

fb= 0.6 fe= 0.4
rb= 8% re= 12.00%

Tax rate = 38%
Initial investment = \$5,000
Annual inflation rate 3%
Operating expenses in year zero dollars = \$900

Levelized unit price in dollars = **9.634**

Current-year dollars	0	1	2	3	4
CONSTANT DEBT:EQUITY RATIO					
Output (# of units)		200	200	200	200
Levelized unit price (\$/unit)		9.634	9.634	9.634	9.634
Operating income (levelized)		1926.8	1926.8	1926.8	1926.8
Operating expenses		927.00	954.81	983.45	1012.96
Operating income		999.80	971.99	943.35	913.84
Tax depreciation (SL)		500.00	500.00	500.00	500.00
Interest payment		240.00	219.79	198.83	177.10
Taxable income		259.80	252.20	244.51	236.74
Taxes		98.72	95.84	92.91	89.96
After-tax cash flow		901.08	876.15	850.43	823.88
Required return on debt+equity		480.00	439.58	397.67	354.20
Free cash (after paying returns)		421.08	436.58	452.77	469.68
Principal remaining		4,578.92	4,142.35	3,689.58	3,219.90
Debt retired		252.65	261.95	271.66	281.81
Equity repaid		168.43	174.63	181.11	187.87
CASH FLOWS	-5000	901.08	876.15	850.43	823.88
		IRR=	9.60%		

NOW TRANSFORM THE INVESTMENT PROBLEM INTO THE EQUIVALENT CASH FLOW PROBLEM

Current-year dollars	0	1	2	3	4
CONSTANT DEBT:EQUITY RATIO					
Output (# of units)		200	200	200	200
Levelized unit price (\$/unit)		9.634	9.634	9.634	9.634
Operating income (levelized)		1926.8	1926.8	1926.8	1926.8
Operating expenses		927.00	954.81	983.45	1012.96
Operating income		999.80	971.99	943.35	913.84
Operating income * (1-Tau)		619.88	602.63	584.87	566.58
Tax depreciation allowance (SL)		500.00	500.00	500.00	500.00
Fictitious +ve cash flow: Tau*D		190.00	190.00	190.00	190.00
Modified net cash flow		809.88	792.63	774.87	756.58
CASH FLOWS	-5000	809.88	792.63	774.87	756.58
		IRR=	7.77%		

Note that the IRR for the transformed cash flow problem is equal to t

5	6	7	8	9	10
200	200	200	200	200	200
9.634	9.634	9.634	9.634	9.634	9.634
1926.8	1926.8	1926.8	1926.8	1926.8	1926.8
1043.35	1074.65	1106.89	1140.09	1174.30	1209.52
883.45	852.15	819.91	786.71	752.50	717.28
500.00	500.00	500.00	500.00	500.00	500.00
154.56	131.16	106.88	81.67	55.49	28.29
228.90	220.99	213.03	205.04	197.01	188.99
86.98	83.98	80.95	77.91	74.87	71.81
796.47	768.18	738.96	708.79	677.64	645.46
309.11	262.32	213.76	163.34	110.98	56.58
487.36	505.85	525.20	545.45	566.66	588.88
2,732.54	2,226.69	1,701.49	1,156.04	589.38	0.50
292.42	303.51	315.12	327.27	340.00	353.33
194.94	202.34	210.08	218.18	226.66	235.55
796.47	768.18	738.96	708.79	677.64	645.46

3LEM WITH TAXES IMPLICIT:

5	6	7	8	9	10
200	200	200	200	200	200
9.634	9.634	9.634	9.634	9.634	9.634
1926.8	1926.8	1926.8	1926.8	1926.8	1926.8
1043.35	1074.65	1106.89	1140.09	1174.30	1209.52
883.45	852.15	819.91	786.71	752.50	717.28
547.74	528.33	508.35	487.76	466.55	444.71
500.00	500.00	500.00	500.00	500.00	500.00
190.00	190.00	190.00	190.00	190.00	190.00
737.74	718.33	698.35	677.76	656.55	634.71
737.74	718.33	698.35	677.76	656.55	634.71

The "after-tax weighted average cost of capital" = $f_e \cdot r_e + (1 - \tau) f_b \cdot r_b =$

7.770%