Solution Manual for Cases in Finance 3rd Edition DeMello

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2. Are We Getting Too Big For Our Boots? - TEACHING NOTE

Gillians Pool & Spa Supplies

Balance Sheet

	2011	2012	2013	2014	2015
ASSETS					
Cash and marketable securities	$155,000	$309,099	$75,948	$28,826	$18,425
Accounts receivable	10,000	12,000	20,000	77,653	90,078
Inventory	250,000	270,000	500,000	520,000	560,000
Current assets	$415,000	$591,099	$595,948	$626,480	$668,503
Land, buildings, plant, and equipment	$250,000	$250,000	$500,000	$500,000	$500,000
Accumulated depreciation	-25,000	-50,000	-100,000	-150,000	-200,000
Net fixed assets	$225,000	$200,000	$400,000	$350,000	$300,000
Total assets	$640,000	$791,099	$995,948	$976,480	$968,503
LIABILITIES AND EQUITIES					
Short-term bank loans	$50,000	$145,000	$140,000	$148,000	$148,000
Accounts payable	10,000	10,506	19,998	15,995	16,795
Accruals	5,000	5,100	7,331	9,301	11,626
Current liabilities	$65,000	$160,606	$167,329	$173,296	$176,421
Long-term bank loans	$63,366	$98,000	$196,000	$190,000	$183,000
Mortgage	175,000	173,000	271,000	268,000	264,000
Long-term debt	$238,366	$271,000	$467,000	$458,000	$447,000
Total liabilities	$303,366	$431,606	$634,329	$631,296	$623,421
Common stock (100,000 shares)	$320,000	$320,000	$320,000	$320,000	$320,000
Retained earnings	16,634	39,493	41,619	25,184	25,082
Total equity	$336,634	$359,493	$361,619	$345,184	$345,082
Total liabilities and equity	$640,000	$791,099	$995,948	$976,480	$968,503

Gillian's Pool & Spa Supplies

Income Statements

	2011	2012	2013	2014	2015
Net sales	$900,000	$982,500	$1,170,000	$1,310,400	$1,520,064
Cost of goods sold	729,000	801,900	962,280	1,100,736	1,305,000
Gross profit	$171,000	$180,600	$207,720	$209,664	$215,064
Admin and selling exp	$45,000	$58,950	$64,350	$72,072	$91,204
Depreciation	37,500	40,000	50,000	50,000	50,000
Miscellaneous expenses	3,041	3,557	4,680	14,414	22,801
Total operating exp	$85,541	$102,507	$119,030	$136,486	$164,005
EBIT	$85,460	$78,093	$88,690	$73,178	$51,059
Interest on ST loans	$9,600	$9,600	$9,600	$17,760	$17,760
Interest on LT loans	5,400	5,400	5,400	13,500	16,470
Interest on mortgage	16,000	13,840	12,240	21,440	21,120
Total interest	$31,000	$28,840	$27,240	$52,700	$55,350
Before-tax earnings	$54,460	$49,253	$61,450	$20,478	($4,291)
Taxes	21,784	19,701	24,580	8,191	-1,716
Net income	$32,676	$29,552	$36,870	$12,287	($2,574)
Dividends on stock	0	0	0	0	0
Additions to retained earnings	$32,676	$29,552	$36,870	$12,287	($2,574)
EPS (100,000 shares)	$0.33	$0.30	$0.37	$0.12	($0.03)

Questions

1. **Calculate Gillian Pool and Spa Supplies' average annual compound growth rate of sales and analyze its earnings performance for the past 5 years.**

   Gillian Pool and Spa Supplies' sales have increased by an average compound rate of 14% per year over the past five years. In comparison, its net income has declined from over $32,676 in 2011, to a loss of $2,574 in 2015.

2. **In order to shed some light on the firm's financial condition, which statements should Denny analyze and which measures/calculations should he use so as to compile a detailed report. Please explain why.**

   Denny should refer to the income statement and the balance sheet over the past 3-5 year period. In addition, he should prepare a cash flow statement, common size income statement and common size balance sheet. Denny should calculate the various liquidity, leverage, profitability, activity, and coverage ratios for at least a three-year period. In addition, a Du Pont analysis of the return on equity will help determine what has affected the profitability of the company.

   The accounting statements provide the raw data from which the other statements can be prepared and the various ratios calculated. The cash flow statement helps determine where the cash came from and where it was spent during a year. The common size statements provide useful information regarding the relative trends of the various assets, liabilities, revenue sources, and expense items. They also help the analyst make meaningful comparisons between firms of varying sizes.

3. Realizing that comparison with an appropriate benchmark is a key component of comprehensive ratio analysis, how should Denny go about finding a suitable benchmark?

Based on Gillian Pool & Spa Supplies' industry classification code, Denny should collect industry averages of the key financial ratios. Some useful sources for industry ratios include: Value Line, Moody's, Standard & Poor, and Dun & Bradstreet. In addition to the industry average, the industry leaders' (within the size category) ratios could also be collected from the Internet (e.g. Marketguide.com) and used for comparison.

4. While attending his MBA finance class, Denny had learned that doing a common size analysis and DuPont analysis are very useful first steps when analyzing a company's health. Using the 5-year financial statements help Denny perform such analyses and comment on the findings.

The common size income statements and balance sheets for the 5 year period 2011-2015 are presented in the following 2 tables.

Gillian Pool & Spa Supplies

Income Statement

	2011	2011%	2012	2012%	2013	2013%	2014	2014%	2015	2015%
Net sales	$900,000	100.0%	$982,500	100.0%	$1,170,000	100.0%	$1,310,400	100.0%	$1,520,064	100.0%
Cost of goods sold	729,000	81.0%	801,900	81.6%	962,280	82.2%	1,100,736	84.0%	1,305,000	85.9%
Gross profit	$171,000	19.0%	$180,600	18.4%	$207,720	17.8%	$209,664	16.0%	$215,064	14.1%
Admin and selling exp	$45,000	5.0%	$58,950	6.0%	$64,350	5.5%	$72,072	5.5%	$91,204	6.0%
Depreciation	37,500	4.2%	40,000	4.1%	50,000	4.3%	50,000	3.8%	50,000	3.3%
Miscellaneous expenses	3,041	0.3%	3,557	0.4%	4,680	0.4%	14,414	1.1%	22,801	1.5%
Total operating exp	$85,541	9.5%	$102,507	10.4%	$119,030	10.2%	$136,486	10.4%	$164,005	10.8%
EBIT	$85,460	9.5%	$78,093	7.9%	$88,690	7.6%	$73,178	5.6%	$51,059	3.4%
Interest on ST loans	$6,000	0.7%	$17,400	1.8%	$16,800	1.4%	$17,760	1.4%	$17,760	1.2%
Interest on LT loans	5,703	0.6%	8,820	0.9%	17,640	1.5%	17,100	1.3%	16,470	1.1%
Interest on mortgage	14,000	1.6%	13,840	1.4%	21,680	1.9%	21,440	1.6%	21,120	1.4%
Total interest	$25,703	2.9%	$40,060	4.1%	$56,120	4.8%	$56,300	4.3%	$55,350	3.6%
Before-tax earnings	$59,757	6.6%	$38,033	3.9%	$32,570	2.8%	$16,878	1.3%	($4,291)	-0.28%
Taxes	23,903	2.7%	15,213	1.5%	13,028	1.1%	6,751	0.5%	-1,716	-0.11%
Net income	$35,854	4.0%	$22,820	2.3%	$19,542	1.7%	$10,127	0.8%	($2,574)	-0.17%
Dividends on stock	0		0		0		0		0	
Additions to										
retained earnings	$35,854		$22,820		$19,542		$10,127		($2,574)	
EPS (100,000 shares)	$0.36		$0.23		$0.20		$0.10		($0.03)	

The common size income statement indicates that the firm's cost of goods sold has increased quite a bit since 2011 (from 81% to 85.9%). Miscellaneous expenses (0.3% to 1.5%), interest charges (2.9% to 3.6%) and selling and administration expenses (5% to 6%)

have also increased slightly. The firm needs to look into its cost structure and try and reduce the overall costs of doing business.

Common Size Balance Sheets

	2011	2011%	2012	2012%	2013	2013%	2014	2014%	2015	2015%
ASSETS										
Cash and marketable securities	$60,000	10.96%	$86,693	14.67%	$75,948	13.23%	$58,000	6.62%	$12,500	1.38%
Accounts receivable	15,000	2.74%	21,859	3.70%	30,000	5.23%	50,000	5.70%	82,000	9.05%
Inventory	250,000	45.66%	300,000	50.76%	335,437	58.45%	485,984	55.45%	579,134	63.91%
Current assets	$325,000	59.36%	$408,552	69.12%	$441,385	76.91%	$593,984	67.77%	$673,634	74.34%
Land, buildings, plant, and equipment	$300,000	54.79%	$300,000	50.76%	$300,000	52.28%	$500,000	57.05%	$500,000	55.18%
Accumulated depreciation	-77,500	-14.16%	-117,500	-19.88%	-167,500	-29.19%	-217,500	-24.82%	-267,500	-29.52%
Net fixed assets	$222,500	40.64%	$182,500	30.88%	$132,500	23.09%	$282,500	32.23%	$232,500	25.66%
Total assets	$547,500	100.00%	$591,052	100.00%	$573,885	100.00%	$876,484	100.00%	$906,134	100.00%
LIABILITIES AND EQUITIES										
Short-term bank loans	$80,000	14.61%	$80,000	13.54%	$80,000	13.94%	$148,000	16.89%	$148,000	16.33%
Accounts payable	20,000	3.65%	22,000	3.72%	24,000	4.18%	37,000	4.22%	39,000	4.30%
Accruals	10,000	1.83%	11,000	1.86%	12,963	2.26%	17,276	1.97%	18,500	2.04%
Current liabilities	$110,000	20.09%	$113,000	19.12%	$116,963	20.38%	$202,276	23.08%	$205,500	22.68%
Long-term bank loans	$60,000	10.96%	$60,000	10.15%	$60,000	10.46%	$150,000	17.11%	$183,000	20.20%
Mortgage	200,000	36.53%	173,000	29.27%	153,000	26.66%	268,000	30.58%	264,000	29.13%
Long-term debt	$260,000	47.49%	$271,000	45.85%	$213,000	37.12%	$418,000	47.69%	$447,000	49.33%
Total liabilities	$370,000	67.58%	$384,000	64.97%	$329,963	57.50%	$620,276	70.77%	$652,500	$1
Common stock (100,000 shares)	$125,000	22.83%	$125,000	21.15%	$125,000	21.78%	$125,000	14.26%	$125,000	13.79%
Retained earnings	52,500	9.59%	82,052	13.88%	118,922	20.72%	131,208	14.97%	128,634	14.20%
Total equity	$177,500	32.42%	$207,052	35.03%	$243,922	42.50%	$256,208	29.23%	$253,634	27.99%
Total liabilities and equity	$547,500	100.00%	$591,052	100.00%	$573,885	100.00%	$876,484	100.00%	$906,134	100.00%

The common size balance sheet (shown below) shows that the firm's inventory and accounts receivables levels have gone up sharply, while its cash balance has significantly declined. Fixed assets have increased over the past 5 years. The firm has taken on significantly larger amounts of short and long-term debt relative to its total assets. Total equity has decreased from 32.42% of total assets to around 28%. As a result its capital structure has become more leveraged.

Du Pont Analysis	2011	2012	2013	2014	2015
Net Profit Margin	3.98%	2.32%	1.67%	0.77%	-0.17%
Total Asset Turnover	1.40625	1.24194	1.17476	1.341963	1.5694985
Equity Multiplier	1.901175	2.2006	2.754136	2.8288681	2.806588
Return on Assets	5.60%	2.88%	1.96%	1.04%	-0.27%
Return on Equity	10.65%	6.35%	5.40%	2.93%	-0.75%

Gillian Pool's ROA has is currently negative and has decreased significantly since 2011. Most of the decrease has come from the deteriorating profit situation. The firm's total asset turnover has improved consistently since 2013.

The firm's ROE has suffered significantly since 2011. This has occurred largely due to the steep drop in net profit margin. Had the firm not had such a high equity multiplier (from its high level of debt), the ROE situation would have looked considerably worse.

5. Analyze Gillian Pool's liquidity, asset utilization, long-term solvency, and profitability ratios. What arguments would have to be made to convince the bank that they should grant Gillian Pool & Spa Supplies the loan?

	2011	2012	2013	2014	2015	Comments
Current Ratio	6.38	3.68	3.56	3.62	3.79	**Good**
Quick Ratio	2.54	2.00	0.57	0.61	0.62	**Poor**
Cash Ratio	2.38	1.92	0.45	0.17	0.10	**Low**
Total Debt Ratio	0.47	0.55	0.64	0.65	0.64	**High**
Debt-Equity Ratio	0.90	1.20	1.75	1.83	1.81	**High**
Equity Multiplier	1.90	2.20	2.75	2.83	2.81	**High**
Times Interest Earned Ratio	3.32	1.95	1.58	1.30	0.92	**Low**
Cash Coverage Ratio	4.78	2.95	2.47	2.19	1.83	**Declining**
Inventory Turnover ratio	2.92	2.97	1.92	2.12	2.33	**Lower**
Day's sales in Inventory	125.17days	122.9days	189.65days	172.43days	156.63days	**High**
Receivables Turnover	90.00	81.88	58.50	16.88	16.87	**Relatively low**
ACP or Days' Sales in Receiva	4.06 days	4.46 days	6.24 days	21.63 days	21.63 days	**Gone up significantly**
Total Asset Turnover	1.41	1.24	1.17	1.34	1.57	**Improved slightly**
Capital Intensity	0.71	0.81	0.85	0.75	0.64	**Down slightly**
Profit Margin	3.98%	2.32%	1.67%	0.77%	-0.17%	**Poor**
ROA	5.60%	2.88%	1.96%	1.04%	-0.27%	**Poor**
ROE	10.65%	6.35%	5.40%	2.93%	-0.75%	**Poor**

Liquidity:

The firm's overall liquidity is quite good with a current ratio of 3.79 and it has improved quite a bit over the past three years. However, much of its current assets are tied in inventory, since its quick ratio is only 0.62. The ability of the firm to pay off its current liabilities from its cash reserves is not very good either and has deteriorated significantly over the past five years.

Asset utilization:

The firm's inventory turnover is much lower than what it was back in 2011. There was some improvement in 2013 and 2014, but there is still a lot of room for further improvement. The receivables turnover ratio has declined as well. An average collection period of 22 days is pretty high for a retail business. The total asset turnover although not very high is at its highest level in five years.

Long-term solvency:

The firm's debt ratio is 64% of total assets. Its debt level has gone up by almost 17% since 2011. Since the firm's coverage ratios are fairly low and declining, the firm's financial structure can be considered to be fairly risky.

Profitability:

The firm's profitability ratios have declined significantly in the past three years. The firm is currently making losses.

<u>Arguments that can be made to get the loan:</u>

Improving liquidity (current ratio) and total asset turnover.

Proof of better inventory management system (if possible)

6. **If you were the commercial loan officer and were approached by Andy for a short term loan of $50,000, what would your decision be?**

   Given the firm's poor profitability and cash flow situation, I would not grant the loan. However, I would tell him that if he can demonstrate improvement in inventory management and better profitability over the next 2 quarters, we would reconsider.

7. **What recommendations should Denny make to Andy for improvement, if any?**

   The firm needs to improve its inventory management, and credit collection policies. Further, the cost of sales and miscellaneous costs should be looked into and brought down more in line with its level in 2011. This will improve the liquidity and profitability of the company.

8. **What kinds of problems do you think Andy would have to cope with when doing a comprehensive financial statement analysis of Gillian Pool & Spa Supplies? What are the limitations of financial statement analysis in general?**

   General Problems

Selection of comparison benchmark

Accounting procedures differ.

Different fiscal year end

Seasonal businesses

Extraordinary gains/losses

Specific Problems

Selection of appropriate benchmark/ industry averages