

FREE CASH FLOW VS. CASH FLOWS TO SHAREHOLDERS

DATA

Cost of debt	10%	EBIT	6.00
Tax rate	40%	Investment	12.00
Cost of equity	12%	Amount borrowed	4.00

CASH FLOWS TO SHAREHOLDERS

Year	0	1	2	3	Goes on forever
EBIT		6.00	6.00	6.00	
Less interest		(0.40)	(0.40)	(0.40)	
Earnings before taxes		5.60	5.60	5.60	
Taxes		(2.24)	(2.24)	(2.24)	
Net income		3.36	3.36	3.36	
Investment by shareholders	(8.00)	-	-	-	
Net cash flow to shareholders	(8.00)	3.36	3.36	3.36	
NPV at cost of equity	20.00				
Market value of equity	28.00				

WEIGHTED AVERAGE COST OF CAPITAL

	Cost of Capital	Proportion of Market Value	Weighted Cost of Capital
Debt (after-tax)	6.0%	12.5%	0.8%
Equity	12.0%	87.5%	10.5%
Weighted average cost of capital			11.3%

FREE CASH FLOW

Year	0	1	2	3	Goes on forever
EBIT		6.00	6.00	6.00	
Taxes		(2.40)	(2.40)	(2.40)	
EBIAT		3.60	3.60	3.60	
Investment	(12.00)	-	-	-	
Free cash flow	(12.00)	3.60	3.60	3.60	
NPV at WACC	20.00				

AFTER-TAX CASH FLOWS FROM LENDERS

Year	0	1	2	3	Goes on forever
Interest		(0.40)	(0.40)	(0.40)	
Interest tax shield		0.16	0.16	0.16	
After-tax interest		(0.24)	(0.24)	(0.24)	
Principal receipt (repayment)	4.00	-	-	-	
Principal plus after-tax interest	4.00	(0.24)	(0.24)	(0.24)	
NPV at after-tax cost of debt	-				

CONCLUSION

Cash flows to shareholders	(8.00)	3.36	3.36	discount at cost of equity
After-tax cash flows to lenders	(4.00)	0.24	0.24	discount at after-tax cost of debt
Free cash flow	(12.00)	3.60	3.60	discount at WACC

NPV of cash flows to shareholders = NPV of free cash flows
 + NPV of after-tax cash flows from lenders