Financial Management

University Elective

Credit Management

Numerical 1

The effect of relaxing credit policy on the residual income would be:

$$\Delta RI = [\Delta S(1-V) - \Delta S\, bn](1-t) - K\,\Delta I$$

$$= [50,00,000 \times 0.10 - 50,00,000 \times 0.04](1-0.4) - 0.12(500000)$$

$$= 1,20,000$$

[WN1]

$$\Delta I = \frac{\Delta S}{360} \times ACP \times V = \frac{50,00,000}{360} \times 40 \times 0.9 = 5,00,000$$

Answer: Since the impact of relaxing credit policy on net profit is positive, the proposed change is desirable.

Numerical 2

The effect of relaxing credit policy on the residual income would be :

$$\Delta RI = [\Delta S(1-V) - \Delta S\, bn](1-t) - k\Delta I$$

$$= [12000000(0.18) - 12000000(0.08)](1-04) - 0.18(1968000)$$

$$= (2160000 - 960000)(0.6) - 354240$$

$$= 3,65,760$$

$\Rightarrow$ WN 1

$$\Delta I = \frac{\Delta S}{360} \times ACP \times V = \frac{12000000}{360} \times 72 \times 0.82 = 1968000$$

Answer: Since the impact of relaxing credit policy on net profit is positive, the proposed change is desirable.

Numerical 3

The effect of lengthening the credit period on the residual income could be:

$$\Delta RI = [\Delta S(1-V) - \Delta Sbn](1-t) - K\Delta I$$

$$= [1500000(1-0.6) - 1500000(0.05)](1-0.3) - 0.15(1361111)$$

$$= (600000 - 75000)(0.7) - 204167$$

$$= 163,333$$

$$\Delta I = (ACP_N - ACP_0)\left[\frac{S_0}{360}\right] + V(ACP_N)\frac{\Delta S}{360}$$

$$= (100-90)\left[\frac{40000000}{360}\right] + 0.6 \times 100 \times \frac{1500000}{360}$$

$$= 1111111 + 2,50,000 = 1361111$$

Answer: Since the impact of lengthening the credit period on the net profit is positive, the proposed alternative is desirable.

Numerical 4

The effect of lengthening the credit period on the residual income would be:

$$\Delta RI = [\Delta S(1-V) - \Delta S\, bn](1-t) - K\Delta I$$

$$= [2500000(1-0.80) - 2500000(0.02)](1-0.35) - 0.10(1388889)$$

$$= (500000 - 50{,}000)(0.65) - 138889$$

$$= 153611$$

$\Rightarrow$ IN N1

$$\Delta I = (ACP_N - ACP_O)\left[\frac{S_O}{360}\right] + V(ACP_N)\frac{\Delta S}{360}$$

$$= (50 - 30)\left[\frac{20000000}{360}\right] + 0.80 \times 50 \times \frac{2500000}{360}$$

$$= 1111111 + 277778 = 1388889$$

Answer: Since the impact of lengthening the credit period on the net profit is positive, the proposed alternative is desirable.

* Numerical 5

The effect of relaxing discount policy on the residual income would be:

$$\Delta RI = [\Delta S(1-V) - \Delta DIS](1-t) + K\Delta I$$

$$= [600000(1-0.8) - 59200](1-0.4) + 0.15(100444)$$

$$= 36480 + 15066.6$$

$$= 51546.6$$

$$\Delta DIS = P_n(S_0 + \Delta S)d_n - P_0 S_0 d_0$$

$$= 0.35(10000000 + 600000)0.02 - 0.15(10000000)(0.01)$$

$$= 74200 - 15000$$

$$= 59200$$

$$\Delta I = \frac{S_0}{360}(ACP_0 - ACP_N) - V\frac{\Delta S}{360} ACP_N$$

$$= \frac{10000000}{360}(12-8) - 0.8 \times \frac{600000}{360} \times 8$$

$$= 111111 - 10667 = 100444$$

Answer: Since the impact of relaxing the discount policy on residual income is positive, the proposed alternative is desirable.

Numerical 6

The effect of relaxing discount policy on the residual income would be:

$$\Delta RI = [\Delta S(1-V) - \Delta DIS](1-t) + K\Delta I$$

$$= [2400000(1-0.80) - 168000](1-0.4) + 0.10(608000)$$

$$= 312000(0.6) + 60800$$

$$= 248000$$

⇒ WN1

$$\Delta DIS = P_n(S_0 + \Delta S)d_n - P_0 S_0 d_0$$

$$= 0.5(24000000 + 24,00,000)0.02 - 0.4(24000000)(0.01)$$

$$= 264000 - 96000 = 168000$$

⇒ WN2

$$\Delta I = \frac{S_0}{360}(ACP_0 - ACP_N) - V\frac{\Delta S}{360} ACP_N$$

$$= \frac{24000000}{360}(48 - 36) - \frac{0.80}{} \times \frac{2400000}{360} \times 36$$

$$= 800000 - 192000 = 608000$$

Answer: Since the impact of relaxing discount policy on the residual income is positive, the proposed alternative is desirable

* Numerical 7

The effect of relaxing the collection effort on the residual income would be:

$$\Delta RI = [\Delta S(1-v) - \Delta BD](1-t) - K\Delta I$$

$$= [2000000(1-0.70) - 620000](1-0.4) - 0.15(1791111)$$

$$= -12000 - 268667$$

$$= -280667$$

$$\Delta BD = bn(S_0 + \Delta S) - b_0 S_0$$

$$= 0.06(50000000 + 2000000) - 0.05(50000000)$$

$$= 3120000 - 2500000$$

$$= 620000$$

$$\Delta I = \frac{S_0}{360}(ACP_N - ACP_0) + \frac{\Delta S}{360} ACP_N V$$

$$= \frac{50000000}{360}(32-20) + \frac{2000000}{360} \times 32 \times 0.7$$

$$= 1666667 + 124444$$

$$= 1791111$$

Answer: Since the impact of relaxing collection effort on the residual income is negative, the proposed alternative is not desirable.

Numerical 8

The effect of relaxing collection effort on the residual income could be:

$$\Delta RI = [\Delta S(1-V) - \Delta BD](1-t) - K\Delta I$$

$$= [3000000(1-0.8) - 950000](1-0.3) - 0.12(204444.5)$$

$$= -490333$$

$$\Delta BD = b_N(S_0 + \Delta S) - b_0 S_0$$

$$= 0.01(80000000 + 3000000) - 0.04(80000000)$$

$$= 9500000$$

$$\Delta I = \frac{S_0}{360}(ACP_N - ACP_0) + \frac{\Delta S}{360} ACP_N V$$

$$= \frac{80000000}{360}(40-32) + \frac{3000000}{360} \times 40 \times 0.80$$

$$= 204444.5$$

Answer: Since the impact of relaxing collection effort on the residual income is negative, the proposed alternative is not desirable

Numerical 9

20% of the sales will be collected on the 10th day
80% of the sales will be collected on the 40th day

$$ACP = 0.20 \times 10 + 0.8 \times 40 = 34 \text{ days}$$

$$\text{Value of receivables} = \frac{\text{Sales}}{360} \times ACP$$

$$= \frac{10000000}{360} \times 34$$

$$= 9444444$$

Assuming V is the proportion of variable cost to sales, the investment in receivables is:

Rs $9444444 \times V$

Numerical 10

40-1. of the sales will be collected on the 15th day

60-1. of the sales will be collected on the 25th day

$$ACP = 0.4 \times 15 + 0.6 \times 25 = 21 \text{ days}$$

$$\text{value of receivables} = \frac{\text{Sales}}{360} \times ACP$$

$$= \frac{20000000}{360} \times 21$$

$$= 1166667$$

$$\text{variable cost ratio} = \frac{15000000 \text{ (COGS)}}{20000000 \text{ (Sales)}} = 0.75$$

$$\text{Investment in Receivables} = 1166667 \times 0.75$$

$$= 875000$$