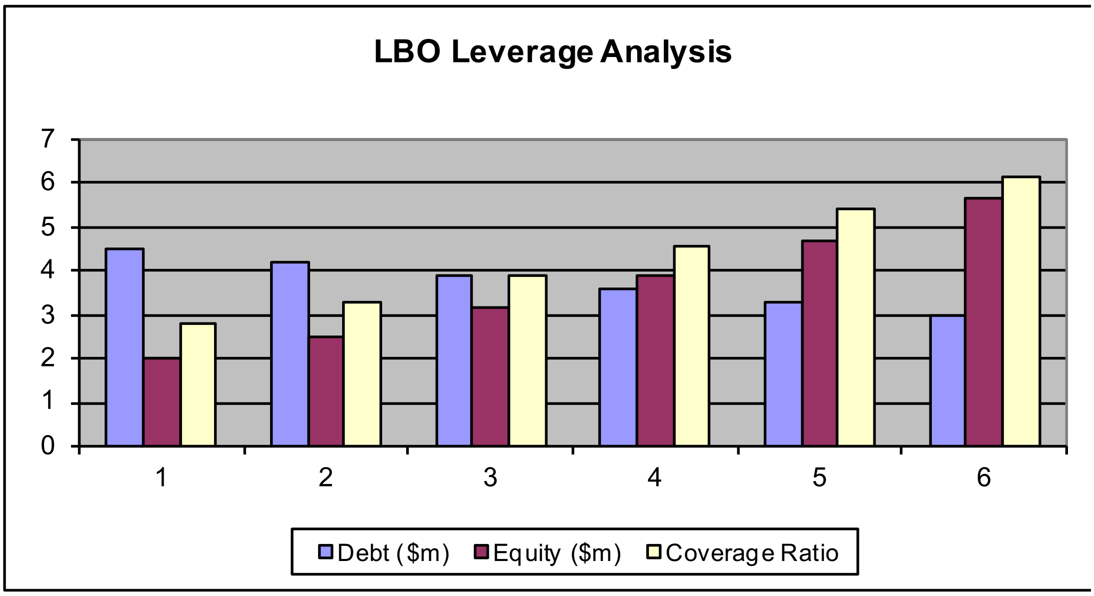
	Definitions	Example Year 1	Year 2	Year 3	Year 4	Year 5
	Revenues	3,600,000	3,924,000	4,277,160	4,662,104	5,081,694
-	Operating expenses	(2,200,000)	(2,398,000)	(2,613,820)	(2,849,064)	(3,105,480)
-	Depreciation	(100,000)	(109,000)	(118,810)	(129,503)	(141,158)
=	**EBIT**	1,300,000	1,417,000	1,544,530	1,683,538	1,835,056
-	Interest	(495,000)	(462,000)	(429,000)	(396,000)	(363,000)
-	Tax	(281,750)	(334,250)	(390,436)	(450,638)	(515,220)
	Net Income	523,250	620,750	725,095	836,900	956,836
	EBIT	1,300,000	1,417,000	1,544,530	1,683,538	1,835,056
+	Depreciation	100,000	109,000	118,810	129,503	141,158
=	**EBITDA**	1,400,000	1,526,000	1,663,340	1,813,041	1,976,214
	EBIT*(1-T)	845,000	921,050	1,003,945	1,094,300	1,192,786
+	Depreciation	100,000	109,000	118,810	129,503	141,158
-	Cap Ex	(125,000)	(136,250)	(148,513)	(161,879)	(176,448)
-	Chg in working cap	(144,000)	(156,960)	(171,086)	(186,484)	(203,268)
=	**FCFF**	676,000	736,840	803,156	875,440	954,229
-	Interest*(1-T)	(321,750)	(300,300)	(278,850)	(257,400)	(235,950)
-	Principal repayment	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)
+	New debt issued	-	-	-	-	-
-	Preferred dividends	-	-	-	-	-
=	**FCFE**	54,250	136,540	224,306	318,040	418,279
	Beginning debt	4,500,000	4,200,000	3,900,000	3,600,000	3,300,000
-	Principal repayment	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)
+	New debt issued	-	-	-	-	-
=	**Outstanding debt**	4,200,000	3,900,000	3,600,000	3,300,000	3,000,000
	Beginning equity	2,000,000	2,523,250	3,144,000	3,869,095	4,705,994
+	Net Income	523,250	620,750	725,095	836,900	956,836
=	**Outstanding equity**	2,523,250	3,144,000	3,869,095	4,705,994	5,662,830
	Total capitalization	6,723,250	7,044,000	7,469,095	8,005,994	8,662,830
	D/E	1.66	1.24	0.93	0.70	0.53
	1+(1-T)D/E	2.08	1.81	1.60	1.46	1.34
	BetaUL	1.78	1.78	1.78	1.78	1.78
	BetaL	3.7	3.21	2.85	2.59	2.39
	Riskfree rate	4.5%	4.5%	4.5%	4.5%	4.5%
	Cost of equity	24.9%	22.2%	20.2%	18.7%	17.6%
	Riskfree rate	4.5%	4.5%	4.5%	4.5%	4.5%
	Credit spread	3.0%	6.5%	6.5%	6.5%	6.5%
	After-tax Cost of debt	4.9%	7.2%	7.2%	7.2%	7.2%
	WACC	13.56%	13.67%	12.82%	12.18%	11.71%
	Terminal Value FCFF					
	Terminal Value FCFE					
	PV FCFF	595,281	570,803	551,487	535,831	522,827
	SUM PV FCFF	9,354,643				
	PV FCFE	43,452	89,528	122,372	146,139	163,378
	SUM PV FCFE	4,082,753				

Terminal Year
5,234,145
(3,198,644)
(145,393)
1,890,108
(330,000)
(546,038)
1,014,070
1,890,108
145,393
2,035,501
1,228,570
145,393
(145,393)
(209,366)
1,019,204
(214,500)
-
-
-
804,704
3,000,000
-
-
3,000,000
5,662,830
1,014,070
6,676,901
9,676,901
0.45
1.29
1.78
2.30
4.5%
17.1%
4.5%
6.5%
7.2%
11.49%
12,006,471
9,006,471
6,578,413
3,517,885

Example assumptions	
Revenues	$3,600,000
Expenses	$2,200,000
Growth rate	9.0%
Stable growth rate	3.0%
Depreciation	$100,000
Cap Ex	$125,000
Working capital change, % of reve	4.0%
Tax rate	35%
Initial debt	$4,500,000
Initial equity	$2,000,000
Annual principal repayment	$300,000
Riskfree rate	4.5%
Initial credit spread	6.5%
Interest rate	11.0%
Initial equity beta	3.70
Market risk premium	5.5%
Target debt/equity ratio	1.30

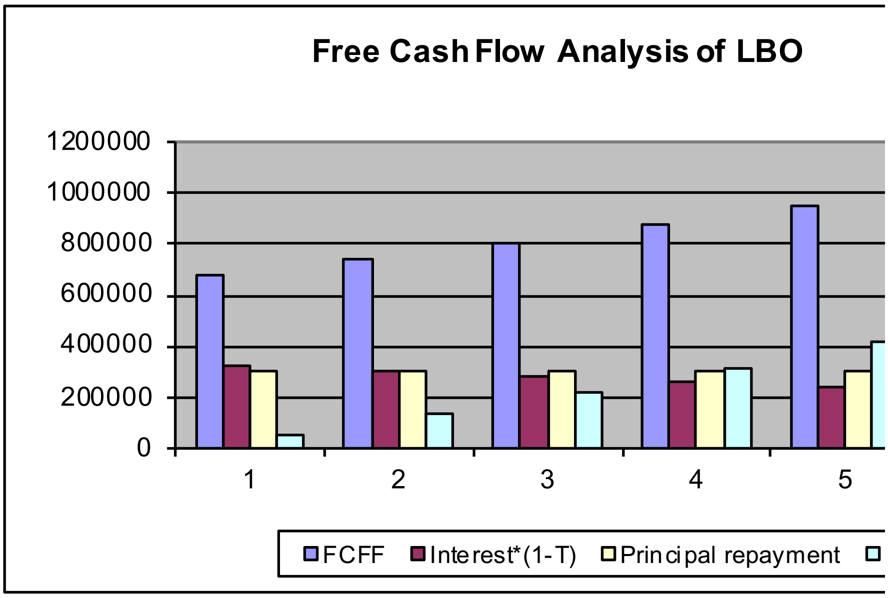
Leverage Progress

	1	2	3	4	5	6
Debt ($m)	4.5	4.2	3.9	3.6	3.3	3
Equity ($m)	2	2.52325	3.144	3.869095	4.705994	5.66283
EBITDA	1400000	1526000	1663340	1813041	1976214	2035501
Interest	495000	462000	429000	396000	363000	330000
Coverage Ratio	2.83	3.30	3.88	4.58	5.44	6.17



Free Cash Flow Progress

		1	2	3	4
	FCFF	676000	736840	803155.6	875439.6
-	Interest*(1-T)	321750	300300	278850	257400
-	Principal repayment	300000	300000	300000	300000
=	**FCFE**	54250	136540	224305.6	318039.6



5	6
954229.2	1019204
235950	214500
300000	0
418279.2	804704.3