Engineering Economics & Management

Financial Management & Economics

23rd May 16

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Case Study Income Statement & Balance Sheets

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Parameters to calculate for a firm

Α

Gross Profit Margin Operating Profit Margin Net Profit Margin Retained Earnings

> B Financial Structure Capital Structure Asset Structure

C Inventory Holding Period Collection Period Payment Period Operating Cycle

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Formulas

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Formulas (A)

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Gross Profit Margin = Gross profit / Sales revenue x 100%

Operating Profit Margin = EBIT / Sales revenue x 100%

Net Profit Margin = EAT / Sales revenue x 100%

Retained Earnings = EAT - Dividends

Formulas (B)

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Financial Structure = Invested capital / Owners Equity

Capital Structure = Owners Equity / Long term liabilities

Asset Structure = Fixed assets / Current assets

Formulas (C)

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Inventory Holding Period = Inventories / COS x 365

Collection Period = Accounts receivable / Sales revenue x 365

Payment Period = Accounts payable / COS x 365

Operating Cycle = Inventory Holding Period + Collection Period -Payment Period

Income Statement & Balance Sheets

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Income Statement

Income Statement

	2009	2010
Net Sales	10,655,000	13,851,000
Cost of goods sold	8,940,000	11,671,000
Selling, general & admin expense	1,554,000	1,925,000
Depreciation expense	44,000	55,000
Earnings before interest & tax	117,000	200,000
Net interest expense	62,000	90,000
Earnings before tax	55,000	110,000
Income tax expense	23,000	44,000
Earnings after tax	32,000	66,000
Dividends	5,000	44,000

Balance sheet

Balance Sheet

	2009	2010		2009	2010
Net fixed assets	733,000	818,000	Owners equity	2,514,000	2,536,000
Cash	160,000	6,0000	Long term debt	800,000	750,000
Accounts	1,953,000	2,616,000	Short term debt	50,000	880,000
receivable			Accounts payable	1,450,000	1,950,000
Inventories	1,986,000	2,694,000	Accrued expenses	98,000	114,000
Prepaid expenses	80,000	42000	Total liabilities &	4,912,000	6,230,000
Total assets	4,912,000	6,230,000	owners equity		

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Gross Profit Margin = Gross profit / Sales revenue x 100% Operating Profit Margin = EBIT / Sales revenue x 100% Net Profit Margin = EAT / Sales revenue x 100% Retained Earnings = EAT - Dividends

	2009	2010
Net Sales	10,655,000	13,851,000
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Earnings before tax	55,000	110,000
Income tax expense	23,000	44,000
Earnings after tax	32,000	66,000
Dividends	5,000	44,000

Gross Profit Margin = Gross profit / Sales revenue x 100%

- = Sales COS / Sales revenue x 100%
- = 10655000-8940000 / 10655000 x 100%

= 16.096%

	2009	2010
Net Sales	10,655,000	13,851,000
Cost of goods sold	8,940,000	11,671,000
Selling, general & admin expense	1,554,000	1,925,000
Depreciation expense	44,000	55,000
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Net interest expense	62,000	90,000
Earnings before tax	55,000	110,000
Income tax expense	23,000	44,000
Earnings after tax	32,000	66,000
Dividends	5,000	44,000

Operating Profit Margin = EBIT / Sales revenue x 100%

= 117000 / 10655000 x 100%

= 1.098%

	2009	2010
Net Sales	10,655,000	13,851,000
Cost of goods sold	8,940,000	11,671,000
Selling, general & admin expense	1,554,000	1,925,000
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Net interest expense	62,000	90,000
Earnings before tax	55,000	110,000
Income tax expense	23,000	44,000
Earnings after tax	32,000	66,000
Dividends	5,000	44,000

Net Profit Margin = EAT / Sales revenue x 100%

= 32000 / 10655000 x 100%

= 0.300%

	2009	2010
Net Sales	10,655,000	13,851,000
Cost of goods sold	8,940,000	11,671,000
Selling, general & admin expense	1,554,000	1,925,000
Depreciation expense	44,000	55,000
Earnings before interest & tax	117,000	200,000
Net interest expense	62,000	90,000
Earnings before tax	55,000	110,000
Income tax expense	23,000	44,000
Earnings after tax	32,000	66,000
Dividends	5,000	44,000

Retained Earnings = EAT – Dividends

= 32000 - 5000

= 27000

	2009	2010
Net Sales	10,655,000	13,851,000
Cost of goods sold	8,940,000	11,671,000
Selling, general & admin expense	1,554,000	1,925,000
Depreciation expense	44,000	55,000
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Balance Sheet

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Inventories	1,986,000	2,694,000	Accrued expenses	98,000	114,000
Prepaid expenses	80,000	42000	Total liabilities &	4,912,000	6,230,000
Total assets	4,912,000	6,230,000	owners equity		

Financial Structure = Invested capital / Owners Equity Capital Structure = Owners Equity / Long term liabilities Asset Structure = Fixed assets / Current assets

Balance Sheet

	2009	2010		2009	2010
Net fixed assets	733,000	818,000	Owners equity	2,514,000	2,536,000
Cash	160,000	6,0000	Long term debt	800,000	750,000
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Inventories	1,986,000	2,694,000	Accrued expenses	98,000	114,000
Prepaid expenses	80,000	42000	Total liabilities &	4,912,000	6,230,000
Total assets	4,912,000	6,230,000	owners equity		

Financial Structure = Invested capital / Owners Equity

= (2514000 + 800000) / 2514000

= 1.318

Balance Sheet

	2009	2010		2009	2010
Net fixed assets	733,000	818,000	Owners equity	2,514,000	2,536,000
Cash	160,000	6,0000	Long term debt	800,000	750,000
Accounts	1,953,000	2,616,000	Short term debt	50,000	880,000
receivable			Accounts payable	1,450,000	1,950,000
Inventories	1,986,000	2,694,000	Accrued expenses	98,000	114,000
Prepaid expenses	80,000	42000	Total liabilities &	4,912,000	6,230,000
Total assets	4,912,000	6,230,000	owners equity		

Capital Structure = Owners Equity / Long term liabilities

= 2514000 / 800000

= 3.143

Balance Sheet

	2009	2010		2009	2010
Net fixed assets	733,000	818,000	Owners equity	2,514,000	2,536,000
Cash	160,000	6,0000	Long term debt	800,000	750,000
Accounts	1,953,000	2,616,000	Short term debt	50,000	880,000
receivable			Accounts payable	1,450,000	1,950,000
Inventories	1,986,000	2,694,000	Accrued expenses	98,000	114,000
Prepaid expenses	80,000	42000	Total liabilities &	4,912,000	6,230,000
Total assets	4,912,000	6,230,000	owners equity		

Asset Structure = Fixed assets / Current assets

= 733000 / (4912000-733000)

= 0.175

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		2009		2010	Inventor
Net Sales		10,655,0	10,655,000		Collectio
Cost of goods sold		8,940,0	00	11,671,000	
Selling, general & admin expense		1,554,000		1,925,000	Payment Operatin
Depreciation expense		44,0	00	55,000	
Earnings before interest 8 tax	k	117,0	00	200,000	
Net interest expense		62,000		90,000	
Earnings before tax		55,0	00	110,000	
Income tax expense		23,0	00	44,000	
Earnings after tax		32,0	00	66,000	
Dividends		5,0	00	44,000	
		2009		2010	
Net fixed assets		733,000		818,000	Owners equity
Cash		160,000		6,0000	Long term deb
Accounts receivable		1,953,000		2,616,000	Short term de
Inventories		1,986,000		2,694,000	Accounts paya
Prepaid expenses		80,000		42000	Accrued expe
Total assets		4,912,000		6,230,000	Total liabilitie

nventory Holding Period = Inventories / COS x 365 collection Period = Accounts receivable / Sales revenue x 365 rayment Period = Accounts payable / COS x 365 Operating Cycle = Inventory Holding Period + Collection Period - Payment Period

1,000			
2010		2009	2010
818,000	Owners equity	2,514,000	2,536,000
6,0000	Long term debt	800,000	750,000
2,616,000	Short term debt	50,000	880,000
2,694,000	Accounts payable	1,450,000	1,950,000
42000	Accrued expenses	98,000	114,000
6,230,000	Total liabilities & owners equity	4,912,000	6,230,000

		2009		2010	Invento
Net Sales		10,655,0	00	13,851,000	
Cost of goods sold		8,940,0	00	11,671,000	
Selling, general & admin expense	Selling, general & admin expense		00	1,925,000	
Depreciation expense		44,0	00	55,000	
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Net interest expense		62,0	00	90,000	
Earnings before tax		55,000		110,000	
Income tax expense		23,000		44,000	
Earnings after tax		32,0	00	66,000	
Dividends		5,0	00	44,000	
		2009		2010	
Net fixed assets		733,000		818,000	Owners equity
Cash		160,000		6,0000	Long term deb
Accounts receivable		1,953,000		2,616,000	Short term deb
Inventories		1,986,000		2,694,000	Accounts paya
Prepaid expenses		80,000		42000	Accrued expen
Total assets		4,912,000		6,230,000	Total liabilities

entory Holding Period = Inventories / COS x 365

= 1986000 / 8940000 x 365

= 82 days

2010		2009	2010
818,000	Owners equity	2,514,000	2,536,000
6,0000	Long term debt	800,000	750,000
2,616,000	Short term debt	50,000	880,000
2,694,000	Accounts payable	1,450,000	1,950,000
42000	Accrued expenses	98,000	114,000
6,230,000	Total liabilities & owners equity	4,912,000	6,230,000

		2009		2010	Col
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Earnings after tax		32,000		66,000	
Dividends		5,0	00	44,000	
		2009		2010	
Net fixed assets		733,000		818,000	Owners
Cash		160,000		6,0000	Long ter
Accounts receivable		1,953,000		2,616,000	Short ter
Inventories		1,986,000		2,694,000	Account
Prepaid expenses		80,000		42000	Accrued
Total assets		4,912,000		6,230,000	Total lia

Collection Period =

Accounts receivable / Sales revenue x 365

= 1953000 / 10655000 x 365

= 67 days

2010		2009	2010
818,000	Owners equity	2,514,000	2,536,000
6,0000	Long term debt	800,000	750,000
2,616,000	Short term debt	50,000	880,000
2,694,000	Accounts payable	1,450,000	1,950,000
42000	Accrued expenses	98,000	114,000
6,230,000	Total liabilities & owners equity	4,912,000	6,230,000

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Net Sales		10,655,0	00	13,851,000	
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		2009		2010	
Net fixed assets		733,000		818,000	Owners eq
Cash		160,000		6,0000	Long term
Accounts receivable		1,953,000		2,616,000	Short term
Inventories		1,986,000		2,694,000	Accounts p
Prepaid expenses		80,000		42000	Accrued ex
Total assets		4,912,000		6,230,000	Total liabil

Payment Period = Accounts payable / COS x 365

= 1450000 / 8940000 x 365

= 60 days

,	,			
2009	2010		2009	2010
733,000	818,000	Owners equity	2,514,000	2,536,000
160,000	6,0000	Long term debt	800,000	750,000
1,953,000	2,616,000	Short term debt	50,000	880,000
1,986,000	2,694,000	Accounts payable	1,450,000	1,950,000
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4,912,000	6,230,000	Total liabilities & owners	4,912,000	6,230,000
		equity		

		2009		2010	O
Net Sales		10,655,0	00	13,851,000	- r In
Cost of goods sold		8,940,0	000	11,671,000	Da
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Dividends		5,0	000	44,000	
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Net fixed assets		733,000		818,000	Owner
Cash		160,000		6,0000	Long te
Accounts receivable		1,953,000		2,616,000	Short t
Inventories		1,986,000		2,694,000	Accour
Prepaid expenses		80,000		42000	Accrue
Total assets		4,912,000		6,230,000	Total l

Operating Cycle = Inventory Holding Period + Collection Period -Payment Period

> = 82 + 67 - 60 = 89 days

2010		2009	2010
818,000	Owners equity	2,514,000	2,536,000
6,0000	Long term debt	800,000	750,000
2,616,000	Short term debt	50,000	880,000
2,694,000	Accounts payable	1,450,000	1,950,000
42000	Accrued expenses	98,000	114,000
6,230,000	Total liabilities & owners equity	4,912,000	6,230,000

Thankyou

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