

Task 5: Discounted Cash Flow



TASK: APPRAISE THE EQUITY VALUE OF COMPANY XYZ BY DNT METHOD							
a) DNT MODEL FROM OWN CAPITAL							
b) DNT MODEL FROM INVESTED CAPITAL							
DATA ON XYZ CORP.							
	Year 1	Year 2	Year 3	Year 4	Year 5	Rezidual	
Growth rate:	9,0%	9,0%	7,0%	7,0%	7,0%	6,0%	
% of capacity utilization	100,0%	103,0%	104,0%	105,1%	106,1%		
Investments in fixed assets	200	350	150	150	150	150	
Average life of assets	10 godina						
(Presumption that investment is made on January 1st)							
	Year 1	Year 2	Year 3	Year 4	Year 5	Rezidual	
Depreciation of existing assets	125	100	75	50	50	50	
New loans (net)	50	200	0	0	0	0	
Loan balance	250	450	450	450	450	450	
(Loans are withdrawn on January 1st)							
Annual inflation	6,0%						
TOS as % of income	20,0%						
a for LFY (last fiscal year)							
Income	1000						
Production expenses							
Fixed	250						
Variable	35,0%	350					
Depreciation	150						
Total	750						
Gross margin	250						
Indirect expenses (variable)	50						
EBIT	200						
Interests	35						
Interest rate	14,0%						
EBT	165						
Tax	74,25						
Tax rate	45,0%						
Net profit	90,75						
Net profit margin (rate)	9,1%						
				DATA FOR DISCOUNT RATE			
				Risk free rate	8,0%		
				Cost of debt	14,0%		
				Tax rate	45,0%		
				Debt as % of inv. capital	33,0%		
				Market risk premium	7,5%		
				Beta	1,2		
				Specific company risk	5,0%		
				Investment country risk	3,0%		
				Balance sheet			
				Cash and receivables	120		
				Inventory	150		
				Working capital	270		
				Short-term liabilities	150		
				Free land			
				(appraised value)	150		
				Interest bearing liabilities	200		
NOTES:							
(1) Equipment currently works at full capacity							
(2) Investments are being made in expansion of capacities							
(3) Unless the capacities are expanded, there will be no increase of revenues							
(4) Debt/invested capital ratio is a bit lower than the industry average							
indebtedness capacity is 300							

A) DISCOUNTED CASH FLOW MODEL - OWN CAPITAL

	Year						
	1	2	3	4	5	Residual	
Sales	1090	1188	1271	1360	1455	1543	
Production expenses							
Fixed	265	281	298	316	335	355	
Variable	382	416	445	476	509	540	
Depreciation							
Total							
Gross margin							
Indirect expenses	55	59	64	68	73	77	
EBIT							
Interests	35	63	63	63	63	63	
EBT							
Tax (45%)							
Net profit							
Cash flow							
Net profit							
+ Depreciation							
+ New loans (net)							
- TOS							
- Investments in fixed assets							
Cash flow							
Discount factor							
SV of cash flow							
Sum of SV							
SV of the residual		Residual value =					
Invested capital							
- Interest bearing liabilities							
- Deficit TOS							
+ non-operative assets							
Own capital							
Depreciation calculation							
	Year 1	2	3	4	5	R	
Deprec. of existing equipment	125	100	75	50	50	50	
New inv.: Year 1	200	20	20	20	20	20	
2	350						
3	150						
4	150						
5	150						
TOTAL							
TOS calculation							
required level	\$ 200						
Found level							
Surplus (deficit)							
		Drate	Rate	Weight	DS		
		Debt					
		Own cap. (market)					
		Spec.risk					
		Country risk					
		Own capital ABC					
		Total					

B) DISCOUNTED CASH FLOW MODEL - INVESTED CAPITAL

	Year					Residual
	1	2	3	4	5	
Income	1090	1188	1271	1360	1455	1543
Production expenses						
Fixed	265	281	298	316	335	355
Variable	382	416	445	476	509	540
Depreciation						
Total						
Gross margin						
Indirect expenses	55	59	64	68	73	77
EBIT						
Interests	35	63	63	63	63	63
EBT						
Tax (45%)						
Net profit						

Cash flow						
Net profit						
+ Depreciation						
+ New loans (net)						
- TOS						
- Investments in fixed assets						
Cash flow						

Discount factor						
SV of cash flow						
Sum of SV						
SV of the residual					Residual value =	
Invested capital						
- Interest bearing liabilities						
- Deficit TOS						
+ Non-operative assets						
Own capital						

Depreciation calculation	Year 1	2	3	4	5	R
Depr. of existing equipment	125	100	75	50	50	50
New inv.: Year 1	200	\$ 20	\$ 20	\$ 20	\$ 20	\$ 20
2	350					
3	150					
4	150					
5	150					
TOTAL						

TOS calculation		Drate	Rate	Weight	DS
Required level	\$ 200	Debt			
Found level		Own capital (market)			
Surplus (deficit)		Spec.risk			
		Country risk			
		Own capital ABC			
		Total			