

# Making Capital Investment Decisions Practice Problem

From the book: Self Test Problem 10.1-10.2. Question and Problems:1-9,13-14 (12th edition 1-9, 14, and 16)

1. You are in the ball business, your company "Balls 'R' Us" manufacture golf balls, tennis balls, footballs, baseballs, soccer balls. After your friend Patrick picked bowling for your weekly couples night out, you noticed a potential investment opportunity. The idea was to add brightly colored stylish bowling balls to Balls 'R' Us' product line. To test the idea they conducted consumer research in three large cities, the results were very positive. This research cost the firm \$250,000. The firm currently owns a building they could use to manufacture the bowling balls. The building is currently vacant but could be sold for \$150,000. The cost of the machine to make the bowling balls is \$100,000 and will last 5 years (use 5 year MACRS). The salvage value of the machine is \$30,000. Production will be 5000,8000,12000,10000,6000 in each year. The price will be \$20 in year one and grow at 2% per year. Production costs are \$10 and expected to grow at 10% per year due to rising costs of inputs. The marginal tax rate is 34%. Initial NWC will increase by \$10,000 and NWC will be equal to 10% of sales each year. The required return is 10%. What is the NPV and IRR.

## Answers to Textbook

11th Edition

- 1) \$21,450,000 2) \$516,100,000  
3) \$70,590 4) \$172,408; \$29,716 5) \$55,370  
6)

Year	Depreciation	End-of-year BV
1	177,196.00	1,062,804.00
2	303,676.00	759,128.00
3	216,876.00	542,252.00
4	154,876.00	387,376.00
5	110,732.00	276,644.00
6	110,608.00	166,036.00
7	110,732.00	55,304.00
8	55,304.00	0

- 7) \$224,700 8) \$1,433,120 9) \$1,232,083  
13) \$46,315.33 14) 14.74%

12th Edition

- 1) \$23,150,000 2) \$703,400,000  
3) \$70,784 4) \$148,112; \$19,646 5) \$68,844  
6)

Year	Depreciation	End-of-year BV
1	196,487.50	1,178,512.50
2	336,737.50	841,775.00
3	240,487.50	601,287.50
4	171,737.50	429,550.00
5	122,787.50	306,762.50
6	122,650.00	184,112.50
7	122,787.50	61,325.00
8	61,325.00	0

- 7) \$166,520 8) \$1,449,069 9) \$1,019,550  
14) \$93,405.59 16) 14.29%

### Answer to above problems

- 1) NPV: 51.59 (in thousands) IRR: 15.68%