

Question 1)**Forecasted Income Statement**

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Sales	\$ 143.80	\$ 165.30	\$ 173.60	\$ 190.90	\$ 195.70	
Cost of Sales	<u>115.00</u>	<u>133.90</u>	<u>142.30</u>	<u>158.50</u>	<u>158.50</u>	
Gross Profit	28.80	31.40	31.20	32.50	37.20	
Cash Operating Expenses	10.10	9.90	12.20	11.50	13.70	
Depreciation Expense	1.70	1.90	1.90	2.00	2.00	
Amortization of Intangibles	<u>5.60</u>	<u>5.20</u>	<u>4.90</u>	<u>4.60</u>	<u>4.20</u>	
Operating Income	11.40	14.40	12.30	14.40	17.20	
Interest Expense	<u>1.80</u>	<u>1.70</u>	<u>1.40</u>	<u>1.80</u>	<u>2.40</u>	
Pretax Income	9.60	12.70	10.90	12.60	14.80	
Income Taxes	\$ 3.90	\$ 5.10	\$ 4.30	\$ 5.00	\$ 5.90	
Net Income	<u>\$ 5.80</u>	<u>\$ 7.60</u>	<u>\$ 6.50</u>	<u>\$ 7.50</u>	<u>\$ 8.90</u>	
Operating Income	11.40	14.40	12.30	14.40	17.20	
Taxes (40%)	4.56	5.76	4.92	5.76	6.88	
NOPAT	6.84	8.64	7.38	8.64	10.32	
Add back dep. and amor.	7.30	7.10	6.80	6.60	6.20	
Less increases in Capex	-	(0.80)	(1.70)	-	(4.00)	
Less increases in NWC	-	(1.30)	2.10	0.60	(1.50)	
Free Cash Flow	14.14	13.64	14.58	15.84	11.02	

Selected Forecasted Balance Sheet Items

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Accounts Receivable		29.90	32.10	31.30	31.80	32.60
Inventory		6.40	7.10	7.10	7.50	7.00
Prepaid Operating Expenses		1.00	1.00	1.20	1.10	1.40
Gross Property, Plant & Equipment	27.90	27.90	28.70	30.40	30.40	34.40
Accumulated Depreciation		16.70	18.50	20.40	22.50	24.50
Current Portion of Long Term Debt		-	5.00	4.00	2.00	3.00
Trade Payables		9.60	11.20	12.70	14.10	13.20
Long Term Debt		15.00	10.00	6.00	20.00	17.00
NWC	27.70	27.70	29.00	26.90	26.30	27.80

a) Free Cash Flows

b) Free Cash Flows:

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
14.14	13.64	14.58	15.84	11.02

NOTE: Year 1 CFs are based on the assumption that Gross PPE and NWC in Year 0 are the same as in Year 1

c) Weighted average cost of capital

Question 2)**Selected Forecasted Income Statement Items**

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Revenues	\$ 66.70	\$ 76.70	\$ 80.50	\$ 88.60	\$ 90.80	
Cost of Goods Sold	<u>44.00</u>	<u>51.40</u>	<u>52.40</u>	<u>59.40</u>	<u>59.90</u>	
Gross Profit	22.70	25.30	28.20	29.20	30.90	
Cash Operating Expenses	12.70	14.60	13.70	15.90	15.40	
Non-Manufacturing Depreciation Expense	1.10	1.20	1.30	1.40	1.40	
Amortization Expense	<u>1.90</u>	<u>1.70</u>	<u>1.50</u>	<u>1.40</u>	<u>1.20</u>	

Base Case Unlevered CFs

Earnings Before Interest And Taxes	7.00	7.80	11.70	10.50	12.80	
Taxes (40%)	2.80	3.12	4.68	4.20	5.12	
NOPAT	4.20	4.68	7.02	6.30	7.68	
Add: Depreciation from COGS (20%)	8.80	10.28	10.48	11.88	11.98	
Add: Non-manufacturing dep and amor.	3.00	2.90	2.80	2.80	2.60	
Less: Increases in capex (% of revs)	(2.00)	(0.77)	(1.21)	-	(1.36)	
Less: Increases in NWC	<u>-</u>	<u>(1.70)</u>	<u>(0.20)</u>	<u>(1.40)</u>	<u>(1.70)</u>	
Base case unlevered cash flows	14.00	15.39	18.89	19.58	19.20	

Selected Forecasted Balance Sheet Items

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Non-cash Current Assets	\$ 22.2	\$ 24.5	\$ 25.1	\$ 27.1	\$ 28.5	
Short Term Debt	3.0	3.0	2.0	5.0	6.0	5.0
Accounts Payable		3.7	4.3	4.7	5.3	5.0
Long Term Debt	6.0	6.0	5.0	10.0	9.5	9.0
NWC	18.50	18.50	20.20	20.40	21.80	23.50

Other Forecast Information

Capital Expenditures as a % of Revenues	3.0%	1.0%	1.5%	0.0%	1.5%	
Tax Rate	40.0%					
Coupon Rate: Short Term Debt	8.0%					
Coupon Rate: Long Term Debt	12.0%					

Interest Expense Schedule

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
Short term (8%)	0.24	0.24	0.16	0.40	0.48	0.40
Long term (12%)	0.72	0.72	0.60	1.20	1.14	1.08
Total int. exp.	0.96	0.96	0.76	1.60	1.62	1.48

--> Assumption: Year 0 debt levels are the same as Year 1

Tax Shield CFs

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
Interest expense		0.96	0.96	0.76	1.60	1.62	1.48
Interest expense * tax rate (40%)		0.38	0.38	0.30	0.64	0.65	0.59

a) Unlevered cash flows and interest tax shield benefits.

b)

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
Unlevered cash flows	14.00	15.39	18.89	19.58	19.20	-
Interest tax shield		0.38	0.38	0.64	0.65	0.59

ASSUMPTIONS:

Short term and long term debt in Year 0 are the same as they were in Year 1

NWC in Year 0 is the same as in Year 1

c)

- Unlevered cash flows should be discounted by the unlevered cost of equity
- Tax shield benefits should be discounted by a rate that falls between cost of debt and unlevered cost of equity, and should characterize the certainty of the tax shield. If your debt schedule is known and fixed, then use a rate closer to K_d . If your debt schedule is a function of some % of enterprise value, and therefore is dependent on the enterprise cash flows, you should use a discount rate closer to unlevered K_e .

Question 3)

The Perfect Comp Corp.

Debt / Total Capital	45.00%	
Equity / Total Capital	55.00%	
Levered Ke (cost of equity)	18.50%	--> Risk-free rate + Beta (levered)*MRP
Current Debt Rating	Not Rated	18.50% = 5% + B(6%)
Tax Rate	30.00%	Beta(L): 2.25
Debt/Equity	81.82%	Beta(U) 1.43

Selected Market Data

Government Debt

3 month	4.00%
20 year	5.00%

Corporate Debt

AA	6.00%
A	6.50%
BBB	7.00%
BB	8.00%
B	9.00%

Forecasted Market Risk Premium

Eades and Associates	6.00%
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Aerospace Fastners Inc.

Unlevered Beta	1.43	--> Unlevered beta of Perfect Comp
Levered Beta	1.80	
Levered Ke	15.79%	
D/D+E	30.00%	--> Target cap structure
E/D+E	70.00%	
D/E	42.86%	
Pre-tax Kd	7.00%	--> Forward looking Kd (assuming target cap structure)
Tax Rate	40.00%	

WACC	12.31%
Unlevered Ke:	13.58% --> using unlevered beta

Question 4)

	<u>Year 0</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Steady State</u>	
Sales	\$ 37.50	\$ 50.00	\$ 72.50	\$ 97.88	\$ 88.09	\$ 88.09	\$ 92.49	\$ 97.12	--> grow Sales at 5%
NOPAT Margin		18.00%	18.50%	22.50%	13.50%	17.50%	18.00%	18.00%	--> maintain same NOPAT margin as Yr 6
NOPAT		9.00	13.41	22.02	11.89	15.42	16.65	17.48	
Gross PP&E	30.00	40.00	58.00	65.25	65.25	73.41	73.99	77.69	--> grow Gross PPE at 5%
Accumulated Depreciation	26.00	30.00	36.89	42.05	45.96	50.10	53.68	56.36	--> grow Acc. Dep. At 5%
Increase in NPPE		6.00	11.11	2.09	(3.91)	4.01	(2.99)	1.02	
Increase in NWC	2.00	1.90	4.50	6.34	(0.98)	-	0.66	0.69	--> grow Increase in NWC by 5%
Free Cash Flow		1.10	(2.19)	13.59	16.78	11.40	18.98	15.77	
Terminal Value							225.31		
NPPE	4.00	10.00	21.11	23.20	19.29	23.30	20.31	21.33	
NPPE/Sales	10.67%	20.00%	29.11%	23.70%	21.90%	26.46%	21.96%	21.96%	

Terminal Value discount rate: 12.00%
 Steady state growth rate: 5.00%

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| <p>a) Terminal value = \$225.31</p> <p>b) The terminal value is as of 12/31/Year 6</p> |
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