

Quarter:	First	Second	Third	Fourth
Cash requirements				
1. Cash required for operations	45	15	-26.0	-35
2. Interest on line of credit	0	0.8	0.9	0.6
3. Interest on stretched payables	0	0	0.5	0
4. Total cash required	45	15.8	-24.6	-34.4
Cash raised				
5. Bank loan	40	5	0	0
6. Stretched payables	0	10.8	0	0
7. Securities sold	5	0	0	0
8. Total cash raised	45	15.8	0	0
Repayments				
9. Of stretched payables	0	0	10.8	0
10. Of bank loan	0	0	13.8	31.2
Increase in cash balances				
11. Addition to cash balances	0	0	0	3.2
Bank loan				
12. Beginning of quarter	0	40	45	31.2
13. End of quarter	40	45	31.2	0

- 19.6 Bank A: The interest paid on the \$20 million loan over the 6-month period will be \$20 million \times .07/2 = \$7 million. With a 20 percent compensating balance, \$16 million is available to the firm. The effective annual interest rate is

$$\begin{aligned} \text{Effective annual rate on a} &= \left(1 + \frac{\text{actual interest paid}}{\text{borrowed funds available}}\right)^m - 1 \\ \text{loan with compensating balances} &= \left(1 + \frac{\$7 \text{ million}}{\$16 \text{ million}}\right)^2 - 1 = .0894, \text{ or } 8.94\% \end{aligned}$$

Bank B: The compound annual interest rate on the simple loan is

$$\begin{aligned} \text{Effective annual rate} &= \left(1 + \frac{\text{quoted interest rate}}{m}\right)^m - 1 \\ &= \left(1 + \frac{.08}{2}\right)^2 - 1 = 1.04^2 - 1 = .0816, \text{ or } 8.16\% \end{aligned}$$

Bank C: The compound annual interest rate is

$$\begin{aligned} \text{Effective annual rate} &= \left(\frac{1}{1 - \frac{\text{annual interest rate}}{m}}\right)^m - 1 \\ \text{on a discount loan} &= \left(\frac{1}{1 - \frac{.075}{2}}\right)^2 - 1 = \left(\frac{1}{.9625}\right)^2 - 1 = .0794, \text{ or } 7.94\% \end{aligned}$$

MINICASE

Capstan Autos operated an East Coast dealership for a major Japanese car manufacturer. Capstan's owner, Sidney Capstan, attributed much of the business's success to its no-frills policy of competitive pricing and immediate cash payment. The business was basically a simple one—the firm imported cars at the begin-

ning of each quarter and paid the manufacturer at the end of the quarter. The revenues from the sale of these cars covered the payment to the manufacturer and the expenses of running the business, as well as providing Sidney Capstan with a good return on his equity investment.

By the fourth quarter of 2009 sales were running at 250 cars a quarter. Since the average sale price of each car was about \$20,000, this translated into quarterly revenues of $250 \times \$20,000 = \5 million. The average cost to Capstan of each imported car was \$18,000. After paying wages, rent, and other recurring costs of \$200,000 per quarter and deducting depreciation of \$80,000, the company was left with earnings before interest and taxes (EBIT) of \$220,000 a quarter and net profits of \$140,000.

The year 2010 was not a happy year for car importers in the United States. Recession led to a general decline in auto sales, while the fall in the value of the dollar shaved profit margins for many dealers in imported cars. Capstan more than most firms foresaw the difficulties ahead and reacted at once by offering 6 months' free credit while holding the sale price of its cars constant. Wages and other costs were pared by 25 percent to \$150,000 a quarter, and the company effectively eliminated all capital expenditures. The policy appeared successful. Unit sales fell by 20 percent to 200

units a quarter, but the company continued to operate at a satisfactory profit (see table).

The slump in sales lasted for 6 months, but as consumer confidence began to return, auto sales began to recover. The company's new policy of 6 months' free credit was proving sufficiently popular that Sidney Capstan decided to maintain the policy. In the third quarter of 2010 sales had recovered to 225 units; by the fourth quarter they were 250 units; and by the first quarter of the next year they had reached 275 units. It looked as if by the second quarter of 2011 the company could expect to sell 300 cars. Earnings before interest and tax were already in excess of their previous high, and Sidney Capstan was able to congratulate himself on weathering what looked to be a tricky period. Over the 18-month period the firm had earned net profits of over half a million dollars, and the equity had grown from just over \$1.5 million to about \$2 million.

Sidney Capstan was first and foremost a superb salesman and always left the financial aspects of the business to his financial

SUMMARY INCOME STATEMENT (all figures except unit sales in thousands of dollars)						
Year:	2009		2010			2011
Quarter:	4	1	2	3	4	1
1. Number of cars sold	250	200	200	225	250	275
2. Unit price	20	20	20	20	20	20
3. Unit cost	18	18	18	18	18	18
4. Revenues (1×2)	5,000	4,000	4,000	4,500	5,000	5,500
5. Cost of goods sold (1×3)	4,500	3,600	3,600	4,050	4,500	4,950
6. Wages and other costs	200	150	150	150	150	150
7. Depreciation	80	80	80	80	80	80
8. EBIT ($4 - 5 - 6 - 7$)	220	170	170	220	270	320
9. Net interest	4	0	76	153	161	178
10. Pretax profit ($8 - 9$)	216	170	94	67	109	142
11. Tax ($.35 \times 10$)	76	60	33	23	38	50
12. Net profit ($10 - 11$)	140	110	61	44	71	92

SUMMARY BALANCE SHEETS (figures in thousands of dollars)		
	End of 3rd Quarter 2009	End of 1st Quarter 2011
Cash	10	10
Receivables	0	10,500
Inventory	4,500	5,400
Total current assets	4,510	15,910
Fixed assets, net	1,760	1,280
Total assets	6,270	17,190
Bank loan	230	9,731
Payables	4,500	5,400
Total current liabilities	4,730	15,131
Shareholders' equity	1,540	2,059
Total liabilities	6,270	17,190

manager. However, there was one feature of the financial statements that disturbed Sidney Capstan—the mounting level of debt, which by the end of the first quarter of 2011 had reached \$9.7 million. This unease turned to alarm when the financial manager phoned to say that the bank was reluctant to extend further credit and was even questioning its current level of exposure to the company.

Mr. Capstan found it impossible to understand how such a successful year could have landed the company in financial difficulties. The company had always had good relationships with its bank,

and the interest rate on its bank loans was a reasonable 8 percent a year (or about 2 percent a quarter). Surely, Mr. Capstan reasoned, when the bank saw the projected sales growth for the rest of 2011, it would realize that there were plenty of profits to enable the company to start repaying its loans.

Mr. Capstan kept coming back to three questions: Was his company really in trouble? Could the bank be right in its decision to withhold further credit? And why was the company's indebtedness increasing when its profits were higher than ever?