

CASE

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Fresh & Fruity Foods, Inc.

Fresh & Fruity Foods is a mail-order company operating out of a winery near Santa Rosa, California. The company specializes in sending California specialties to catalog customers nationwide. Sales are seasonal, with most occurring in November and December—when people select Fresh & Fruity's Famous Fruit Fantasy boxes as Christmas gifts. Although seasonal, the company's sales are fairly predictable, because the bulk of Fresh & Fruity customers are regulars who come back year after year. The company has also managed to smooth out its sales somewhat by offering incentives, such as the Fruit of the Month club, that encourage customers to buy throughout the year.

The nature of the mail-order business is such that most of Fresh & Fruity's sales are on credit; therefore, the company has historically had a high accounts receivable balance relative to sales. It has also historically been short of cash, forcing it to delay payments to suppliers as long as possible (its average time to pay accounts in 2010, was 67 days).

In January 2011, Tom Appleby and Alice Plummer, the president and treasurer of Fresh & Fruity, respectively,

were discussing the cash flow problem over lunch.

"You know, Tom," Alice said as she sliced a piece of avocado, "I was reading the other day about a company called Kringle's Candles & Ornaments, and it occurred to me that we're a lot like them. Most of our assets are current ones like their accounts receivable and inventory; and over half of ours are financed just like theirs, by current liabilities—that is, accounts payable." She paused for a sip of chardonnay, and continued, "They got around their cash flow problems by issuing long-term debt, which took the pressure off their current obligations. I've been looking at that for our company, too; but then I got to thinking, there's another way that's a good deal easier and would produce results just as quickly."

"Oh? What's that?" Tom replied, his interest captured.

"All we have to do," she said, "is to reduce our accounts receivable balance. That will help reduce our accounts payable balance—since, as our customers begin paying us earlier, we can pay our suppliers earlier in turn. If we could get enough customers to pay us right away, we could even pay some of the suppliers

in time to take advantage of the 2 percent discount they offer for payments within 10 days.” (Fresh & Fruity’s suppliers operated on a 2/10, net 60 basis.) “That would increase our net income and free up even more cash to take advantage of even more discounts!” She looked excited at the prospect.

“Sounds great, but how do we get people to pay us earlier?” Tom inquired, doubtfully.

“Easy,” Alice continued. “Up to now we’ve been giving them incentives to pay later. Remember our ‘Buy Now, No Payments for Two Months’ program? Well, a lot of our customers use it, and it’s caused our accounts receivable balance to run way up. So what we have to do now is give them incentives to pay earlier. What I propose is to cancel the buy now/pay later plan and offer a 10 percent discount to everyone who pays with their order, instead.”

“But won’t that cause our revenues to drop?” Tom asked, again still doubtful.

“Yes, but the drop will be offset by even more new customers who will come in to take advantage of the discount. I figure the net effect on sales will be just about zero, but our accounts receivable balance could be cut in half! Now here’s a kicker that I just thought of: After we’ve reduced our accounts receivable balance as far as practical, I’d like to look into the possibility of reducing our accounts payable still further by replacing them with a bank loan. The effective rate of interest that we pay by not taking our suppliers’ discounts is, after all, pretty high. So what I’d like to do is take out a loan once a year of a sufficient size that would enable us to take all the discounts our suppliers offer. The interest that we’ll pay on the loan is bound to be less than what we pay in discounts lost—so we’ll see another gain in earnings on our income statement. In fact, these two initiatives together might have a really significant impact!”

“You’ve convinced me,” Tom said, “Let’s go back to the office and run some figures to see what happens!”

Financial statements for Fresh & Fruity Foods, Inc., are presented in Figure 1 (income statement) and Figure 2 (balance sheet).

Required

1. Using the data in Figures 1 and 2, compute the company’s average collection period (ACP) in days. Use a 360-day year when calculating sales per day.
2. Compute the cost, as a percent, that the company is paying for not taking the supplier’s discounts. (The supplier’s terms are 2/10, net 60; but note from the bottom of Figure 2 that Fresh & Fruity has been taking 67 days to pay its suppliers, making that the effective final due date for accounts payable.)
3. Assume that Alice Plummer’s first initiative to offer a 10 percent discount was implemented, and the company’s average collection period dropped to 32 days. If *net* sales per day remained the same, as Alice expects, what would be the new accounts receivable balance? How much cash was freed up by the reduction in accounts receivable? What is the new accounts payable balance if the money is used to pay off suppliers?

Figure 1
Current Situation

FRESH & FRUITY FOODS, INC		
Income Statement, 2010		
Revenue from sales		
Gross sales (credit)		\$1,179,000
Cost of goods sold:		
Beginning inventory	\$ 141,000	
Purchases	\$969,000	
Less: Cash discounts	<u>0</u>	
Net purchases	969,000	
Goods available for sale	1,110,000	
Less: Ending inventory	<u>79,557</u>	
Cost of goods sold		<u>1,030,443</u>
Gross profit		148,557
Selling and administrative expenses		<u>73,000</u>
Earnings before interest and tax		75,557
Interest expense		<u>0</u>
Earnings before tax		75,557
Income taxes @ 33%		<u>24,934</u>
Net income		<u>\$ 50,623</u>

Figure 2
Current Situation

FRESH & FRUITY FOODS, INC		
Balance Sheet		
As of December 31, 2010		
Assets:		
Cash	\$ 3,560	
Accounts receivable	209,686	
Inventory	<u>79,557</u>	
Total current assets		\$292,803
Property, plant and equipment, net		<u>11,430</u>
Total assets		<u>\$304,233</u>
Liabilities and equity:		
Accounts payable	\$180,633	
Notes payable (bank loans)	<u>0</u>	
Total current liabilities		\$180,633
Long-term debt		<u>0</u>
Total liabilities		180,633
Common stock	13,600	
Additional paid-in capital	83,000	
Retained earnings	<u>27,000</u>	
Total equity		<u>123,600</u>
Total liabilities and equity		<u>\$304,233</u>
Selected ratios		
Profit Margin	4.29%	
Return on equity	40.96%	
Inventory turnover	14.82	
Receivables turnover	5.62	
Average payment period	67	

Required

4. Alice's second initiative calls for Fresh & Fruity to obtain a bank loan of a sufficient size to enable the company to take all suppliers' discounts. What is the minimum size of this loan? (*Hint:* To take all suppliers' discounts, the average payment period must be 10 days, and net purchases will be purchases – (Purchases from Figure 1 x .02). Assume that all this happens, and solve the following formula for the new accounts payable balance, using:

$$\text{Accounts payable} = \text{Average payment period} \times \text{Purchase per day}^*$$

*Based on net purchases/360.

Now compare the accounts payable you just solved with the new accounts payable balance you found in question 3. The difference is the size of the loan that is required.

5. Assume that Fresh & Fruity does obtain an 8 percent loan for one year in the amount you solved in question 5, and it reduces its accounts payable balance accordingly. Now the company is taking 2 percent discounts on all purchases and paying 8 percent a year on the loan balance. What is the net gain from taking the discounts and paying the interest on a before-tax basis? On an aftertax basis?

Optional

6. Suppose the 8 percent loan that Fresh & Fruity obtained was a discount loan, and the bank further required a 20 percent compensating balance of the full loan amount. What is the effective rate of interest to Fresh & Fruity? How does this compare to your answer in question 2 for the cost of not taking a cash discount?

CASE

2

Chem-Med Company

April 9, 2008: Dr. Nathan Swan, age 40, chairman of the board of directors, chief executive officer, and founder of the Chem-Med Company, sat back in his chair and wondered if he wouldn't have been better off staying in his old job of teaching biochemistry at Harvard University. This business, he thought, was getting to be a headache. Just a short time ago, it seemed, he was able to spend most of his time in the company's lab comfortably working with test tubes and formulas. Lately, though, all his waking hours (or so it seemed) were taken up with columns of figures, dollars, and spreadsheets. It was true that he wanted the company to make money and grow; but he had no idea that the financial end of the business, about which he knew so little, would take up so much of his time.

Dr. Swan was a little mystified by financial matters. How did one describe a company in financial terms anyway? How did one tell if the company was in good or bad shape? (The amount of cash in the company's checking account didn't seem to be a sufficient indicator.) What on earth would one use to convince a bunch

of hard-nosed investors that the company was capable of making a lot of money in the next few years if it just had more money now? (Dr. Swan was puzzled by the fact that Chem-Med was growing and making money, but it seemed to have enough cash.)

Dr. Swan reflected back over Chem-Med's origins and the events that led to today. Chem-Med began operations in 1997 after Dr. Swan completed the development of commercial isolation of sodium hyaluronate (he referred to as HA), a naturally occurring biological fluid that is useful in orthopedic surgery and other medical and veterinary uses. The isolation process, completely proprietary to the company, involved extracting and purifying HA from animal combs. Initial seed money for the enterprise came from research grants from Harvard University and the U.S. Department of Agriculture (Food and Drug Administration), plus contributions from Dr. Swan's colleague and associates who were now classified as the company's stockholders (254 as of April 2008, all closely held—not traded publicly).

In mid-2004, Chem-Med commenced the manufacture and distribution of its first product, VISCAM, which is used to hold tissues in place during and after surgery of the retina. In late 2005, Chem-Med received regulatory approval to market another HA product known as VISCHY, which is used for the treatment of degenerative joint diseases in horses. The two products, VISCAM and VISCHY, are the only ones Chem-Med currently produces; however, the company has an active R&D program that is currently investigating other applications.

There are only two other manufacturers of FDA-approved HA products in the world: AB Fortia, a Swedish corporation, which manufactures a product called Healon in Sweden and distributes it in the United States through a subsidiary, Pharmacia, Inc.; and Cilco, Inc., of Huntington, West Virginia. Chem-Med has about a 25 percent share of the market (for HA products in eye surgery) against Cilco's 16 percent and Pharmacia's 59 percent. Pharmacia, with the power of giant AB Fortia behind it, waged a continuing marketing war with Chem-Med, undercutting Chem-Med's prices and wooing its costumers away at every opportunity. The matter came to a head in September, when Chem-Med filed a \$13 million suit against Pharmacia, charging unfair trade practices. Dr. Swan was reasonably confident that Chem-Med would prevail in the suit, and, in fact, Pharmacia had recently offered to settle out of court for \$500,000.

Dr. Swan's primary problem, he said, was that, although he was convinced the company was sound and would grow, he wasn't sure how to communicate that to potential investors in the financial community in a way that would convince them. Just handing out past income statements and balance sheets that he received from the accountants didn't seem to be enough. Further, he wasn't even sure the company needed outside financing, let alone how much. He just felt that they would need it, since they had always had to ask for money in the past.

Figure 1

CHEM-MED COMPANY
Income Statements

	2005—2007 (in 000s)			Pro Forma Income Statements		
	2005	2006	2007	2008	2009	2010
Net sales (all credit)	\$ 777	\$3,051	\$3,814	\$5,340	\$7,475	\$10,466
Cost of goods sold	<u>257</u>	<u>995</u>	<u>1,040</u>	<u>1,716</u>	<u>2,154</u>	<u>3,054</u>
Gross profit	520	2,056	2,774	3,624	5,321	7,412
Selling, etc., expenses	610	705	964	1,520	2,120	2,645
Other inc (exps)*	<u>0</u>	<u>0</u>	<u>0</u>	<u>500</u>	<u>0</u>	<u>0</u>
Operating profit	(90)	1,351	1,810	2,604	3,201	4,767
Interest expense	<u>11</u>	<u>75</u>	<u>94</u>	<u>202</u>	<u>302</u>	<u>434</u>
Income before tax	(101)	1,276	1,716	2,402	2,899	4,333
Income taxes (40% in 1986; 33% thereafter)	<u>0</u>	<u>510</u>	<u>566</u>	<u>793</u>	<u>957</u>	<u>1,430</u>
Net income	<u>(\$ 101)</u>	<u>\$ 766</u>	<u>\$1,150</u>	<u>\$1,609</u>	<u>\$1,943</u>	<u>\$ 2,903</u>
Dividends paid	0	0	0	0	0	0
Increase in retained earnings	(\$ 101)	\$ 766	\$1,150	\$1,609	\$1,943	\$ 2,903
Average number of shares**	2,326	2,326	2,347	2,347	2,347	2,347
Earnings per share	(\$ 0.04)	\$ 0.33	\$ 0.49	\$ 0.69	\$ 0.83	\$ 1.24

* Other Inc (Exps) refers to extraordinary gains and losses. In 2008, \$500,000 is expected from Pharmacia, Inc., in settlement of their suit.

** Shares are not publicly traded.

Figure 2

CHEM-MED COMPANY						
Balance Sheets						
	As of Dec. 31, years ended:			Pro Forma Balance Sheets As of Dec. 31, years ended:		
	2005	2006	2007	2008	2009	2010
Assets:						
Cash and equivalents.....	\$ 124	\$ 103	\$ 167	\$ 205	\$ 422	\$ 101
Accounts receivable	100	409	564	907	1,495	2,351
Inventories	151	302	960	1,102	1,443	798
Other current	28	59	29	41	57	11
Total current assets.....	403	873	1,720	2,255	3,417	3,261
Property, plant, and equipment	1,901	2,298	2,917	4,301	5,531	8,923
Less: accumulated depreciation	81	82	346	413	522	588
Property, plant, and equipment, net	1,820	2,216	2,571	3,888	5,009	8,335
Other fixed assets	0	101	200	200	215	399
Total assets	<u>\$2,223</u>	<u>\$3,190</u>	<u>\$4,491</u>	<u>\$6,343</u>	<u>\$8,641</u>	<u>\$11,995</u>
Liabilities:						
Accounts payable	210	\$ 405	\$ 551	\$ 771	\$1,080	\$ 1,512
Short-term debt	35	39	42	59	82	135
Total current liabilities	245	444	593	830	1,162	1,647
Long-term debt	17	19	21	27	50	17
Total liabilities	262	463	614	857	1,212	1,664
Equity:						
Common stock	2,062	2,062	2,062	2,062	2,062	2,062
Retained earnings	(101)	665	1,815	3,424	5,366	8,269
Total equity	1,961	2,727	3,877	5,486	7,428	10,331
Total liabilities and equity	<u>\$2,223</u>	<u>\$3,190</u>	<u>\$4,491</u>	<u>\$6,343</u>	<u>\$8,641</u>	<u>\$11,995</u>

Dr. Swan had lunch with his banker just recently, and the banker mentioned several restrictive covenants that the company would have to meet if it came to the bank for financing. Dr. Swan pulled a sheet of paper from his desk drawer and glanced at it. There were three covenants listed:

- The current ratio must be maintained above 2.25 to 1.
- The debt-to-assets ratio must be less than .3 to 1.
- Dividends cannot be paid unless earnings are positive.

Dr. Swan didn't think he would have any trouble with those, but he wasn't sure. Then he suddenly remembered he was supposed to meet a representative from one of the local supermarket chains (who supplied Chem-Med with rooster combs) in five minutes. He hurriedly put his papers away and wished he had more time to analyze the numbers before the next board of directors meeting. (The financial information is presented in Figures 1, 2, and 3.)

Figure 3

Biotechnology Industry Statistics

Median Company in SIC 2831

Biological Products*

	2005	2006	2007
Current ratio	2.5	2.3	2.4
Quick ratio	1.2	1.1	1.3
Inventory turnover	5.5	5.6	5.7
Total asset turnover	1.15	1.16	1.18
Return on sales	4.00%	4.00%	5.00%
Return on assets	4.60%	4.64%	5.90%
Return on equity	7.64%	8.44%	12.29%
Total debt to assets	0.40	0.45	0.52

Selected Statistics

Pharmacia Company

	2005	2006	2007
Current ratio	2.8	2.7	2.8
Quick ratio	1.5	1.3	1.6
Inventory turnover	5.6	5.7	5.8
Total asset turnover	1.9	2	1.9
Return on sales	6.00%	6.50%	7.00%
Return on assets	11.40%	13.00%	13.30%
Return on equity	19.04%	27.66%	29.56%
Total debt to assets	0.40	0.53	0.55
Price-earnings ratio	13.7	14	15
Average stock price	\$21.78	\$24.92	\$31.50

* Source: Dun's Industry Ratios. The data have been adjusted for this case.

Required

You are an investor who is considering adding Chem-Med to your portfolio. As such, you are interested in the company's record of profitability, prospects for the future, degree of risk, and how it compares with others in the industry. From that point of view, answer the following questions:

1. What was Chem-Med's rate of sales growth in 2007? What is it forecasted to be in 2008, 2009, and 2010?
2. What was Chem-Med's net income growth in 2007? What is it forecasted to be in 2008, 2009, and 2010? Is projected net income growing faster or slower than projected sales? After computing these values, take a hard look at the 2008 income statement data to see if you want to make any adjustments.
3. How does Chem-Med's current ratio for 2007 compare to Pharmacia's? How does it compare to the industry average? Compute Chem-Med's current ratio for 2010. Is there any problem with it?
4. What is Chem-Med's total debt-to-assets ratio for 2007, 2008, 2009, 2010? Is any trend evident in the four-year period? Does Chem-Med in 2007 have more or less debt than the average company in the industry?
5. What is Chem-Med's average accounts receivable collection period for 2007, 2008, 2009, 2010? Is the period getting longer or shorter? What are the consequences?
6. How does Chem-Med's return-on-equity ratio (ROE) compare to Pharmacia's and the industry for 2007? Using the Du Pont method, compare the positions of Chem-Med and Pharmacia. Compute ROE for each company using the following formula:
$$\text{ROE} = \text{Profit margin} \times \text{Asset turnover} / (1 - \text{Debt to assets})$$
Compare the results to determine the sources of ROE for each company.

CASE

10

Allison Boone, M.D.

Allison Boone had been practicing medicine for seven years. Her specialty was neurology. She had received her bachelor's degree in chemistry from Kent State University and her M.D. from Washington University in St. Louis. She did her residency at Columbia Presbyterian Hospital in New York. Allison practiced neurology in a clinic with three other doctors in Hurst, Texas.

Her husband, Samuel L. Boone, held an administrative position for Harris Methodist HMO in Arlington, Texas. Allison and Samuel had been married for five years and were parents of young twin sons, Todd and Trey. They lived in Arlington in a beautiful four-room house overlooking Lake Arlington.

Allison normally left for work at 7:30 a.m. and closed her office at 5:30 p.m. to return home. On Tuesday, July 6th, 2006 at 5:15 p.m., she received an emergency call from Arlington General Hospital and immediately went to the hospital to help a patient who had suffered serious brain damage. By the time she had administered aid and helped prepare the patient for surgery it was 11:00 p.m.

On her way home as she passed the Ballpark in Arlington (home of the Texas

Rangers baseball team), she was confronted head on by a drunken driver going over 80 miles an hour. A crash was inevitable and Allison and the other driver were killed instantly. The drunken driver was making a late delivery for Wayland Frozen Foods, Inc.

Legal Considerations

The families of both drivers were devastated by the news of the accident. After the funeral and explaining the situation to the children, Samuel Boone knew he must seek legal redress for his family's enormous loss. Following interviews with a number of lawyers, he decided to hire Sloan Whitaker.

Sloan was with a Dallas law firm (Hanson, Sloan, and Thomason) that specialized in plaintiff's lawsuits. He had been in practice for over 20 years since graduating from Southern Methodist University (SMU) law school in 1986.

When Sloan began his investigation on behalf of Samuel Boone and his family, he was surprised to find out the driver of the delivery vehicle had a prior record of alcohol abuse and that Wayland Frozen Foods, Inc. had knowledge of the problem

when they hired him. It appears the driver was a relative of the owner and at the time of employment he revealed what he termed "a past alcoholic problem that was now under control". In any event, he was acting as an employee for Wayland Frozen Foods in using their truck to make a business related delivery at the time of the accident. The fact that he was speeding and intoxicated at the time of the impact only increased the legal exposure for Wayland Frozen Foods.

After much negotiating with the law firm that represented Wayland Frozen Foods (and its insurance company), Sloan Whitaker received three proposals for an out-of-court settlement to be paid to Allison Boone's family. The intent of the proposals was to replace the future earning's power of Allison Boone, less any of the earnings she would have personally needed for her normal living requirements. Also, the value that she provided for her family as a wife and mother, quite aside from her earning power, had to be considered. Finally, there was the issue of punitive damages that Wayland Frozen Foods was exposed to as a result of letting an unqualified driver operate its truck. If the case went to court, there was no telling how much a jury might assign to this last factor.

The three proposals are listed below. An actuarial table indicated that Allison, age 37 at the time of the accident, had an anticipated life expectancy of 40 more years.

- | | |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Proposal 1</i> | Pay the family of Allison Boone \$300,000 a year for the next 20 years, and \$500,000 a year for the remaining 20 years. |
| <i>Proposal 2</i> | Pay the family a lump sum payment of \$5 million today. |
| <i>Proposal 3</i> | Pay the family of Allison Boone a relatively small amount of \$50,000 a year for the next 40 years, but also guarantee them a final payment of \$75 million at the end of 40 years. |

In order to analyze the present value of these three proposals, attorney Sloan Whitaker called on a financial expert to do the analysis. You will aid in the process.

Required

1. Assume a discount rate of 6 percent is used, which of the three projects has the highest present value?

In analyzing the first proposal, take the present value of the 20 year \$300,000 annuity. Then take the present value of the deferred annuity of \$500,000 that will run from the 21st through the 40th year. The answer you get for the second annuity will represent the value at the beginning of the 21st year (the same as the end of the 20th year). You will need to discount this lump sum value back for 20 years as a single amount to get its present value. You then add together the present value of the first and second annuity.

The second and third proposals are straight forward and require no further explanation.

2. Now assume that a discount rate of 11 percent is used instead of 6 percent. Which of the three alternatives provides the highest present value?
3. Explain why the change in outcome takes place between question 1 and question 2.
4. If Sloan Whitaker thinks additional punitive damages are likely to be \$4 million in a jury trial, should he be more likely to settle out-of-court or go before the jury?

CASE

15

Berkshire Instruments

Al Hansen, the newly appointed vice president of finance of Berkshire Instruments, was eager to talk to his investment banker about future financing for the firm. One of Al's first assignments was to determine the firm's cost of capital. In assessing the weights to use in computing the cost of capital, he examined the current balance sheet, presented in Figure 1.

In their discussion, Al and his investment banker determined that the current mix in the capital structure was very close to optimal and that Berkshire Instruments should continue with it in the future. Of some concern was the appropriate cost to assign to each of the elements in the capital structure. Al Hansen requested that his administrative assistant provide data on what the cost to issue debt and preferred stock had been in the past. The information is provided in Figure 2.

When Al got the data, he felt he was making real progress toward determining the cost of capital for the firm. However, his investment banker indicated that he was going about the process in an incorrect manner. The important issue is

the current cost of funds, not the historical cost. The banker suggested that a comparable firm in the industry, in terms of size and bond rating (Baa), Rollins Instruments, had issued bonds a year and a half ago for 9.3 percent interest at a \$1,000 par value, and the bonds were currently selling for \$890. The bonds had 20 years remaining to maturity. The banker also observed that Rollins Instruments had just issued preferred stock at \$60 per share, and the preferred stock paid an annual dividend of \$4.80.

In terms of cost of common equity, the banker suggested that Al Hansen use the dividend valuation model as a first approach to determining cost of equity. Based on that approach, Al observed that earnings were \$3 a share and that 40 percent would be paid out in dividends (D_1). The current stock price was \$25. Dividends in the last four years had grown from 82 cents to the current value.

The banker indicated that the underwriting cost (flotation cost) on a preferred stock issue would be \$2.60 per share and \$2.00 per share on common stock. Al Hansen further observed that his firm was in a 35 percent marginal tax bracket.

With all this information in hand, Al Hansen sat down to determine his firm's cost of capital. He was a little confused about computing the firm's cost of common equity. He knew there were two different formulas: one: one for the cost of retained earnings and one for the cost of new common stock. His investment banker suggested that he follow the normally accepted approach used in determining the marginal cost of capital. First, determine the cost of capital for as large a capital structure as current retained earnings will support; then, determine the cost of capital based on exclusively using new common stock.

Figure 1

BERKSHIRE INSTRUMENTS Statement of Financial Position December 31, 2010			
Assets			
Current assets:			
Cash		\$	400,000
Marketable securities			200,000
Accounts receivable	\$ 2,600,000		
Less: Allowance for bad debts	300,000		
Inventory			2,300,000
Total current assets			<u>5,500,000</u>
			\$ 8,400,000
Fixed Assets:			
Plant and equipment, original cost	30,700,000		
Less: Accumulated depreciation	13,200,000		
Net plant and equipment			<u>17,500,000</u>
Total assets			<u>\$25,900,000</u>
Liabilities and Stockholders' Equity			
Current liabilities:			
Accounts payable		\$	6,200,000
Accrued expenses			<u>1,700,000</u>
Total current liabilities			7,900,000
Long-term financing:			
Bonds payable		\$	6,120,000
Preferred stock			1,080,000
Common stock			6,300,000
Retained earnings } Common equity			<u>4,500,000</u>
Total common equity			10,800,000
Total long-term financing			<u>18,000,000</u>
Total liabilities and stockholders' equity			<u>\$25,900,000</u>

Figure 2
Cost of prior issues
of debt and
preferred stock

<i>Security</i>	<i>Year of Issue</i>	<i>Amount</i>	<i>Coupon Rate</i>
Bond	1998	\$1,120,000	6.1%
Bond	2002	3,000,000	13.8
Bond	2008	2,000,000	8.3
Preferred stock	2003	600,000	12.0
Preferred stock	2006	480,000	7.9

Required

1. Determine the weighted average cost of capital based on using retained earnings in the capital structure. The percentage composition in the capital structure for bonds, preferred stock, and common equity should be based on the current capital structure of long-term financing as shown in Figure 1 (it adds up to \$18 million). Common equity will represent 60 percent of financing throughout this case. Use Rollins instruments data to calculate the cost of preferred stock and debt.
2. Recompute the weighted average cost of capital based on using new common stock in the capital structure. The weights remain the same, only common equity is now supplied by new common stock, rather than by retained earnings. After how much new financing will this increase in the cost of capital take place? Determine this by dividing retained earnings by the percent of common equity in the capital structure.
3. Assume the investment banker also wishes to use the capital asset pricing model, as shown in Formula 11.5 in the text, to compute the cost (required return) on common stock. Assume $R_f = 6$ percent, β is 1.25, and K_m is 13 percent. What is the value of K_j ? How does this compare to the value of K_e computed in question 1?