

FIGURE 2.1
Economic cash flow diagram.

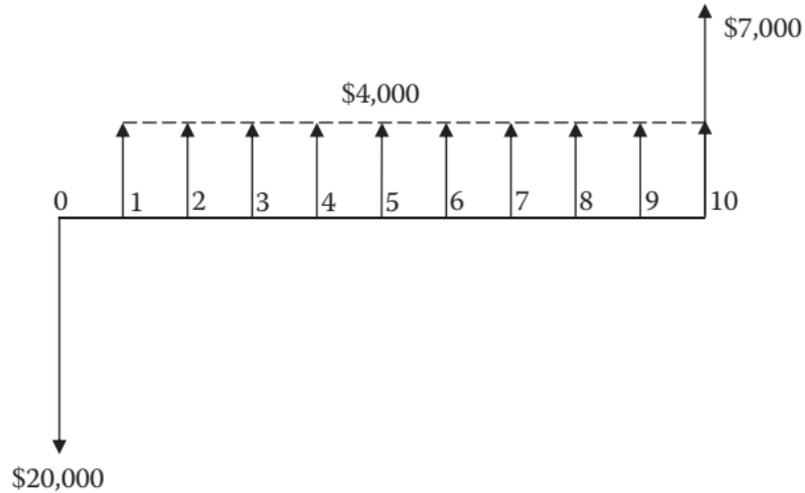


FIGURE 2.2

An equivalent version of the cash flow diagram shown in Figure 2.1.

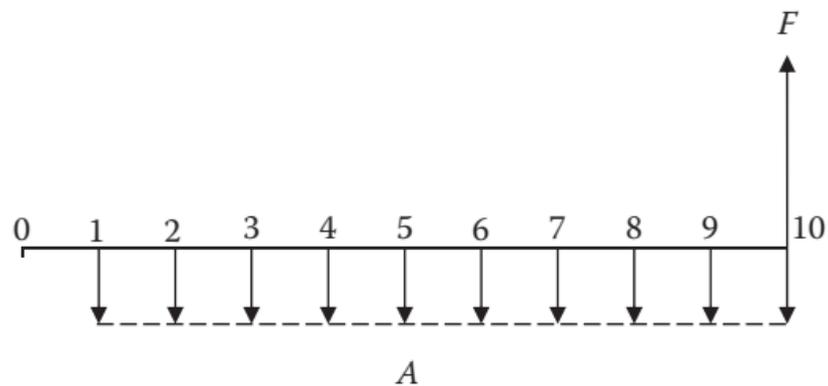


FIGURE 2.3

Cash flow diagram showing the equivalence between a uniform series, A , and a future sum, F .

Courtesy of CRC Press/Taylor & Francis Group

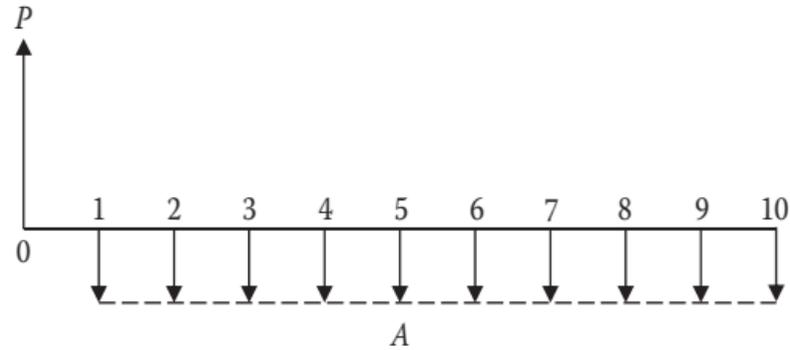


FIGURE 2.4

Cash flow diagram showing the equivalence between a uniform series, A , and a present value, P .

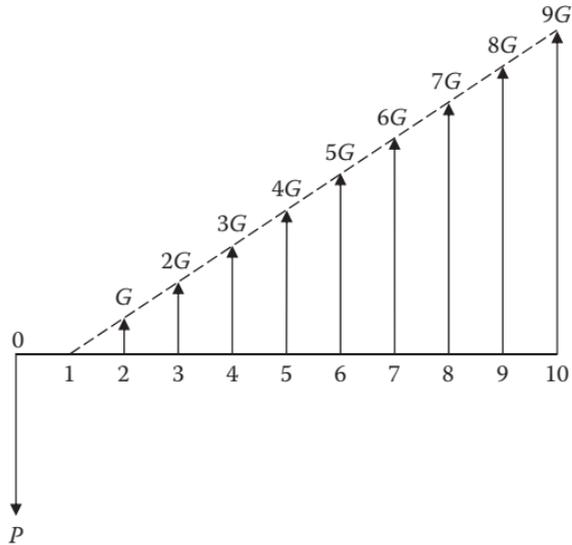


FIGURE 2.5

Cash flow diagram showing the equivalence of a uniform linearly increasing series and a present value.

Example 2.5 - Using Microsoft Excel			
GIVEN:	$A_p =$	\$ 50,000.00	Annual profit increase due to equipment
	$A_o =$	\$ 1,000.00	Annual operation cost
	$S =$	\$ 5,000.00	Salvage value of equipment at year n
	$G =$	\$ 1,000.00	Maintenance gradient
	$n =$	10	Number of periods in the analysis (years)
FIND:	$i =$	15.62%	Rate of return (interest rate)
			Calculated with Goal Seek
	$P + A_o \left(\frac{P}{A}, i, n \right) + G \left(\frac{P}{G}, i, n \right) = A_p \left(\frac{P}{A}, i, n \right) + S \left(\frac{P}{F}, i, n \right)$		
COSTS:	$P =$	\$ 225,000.00	Initial cost of equipment
	$A_o^*(P/A, i, n) =$	\$4,902.40	Calculated with PV function
1	$G^*(P/E, i, 1) =$	\$0.00	Calculated with PV function
2	$G^*(P/E, i, 2) =$	\$748.06	Calculated with PV function
3	$G^*(P/E, i, 3) =$	\$1,293.99	Calculated with PV function
4	$G^*(P/E, i, 4) =$	\$1,678.76	Calculated with PV function
5	$G^*(P/E, i, 5) =$	\$1,935.96	Calculated with PV function
6	$G^*(P/E, i, 6) =$	\$2,093.02	Calculated with PV function
7	$G^*(P/E, i, 7) =$	\$2,172.30	Calculated with PV function
8	$G^*(P/E, i, 8) =$	\$2,191.97	Calculated with PV function
9	$G^*(P/E, i, 9) =$	\$2,166.67	Calculated with PV function
10	$G^*(P/E, i, 10) =$	\$2,108.21	Calculated with PV function
	PV COSTS =	\$ 246,291.34	
INCOMES:	$A_p^*(P/A, i, n) =$	\$245,120.11	Calculated with PV function
	$S^*(P/E, i, n) =$	\$1,171.23	Calculated with PV function
	PV INCOMES =	\$246,291.34	
	PV(COST - INCOME) =	\$ (0.00)	Set to zero in Goal Seek

FIGURE 2.6
Microsoft Excel solution of Example 2.5.

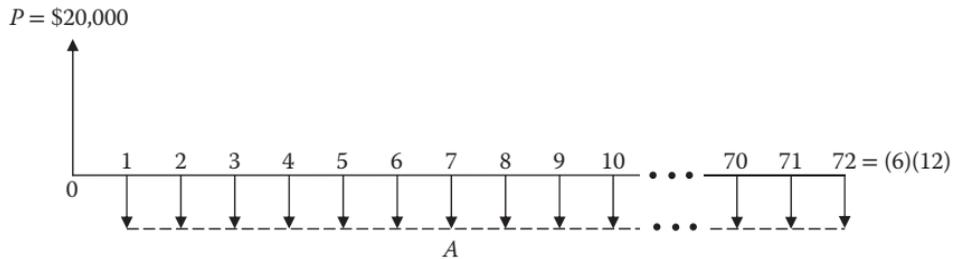


FIGURE E2.2

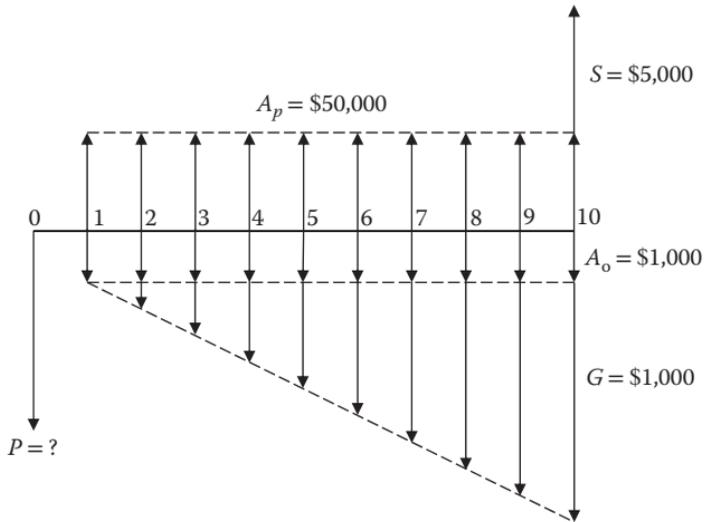


FIGURE E2.4

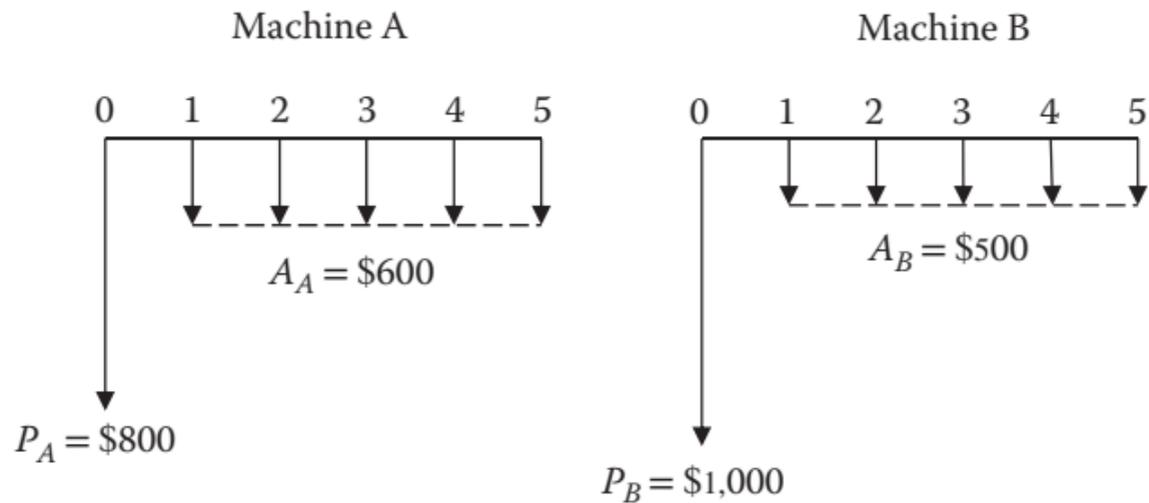


FIGURE E2.6

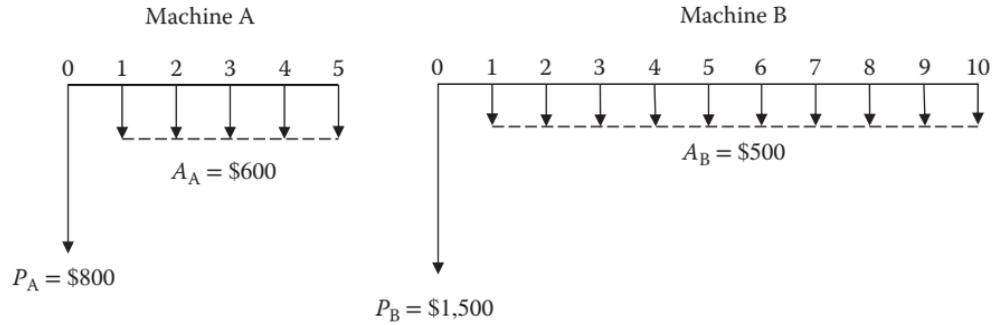


FIGURE E2.7A

Courtesy of CRC Press/Taylor & Francis Group

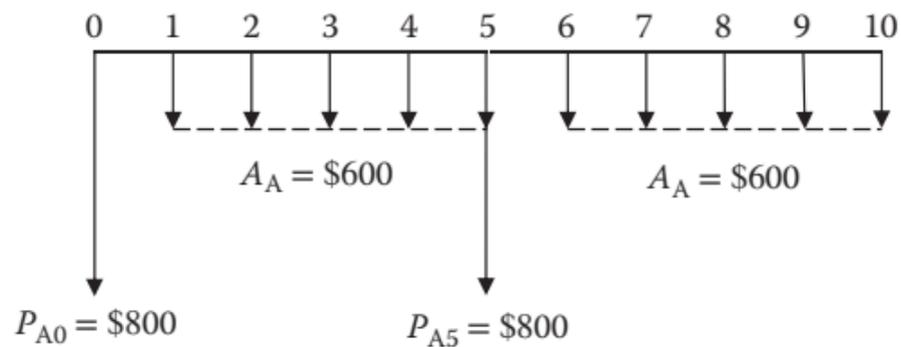


FIGURE E2.7B

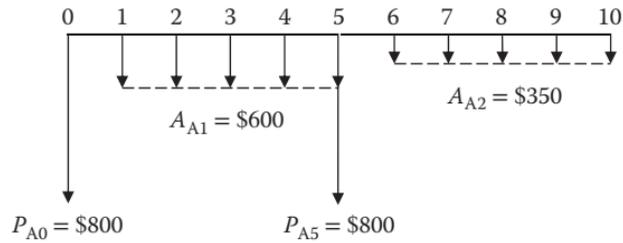


FIGURE E2.7C

Courtesy of CRC Press/Taylor & Francis Group

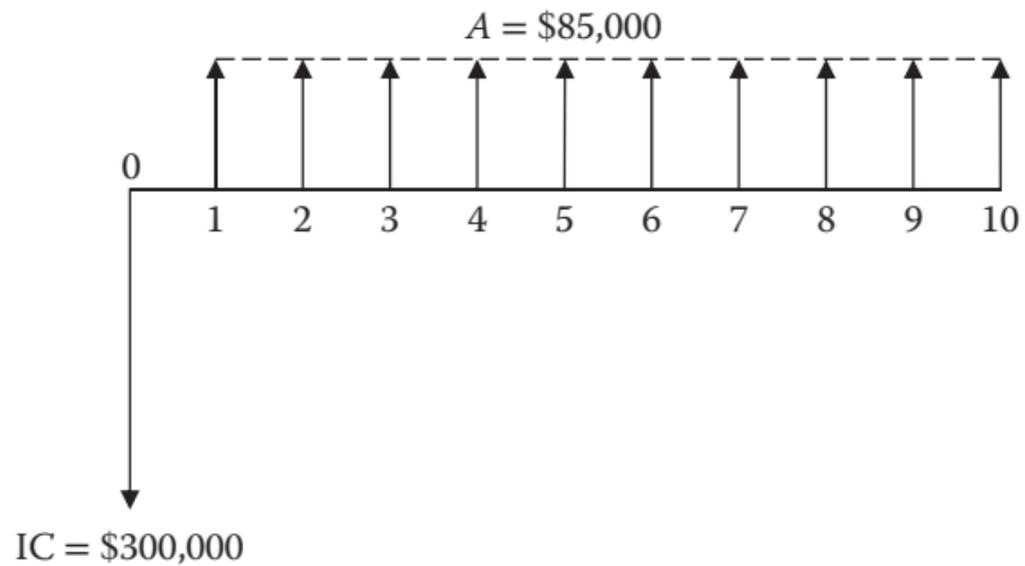


FIGURE E2.8A

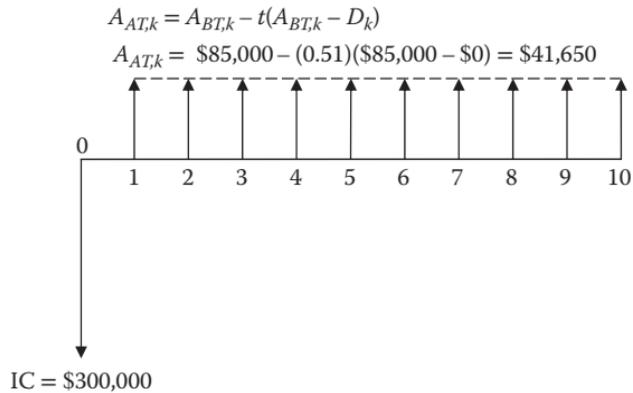


FIGURE E2.8B

Courtesy of CRC Press/Taylor & Francis Group

$$A_{AT,k} = A_{BT,k} - t(A_{BT,k} - D_k)$$
$$A_{AT,k} = \$85,000 - (0.51)(\$85,000 - \$30,000) = \$56,950$$

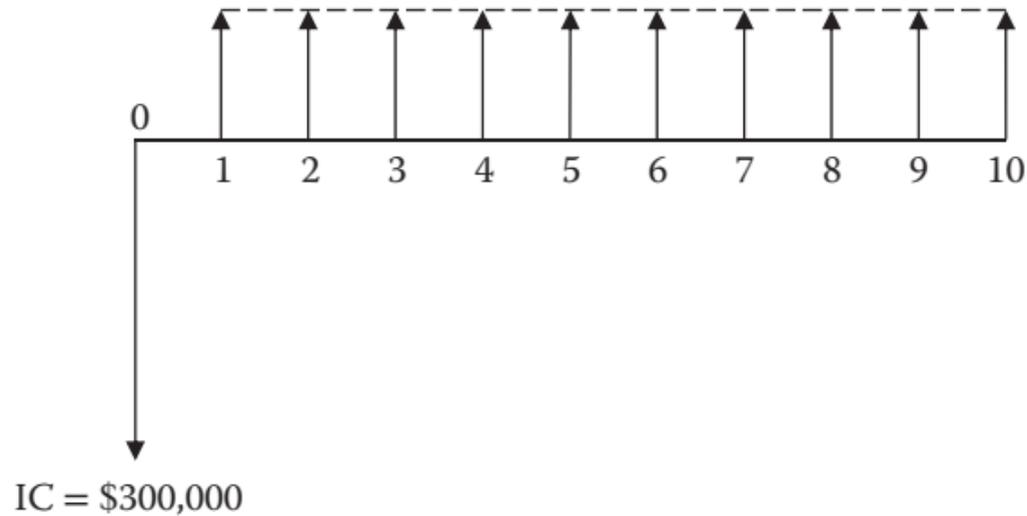


FIGURE E2.8C

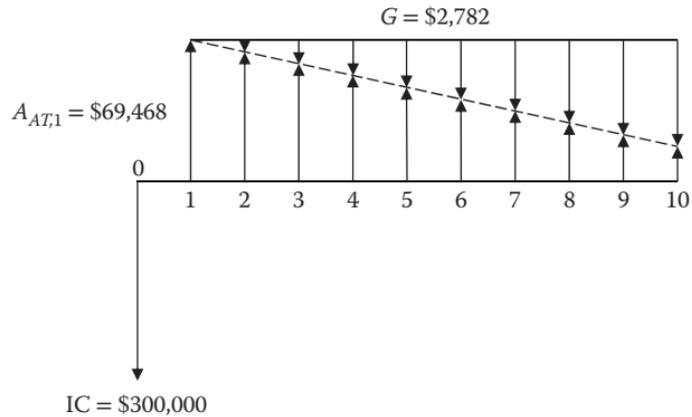


FIGURE E2.8D

Courtesy of CRC Press/Taylor & Francis Group

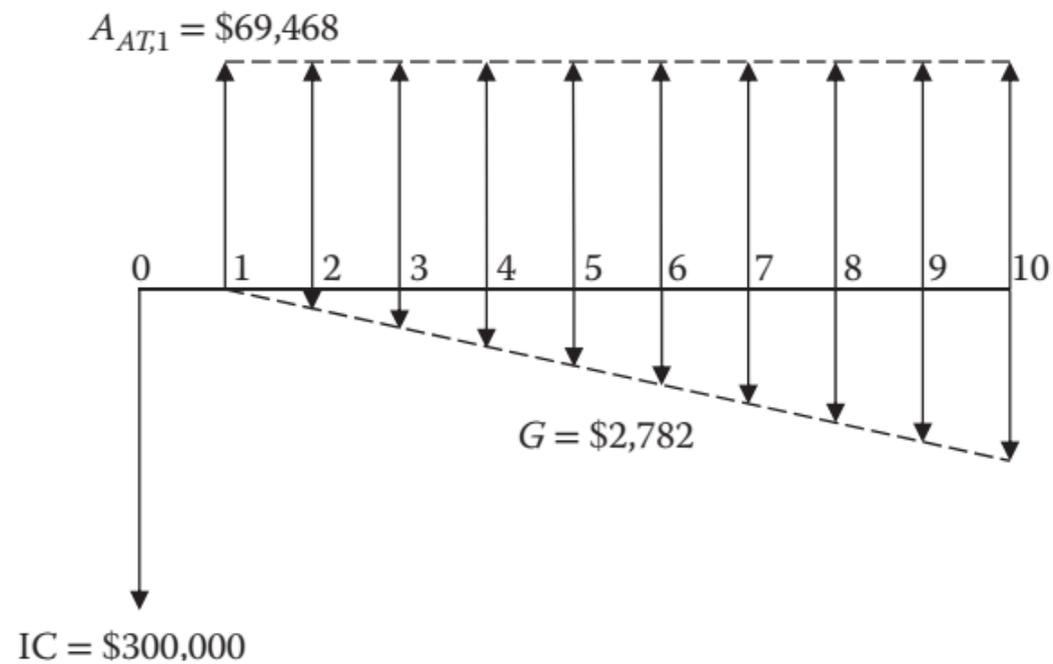


FIGURE E2.8E

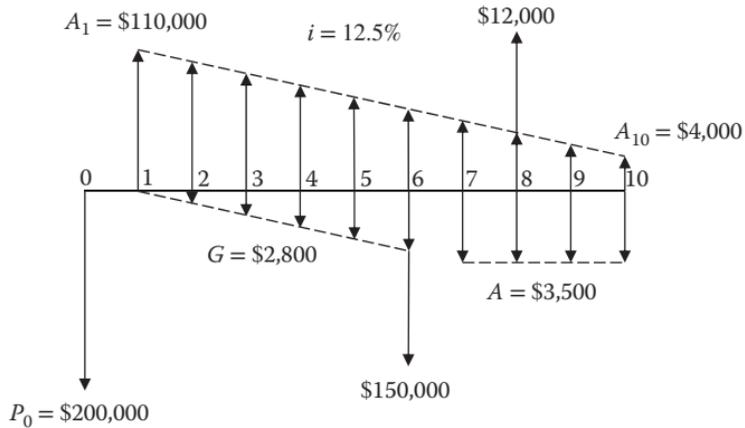


FIGURE P2.7

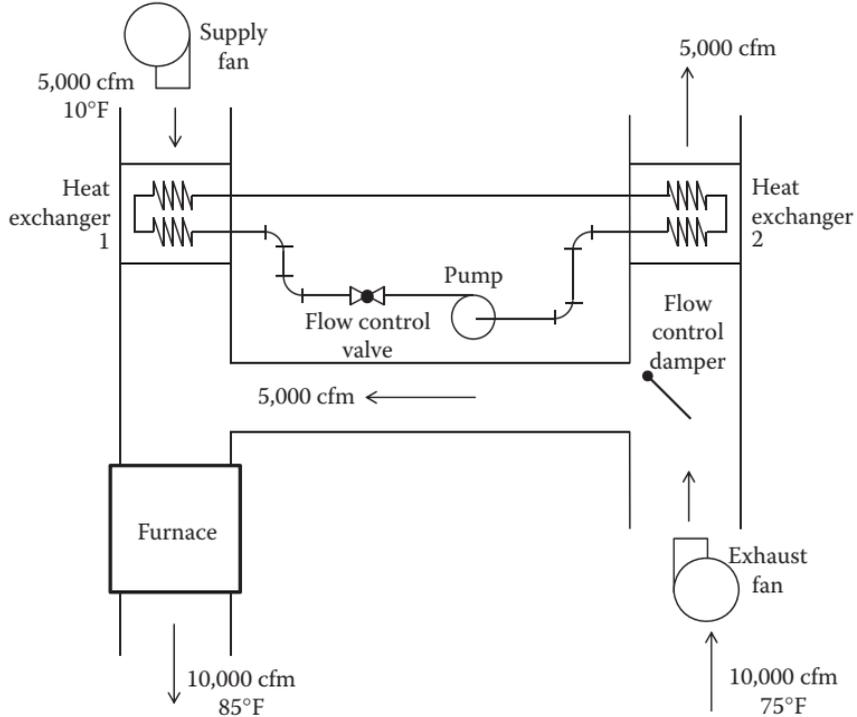


FIGURE P2.12