

- 17.3** Viscotech, Inc. is planning to enter the field of electro-optical systems for automated optical inspection and detection of defects in manufacturing components and modules. The projected financial revenues and income are shown in Table 17.9. The firm plans to start with an equity investment of \$1,000,000 and a five-year loan of \$500,000. Determine the cash on hand at the end of each year. Also, determine the return on equity and the return on investment for each year.
- 17.4** A new venture is launched with an initial investment (cash on hand) of \$80,000. It generates sales of \$40,000 each month. It has monthly operating costs of \$36,000. The firm purchases equipment costing \$30,000 each month for the first 4 months. Calculate the return on investment at the end of 12 months. Determine if the cash on hand remains positive at the end of each month. What, if any, investment is required and when?
- 17.5** A software firm has fixed costs of \$800,000 and variable costs of \$12 per unit. Calculate the breakeven quantity (Q) when each unit sells for \$50. If the firm sells 50,000 units in a year, what is its profit for that year? Assume the tax rate for the firm is 20 percent.
- 17.6** A new firm, Sensor International, is preparing a plan based on its new device to be used in a security network. The cost of manufacturing, marketing, and distributing a package of six sensors is 14 cents, and the price to the distributor is 68 cents. The firm calculates its one-time fixed costs at \$121,000. Determine the number of units required for breakeven.
- 17.7** Continuing exercise 17.6, Sensor International sells 300,000 packages in its first year and 400,000 in its second. If the investor's original investment was \$100,000, determine the return on investment in year 1 and year 2 for the firm. Assume a tax rate of 20 percent.
- 17.8** Reconsider the firm described in exercise 17.6 when it is determined that fixed costs have declined to \$30,000 and the firm has determined by studies that it can only expect to sell 60 units this year. What price should it select to ensure selling the 60 units profitably?

TABLE 17.9 Viscotech projections.

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	1,500	3,400	5,900	10,600	15,400
Income after tax	(500)	(100)	200	400	600
Depreciation	250	300	350	400	400
Average shareholders' equity	1,000	700	600	800	1,400
Long-term debt	500	450	300	200	100

Note: All figures are in thousands of dollars.