

Time Value of Money

1. Complete the Table Below

Amount of Annuity	Interest Rates	Deposit Period(annually)	Future Value of Ordinary Annuity	Future Value of Annuity Due	Present Value of Ordinary Annuity	Present Value of Annuity Due
\$2,500.00	8%	10				
500.00	12%	6				
30,000.00	20%	5				
11,500.00	9%	8				
6,000.00	14%	30				

Interest Rates and Bond Valuation

Given below are information on five possible bond investments that pays interest on an annual basis. Compute for the Yield to Maturity of each bond and rank the following – 1 as the best priority investment option and 5 as the least priority investment option.

Bond	Par Value in \$	Coupon Interest Rates in %	Years to Maturity	Current Value in \$	Yield to Maturity	Rank
A	1,000.00	9	8	820.00		
B	1,000.00	12	16	1,000.00		
C	500.00	12	12	560.00		
D	1,000.00	15	10	1,120.00		
E	1,000.00	5	3	900.00		

Cost of Capital

Edna Recording Studios, Inc., reported earnings available to common stock of \$4,200,000 last year. From those earnings, the company paid a dividend of \$1.26 on each of its 1,000,000 common shares outstanding. The capital structure of the company includes 40% debt, 10% preferred stock, and 50% common stock. It is taxed at a rate of 40%.

1. If the market price of the common stock is \$40 and dividends are expected to grow at a rate of 6% per year for the foreseeable future, what is the company's cost of retained earnings financing?
2. If underpricing and flotation costs on new shares of common stock amount to \$7.00 per share, what is the company's cost of new common stock financing?
3. The company can issue \$2.00 dividend preferred stock for a market price of \$25.00 per share. Flotation costs would amount to \$3.00 per share. What is the cost of preferred stock financing?
4. The company can issue \$1,000-par-value, 10% coupon, 5-year bonds that can be sold for \$1,200 each. Flotation costs would amount to \$25.00 per bond. Use the estimation formula to figure the approximate cost of debt financing.
5. What is the WACC?

Financial Statement Analysis

Given the following financial statements, historical ratios, and industry averages, calculate Sterling Company's financial ratios for the most recent year. (Assume a 365-day year.)

Sterling Company Income Statement for the Year Ended December 31, 2012	
Sales revenue	\$10,000,000
Less: Cost of goods sold	<u>7,500,000</u>
Gross profits	<u>\$ 2,500,000</u>
Less: Operating expenses	
Selling expense	\$300,000
General and administrative expenses	650,000
Lease expense	50,000
Depreciation expense	<u>200,000</u>
Total operating expense	<u>\$ 1,200,000</u>
Operating profits	<u>\$ 1,300,000</u>
Less: Interest expense	<u>200,000</u>
Net profits before taxes	<u>\$ 1,100,000</u>
Less: Taxes (rate = 40%)	<u>440,000</u>
Net profits after taxes	<u>\$ 660,000</u>
Less: Preferred stock dividends	<u>50,000</u>
Earnings available for common stockholders	<u>\$ 610,000</u>
Earnings per share (EPS)	\$3.05

Sterling Company Balance Sheet December 31, 2012			
Assets		Liabilities and Stockholders' Equity	
Cash	\$ 200,000	Accounts payable ^b	\$ 900,000
Marketable securities	50,000	Notes payable	200,000
Accounts receivable	800,000	Accruals	<u>100,000</u>
Inventories	<u>950,000</u>	Total current liabilities	<u>\$ 1,200,000</u>
Total current assets	<u>\$ 2,000,000</u>	Long-term debt (includes	
Gross fixed assets (at cost) ^c	\$12,000,000	financial leases) ^c	<u>\$ 3,000,000</u>
Less: Accumulated depreciation	<u>3,000,000</u>	Preferred stock (25,000 shares,	
Net fixed assets	<u>\$ 9,000,000</u>	\$2 dividend)	\$ 1,000,000
Other assets	<u>1,000,000</u>	Common stock (200,000	
Total assets	<u>\$12,000,000</u>	shares at \$3 par) ^d	600,000
		Paid-in capital in excess of	
		par value	5,200,000
		Retained earnings	<u>1,000,000</u>
		Total stockholders' equity	<u>\$ 7,800,000</u>
		Total liabilities and	
		stockholders' equity	<u>\$12,000,000</u>

^aThe firm has an 8-year financial lease requiring annual beginning-of-year payments of \$50,000. Five years of the lease have yet to run.

^bAnnual credit purchases of \$6,200,000 were made during the year.

^cThe annual principal payment on the long-term debt is \$100,000.

^dOn December 31, 2012, the firm's common stock closed at \$39.50 per share.

Analyze its overall financial situation from both a cross-sectional and a time-series viewpoint. Break your analysis into evaluations of the firm's liquidity, activity, debt, profitability, and market

Historical and Industry Average Ratios for Sterling Company

Ratio	Actual 2010	Actual 2011	Industry average, 2012
Current ratio	1.40	1.55	1.85
Quick ratio	1.00	0.92	1.05
Inventory turnover	9.52	9.21	8.60
Average collection period	45.6 days	36.9 days	35.5 days
Average payment period	59.3 days	61.6 days	46.4 days
Total asset turnover	0.74	0.80	0.74
Debt ratio	0.20	0.20	0.30
Times interest earned ratio	8.2	7.3	8.0
Fixed-payment coverage ratio	4.5	4.2	4.2
Gross profit margin	0.30	0.27	0.25
Operating profit margin	0.12	0.12	0.10
Net profit margin	0.062	0.062	0.053
Return on total assets (ROA)	0.045	0.050	0.040
Return on common equity (ROE)	0.061	0.067	0.066
Earnings per share (EPS)	\$1.75	\$2.20	\$1.50
Price/earnings (P/E) ratio	12.0	10.5	11.2
Market/book (M/B) ratio	1.20	1.05	1.10