

EXERCISE 3

We work at the financial department of a road pavement company and we want to make a cash-flow forecast analysis for the following 12 months.

During this period, we consider the works for the coming projects 1, 2 and 3. The estimation of costs are as follows:

Month	Project 1	Project 2	Project 3
1	£10,000	£5,000	£20,000
2	£30,000	£20,000	£40,000
3	£50,000	£60,000	£70,000
4	£50,000	£80,000	£20,000
5	£50,000	£80,000	£10,000
6	£10,000	£60,000	
7	£5,000	£20,000	
8		£10,000	

Profit: 8%

Retention: 5%

Payments: 1 month after valuation

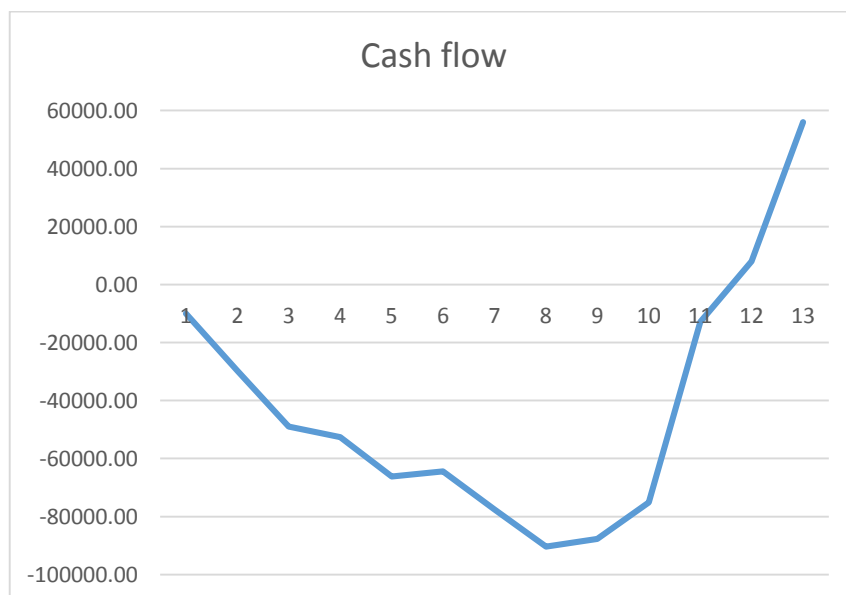
1. The company can invest £100,000 in these works. Make a distribution of this cost so that the locked-up capital is less than this capital.
2. Draw a cash-flow diagram and analyse it.
3. What happens if the contractors cannot afford this capital and has to borrow it at 7% rate?

SOLUTIONS

One possible distribution

Month	Project 1	Project 2	Project 3
1	£10,000		
2	£30,000		
3	£50,000		
4	£50,000	£5,000	
5	£50,000	£20,000	
6	£10,000	£60,000	
7	£5,000	£80,000	
8		£80,000	£20,000
9		£60,000	£40,000
10		£20,000	£70,000
11		£10,000	£20,000
12			£10,000

Month	Cash in	Cash out	Cumulative	Cash flow
1		10000.00	10000.00	-10000.00
2	10260.00	30000.00	40000.00	-29740.00
3	30780.00	50000.00	79740.00	-48960.00
4	51300.00	55000.00	103960.00	-52660.00
5	56430.00	70000.00	122660.00	-66230.00
6	71820.00	70000.00	136230.00	-64410.00
7	71820.00	85000.00	149410.00	-77590.00
8	87210.00	100000.00	177590.00	-90380.00
9	102600.00	100000.00	190380.00	-87780.00
10	102600.00	90000.00	177780.00	-75180.00
11	92340.00	30000.00	105180.00	-12840.00
12	30780.00	10000.00	22840.00	7940.00
	48060.00		-7940.00	56000.00



Simple interest:

$$615770 \times \frac{0.07}{12} = £3591.99$$

Cumulative interest:

$$\frac{615770}{11} \times \left(\left(1 + \frac{0.07}{12} \right)^{11} - 1 \right) = £3698.61$$

The company should afford this interest, and it will be deduced from benefits.