ANSWERS TO SELECTED END-OF-CHAPTER PROBLEMS

C

CHAPTER 2

2. $310,470
6. $1,219,000
10. $1,290,000
12. a. $96,755
b. $17,800
c. $13,100
d. $1,155
18. a. −$45,000
b. $165,000
19. a. 2017: $3,069
2018: $3,959
b. $42
c. Fixed assets sold = $118
Cash flow from assets = $4,399
d. Cash flow to creditors = $221
Debt retired = $337

CHAPTER 3

2. Net income = $835,000
ROA = 6.47%
ROE = 11.60%
6. EPS = $3.74
DPS = $1.29
BVPS = $32.94
Market-to-book ratio = 1.97 times
PE ratio = 17.40 times
P/S ratio = 1.48 times
10. 82.74 days
18. $208.37
22. Firm A: 14.29%
Firm B: 16.36%
26. a. 1.17 times; 1.30 times
b. .69 times; .79 times
c. .45 times; .45 times
d. .81 times
e. 8.19 times
f. 18.24 times
g. .34 times; .36 times
h. .53 times; .57 times
i. 1.53 times; 1.57 times
j. 5.22 times
k. 7.47%
l. 12.29%
m. 9.91%
n. 15.58%

CHAPTER 4

2. $990
5. $318.00
12. 6.04%
16. 9.89%
19. 1.36 times
21. Sustainable growth rate = 15.46%
New borrowing = $11,904.11
Internal growth rate = 6.17%

CHAPTER 5

2. $8,929.88; $13,734.06; $363,508.30; $487,874.54
6. 9.01%
10. $150,568,214.49
14. −4.46%
18. $400,897.66; $154,563.40

CHAPTER 6

2. @ 5%: PV_X = $27,145.49
PV_Y = $26,409.81
@ 15%: PV_X = $18,846.75
PV_Y = $20,448.15
6. $252,415.91
10. $744,680.85
14. First National EAR = 13.92%
First United EAR = 13.85%
18. $32,529.18
22. APR = 1,733.33%
EAR = 313,916,515.69%
26. $38,126.53
30. 5.64% semiannual
2.78% quarterly
.92% monthly
38. $3,058,897.35
42. $343,996.22
46. Profit = $3,815.99
Break-even rate = 12.14%

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50. $84,121.21
54. $1,103.54
58. PV of lease payments = $20,899.86
PV of purchase = $19,601.94
Break-even resale price = $26,446.80
60. 17.51%
64. 3.033 points
70. Value of payments at 65 = $328,996.36
74. $178,442.82; $144,645.85

CHAPTER 7

4. 2.97%
8. 5.75%
12. Approximate real rate = 2.50%
Exact real rate = 2.45%
26. YTM = 4.89%; Current yield = 5.23%
28. a. $298.13
b. First year = $14.79; Last year = $47.26
c. $28.07

CHAPTER 8

2. 10.82%
6. $3.72
10. $13,975,043
14. $33.22
18. $68.64
20. $69.69

CHAPTER 9

4. 1.89 years; 2.23 years; 3.40 years
8. $2,816.58; −$4,028.70
12. a. 19.71%; 18.76%
b. $6,330.67; $8,138.59
c. 16.48%
16. a. 1.141; 1.267
b. $8,870.02; $4,146.13
22. a. $C = I/N$
b. $C > I/\text{PVIFA}_{R\%,N}$
c. $C = 2.0 * I/\text{PVIFA}_{R\%,N}$

CHAPTER 10

2. $703,400,000
8. $1,348,448
12. $\text{CF}_0 = -\$2{,}570{,}000$
$\text{CF}_1 = \$1{,}034{,}389.60$
$\text{CF}_2 = \$1{,}124{,}684.00$
$\text{CF}_3 = \$1{,}311{,}176.40$
NPV = $183,422.80
16. −$122,979.65
22. $.03126

CHAPTER 11

2. Total costs = $10,093,300
Marginal cost = $57.54
Average cost = $69.61
Minimum revenue = $287,700
8. D = $311,624
P = $46.97
VC = $74.94
12. OCF = $85,642
DOL = 3.043
18. DOL = 1.53
$\text{DOL}_A = 2.63$
22. $\Delta\text{NPV}/\Delta\text{P} = \$219{,}078.85$
$\Delta\text{NPV}/\Delta\text{Q} = \$1{,}606.58$
30. DOL = 1.35
ΔOCF = +4.51%

CHAPTER 12

2. $R_D = 2.23\%$
$R_C = 9.23\%$
6. $r_G = 2.91\%$
$r_C = 3.20\%$
16. $R_A = 10.89\%$
$R_G = 10.62\%$
20. 11.02%; 10.78%; 10.32%

CHAPTER 13

2. 10.04%
6. 10.80%
10. a. 10.51%
b. $\sigma_P^2 = .01378$
$\sigma_P = 11.74\%$
14. .88
16. 3.32%
24. C = $383,070.87
R_F = $101,929.13
26. $\beta_I = 1.74$
$\sigma_I = 6.78\%$
$\beta_{II} = .83$
$\sigma_{II} = 18.08\%$

CHAPTER 14

2. 10.46%
4. $R_A = 11.89\%$
$R_G = 11.88\%$
8. Book value = $135,000,000
Market value = $115,150,000
Aftertax cost = 4.84%
12. a. $E/V = .3373$
$D/V = .6627$
b. $E/V = .8108$
$D/V = .1892$

16. a. $D/V = .2684$
$P/V = .0461$
$E/V = .6854$
b. 8.68%
20. $25,626,741

CHAPTER 15

2. a. $53; anything greater than $0
b. 744,681; 5.24
c. $52.04; $.96
6. 3,133,641
12. $22.05
14. $29,904.31

CHAPTER 16

2. a. $1.86; $3.10; $4.02
b. $2.11; $4.02; $5.46
6. a. $5.36; $5.54; $5.27
b. $71,250; $71,250
c. $71,250
d. $4.23; $4.38; $4.16
e. $71,250; $71,250; $71,250
10. $1,369,200
12. a. 13.64%
b. 9.40%
c. 16.18%; 12.79%; 9.40%
16. $446,147.50

CHAPTER 17

2. a. 5,000 new shares
b. 12,500 new shares
4. a. $40.80
b. $59.13
c. $47.72
d. $119.00
e. 883,333; 609,500; 755,250; 302,857
8. Shares outstanding = 281,750
Capital surplus = $2,529,000
10. $P_0 = \$45.84$
$D = \$28.20$

CHAPTER 18

2. Cash = $1,385
Current assets = $6,160
4. a. *I,I*
b. *I,N*
c. *D,D*
d. *D,D*
e. *D,N*
f. *I,I*
8. a. $264.00; $252.00; $279.00; $279.45
b. $243.00; $264.00; $252.00; $279.00
c. $250.00; $260.00; $261.00; $279.15
14. a. 3.03%
b. 6.87%
c. 6.77%
18. 9.51%

CHAPTER 19

2. a. $68,000
−$44,000
$24,000
b. $68,000
−$22,000
$46,000
6. a. $26,712
b. 2.53 days
c. $26,712
d. $4.95
e. $10,865
10. NPV = $4,450,000
Net savings = $111,250

APPENDIX 19A

A.2 $3,366.50
A.4 a. Opportunity cost = $30
Trading cost = $350
b. $5,123.48
A.10 2.38%

CHAPTER 20

2. $2,608,219.18
6. Sales = $625,907.41
Accounts receivable turnover = 13.5185 times
10. NPV = $160,207.89
12. Carrying cost = $7,650
Order cost = $6,760
EOQ = 423.01
Orders = 55.32 per year
16. Net savings = $1,631.25

APPENDIX 20A

A.2 a. 1/20, net 30
b. $240,000
d. NPV = −$2,477,600
Break-even price = $108.42
Break-even discount = 8.68%
A.4 b. $70.45
c. NPV = $151,131.30

CHAPTER 21

6. Great Britain: 1.45%
Japan: 1.19%
Switzerland: 1.14%
10. b. Krone 8.4693
12. b. U.S. 1.64% greater

CHAPTER 23

2. Price = $17.81: Loss = $1,725
Price = $17.64: Gain = $2,525

CHAPTER 24

4. a. $7.69
b. $4.85
8. a. $E_0 = \$117.04$
$D_0 = \$922.96$
b. $E_0 = \$190.78$
14. a. $273,927.58
b. Abandon if $Q < 4{,}332$
20. a. $4,274,450.63
b. $3,819,874.85

CHAPTER 25

2. $6,791.91
6. 2.29%
10. $263,144.11
14. $5.48
16. Equity = $3,245.62
Debt = $12,954.38
22. a. $45,804.73
b. $9,044.63
c. $36,760.10; 11.40%
d. $33,098.68; 13.50%
e. Bondholders lose $3,661.42
Stockholders gain $3,661.42

CHAPTER 26

7. a. EPS = $5.40
PE = 11.11
9. .4215
13. a. £25.89
b. .8045

CHAPTER 27

2. −$47,138.11
6. $18,948.58