

Solutions to Study Problems II

Problem 4.1. a. NPV = 13.1378, $r_I = .3105$ b. NPV = 3.6317, $r_I = .7071$, $- .7071$

Problem 4.2. IRR = .11

Problem 4.3.a. $r_D = .1077$ b. $D = 10.0858$

Problem 4.4. a. $r_D = .0506$ b. $r_D = .07$

Problem 4.5. a. $r_E = .1700$ b. $r_E = .1425$ c. $P = \$93.7500$

Problem 4.6. a. $P = \$80.3571$, $\widehat{DY} = .028$, $\widehat{RCG} = .10$

b. $P_3 = \$106.9554$, $\widehat{DY} = .028$, $\widehat{RCG} = .10$

c. $\hat{P} = \$20.8333$, $\widehat{DY} = .108$, $\widehat{RCG} = .02$

d. $\hat{P} = \$80.3568$, $\widehat{DY} = .0204$, $\widehat{RCG} = .1076$

Problem 5.1. a. Payment = 1,513.086 b. $V_{ITS} = 24.4181$ c. $V_{ITS} = 158.7176$

Problem 5.2. a. $D = 430$, $r_D = .0615$ b. $F^A = 209.9965$, $V_{ITS}^A = 13.9281$

c. $V_{ITS}^B + V_{ITS}^{CP} = 80.5$ d. $V_{ITS}^C = 28.000$, $\hat{D} = 430$, $\hat{r}_D = .0615$

Problem 5.3. a. $r_E^B = .1233$ b. $r_P = .0929$ c. $D + E = \$3.71$ b., $CCC = .1057$

Problem 5.4. a. $E = 11,400$, $\widehat{DY} = .1263$, $\widehat{RCG} = .04$, $r_E = .1663$, $E_1 = 11,856$

b. $\hat{E} = 11,400$, $\widehat{DY} = .0568$, $\widehat{RCG} = .1095$, $\hat{r}_E = .1663$, $\hat{E}_1 = 11,856$, $K - \hat{K}_1 =$

$7.5142 m.$ c. $\hat{E} = 11,400$, $\widehat{DY} = .1467$, $\widehat{RCG} = .0196$, $\hat{r}_E = .1663$, $\hat{E}_1 = 11,856$

Problem 5.5. a. $r_D = 0.0600$ b. $r_A = 0.1140$

c. $D + E = 1025.8160$, $r_E = 0.1329$, $CCC = 0.1126$

d. $D + E = 1105.0000$, $r_E = 0.1295$, $CCC = 0.1079$

Problem 5.6. a. $r_A^M = 0.1297$, $r_A^R = 0.1398$ b. $V_A^M = 3,237.992$, $V_A^R = 2,003.434$

c. $D + E = 6,116.427$

Problem 5.7. a. $D + E = 950$, $r_E = .1462$ b. $V_A = 845$, $r_A = .1263$, $C_{At} = 106.700$

c. $D + E = 950$, $r_E = 0.1762$, $V_A = 845$, $r_A = 0.1493$, $C_{At} = 95(1.03)^{t-1} + 11.7$

Problem 5.8. a. $D = 1,012.5$, $P = \$1.8243$ b. $V_{ITS} = 1,299.4$, $V_A = 1,400.6$

c. $g = .08$, $r_E = .2174$

Problem 5.9. a. $r_E^X = .1225$, $r_E^Y = .1326$, $r_E^Z = .1365$

b. $r_A^X = .1150$, $r_A^Y = .1270$, $r_A^Z = .1265$ **c.** $r_A = .1221$

Problem 5.10. a. $r_D = 0.0333$, $r_E = 0.0928$ **b.** $r_A = 0.0822$ **c.** $r_A^C = 0.0764$

Problem 6.1. a. $D + E = 50,000$ **b.** $V_A = 46,500$

c. $APV = 2,900$, $\hat{D} + \hat{E} = 57,900$, $\hat{E} = 43,900$, $\hat{P} - P = \$3.6250$, $\hat{K} - K = 18.6480$ m.

d. $APV = 2,550$, $\hat{D} + \hat{E} = 57,550$, $\hat{E} = 44,550$, $\hat{P} - P = \$5.6875$, $\hat{K} - K = 0$

e. $APV = 1,989$, $\hat{D} + \hat{E} = 56,989$, $\hat{E} = 45,591$, $\hat{P} - P = \$2.4866$, $\hat{K} - K = 68.6300$ m.

Problem 6.2. a. $APV = 39.000$, $\hat{D} + \hat{E} = 639.000$, $\hat{E} = 349.000$, $\hat{P} - P = \$0.7800$,
 $\hat{K} - K = 10.3806$ m.

b. $APV = 39.000$, $\hat{D} + \hat{E} = 639.000$, $\hat{E} = 349.000$, $\hat{P} - P = \$1.9800$, $\hat{K} - K = 0$

c. $APV = 45.475$, $\hat{D} + \hat{E} = 613.975$, $\hat{E} = 295.475$, $\hat{P} - P = \$0.9095$, $\hat{K} - K = 0$

d. $APV = 51.515$, $\hat{D} + \hat{E} = 651.515$, $\hat{E} = 325.758$, $\hat{P} - P = \$1.0303$,
 $\hat{K} - K = 4.0201$ m.

Problem 6.3. a. $APV = 2,867.500$, $\hat{D} + \hat{E} = 57,900.000$, $\hat{E} = 43,900.000$,
 $\hat{P} - P = \$3.6250$, $\hat{K} - K = 18.6480$ m.

b. $APV = 1,872.1774$, $\hat{D} + \hat{E} = 56,989.2473$, $\hat{E} = 45,591.3978$, $\hat{P} - P = \$2.4866$,
 $\hat{K} - K = 68.6300$ m.

c. $APV = 845.000$, $\hat{D} + \hat{E} = 52,500.000$, $\hat{E} = 42,500.000$, $\hat{P} - P = \$3.1250$, $\hat{K} - K = 0$

Problem 6.4. a. $r^* = .1057$ **b.** $APV = 73.9986$ **c.** $r_A = .1158$, $APV = 73.9986$

Problem 6.5. a. $\hat{D} + \hat{E} - (D + E) = -1,224.300$, $\hat{V}_A - V_A = -1,224.300$

b. $N_D = -569.3445$, $\hat{K} - K = 6.8745$ m., $\hat{D} + \hat{E} = 15,578.9294$, $\hat{P} = \$82.8201$

c. $APV = 8,350.6924$, $\hat{D} + \hat{E} = 35,229.6219$, $\hat{P} = \$187.2863$