

Investment Appraisal

1. Nov 02/SP2/Qn1

$$\begin{aligned} \text{Payback} &= \frac{\$10,000}{\$2,700} \\ &= 3.7 \text{ years or (3 years 9 months)} \end{aligned}$$

2. May 04/SP2/Qn1

	Net cash inflow (\$)	Cumulative cash inflow (\$)
Year 1	1,000	1,000
Year 2	1,200	2,200
Year 3	1,200	3,400
Year 4	1,200	4,600
Year 5	1,400	6,000
Year 6	1,700	...
Year 7	1,800	...
Year 8	2,300	...

Van = 4 years and 7 months

Contribution per month is calculated during Year 5 is $\frac{\$5,350 - \$4,600}{\left(\frac{\$1,400}{12}\right)} = 6.4 \text{ mths}$

N.B Payback is not achieved until after the end of the 6th month

Computer = 2 years and 8 months

3.

(a) \$130,000

(b) Project Atlanta has the shorter payback period.

	Project Atlanta (\$)	Project Boston (\$)
Payback	1 year and 10 months $\left(\frac{50,000}{\frac{60,000}{12}} \right)$	2 years and 2 months
ARR	$\left(\frac{160,000 - 130,000}{3} \right) \times 100 = 7.7\%$ 130,000	12.8%

(c) Both projects outperform the interest rate so are worth pursuing, but Project Boston has a much better ARR, yet the projects cost the same.

(d) This depends on whether the firm's priority was a quick return on the investment (in which case Atlanta would be picked) or if profit were more of a priority. Although there is a better average rate of return for Boston, much of the money is received at a later stage in the project's timeline, i.e. it would be worth less in today's value.

4.

	Project HK (\$)	Project HK(\$)
Payback	2 years and 7 months $\left(\frac{8,000}{\frac{15,000}{12}} \right)$	2 years
ARR	$\left(\frac{57,000 - 30,000}{4} \right) \times 100 = 22.5\%$ 30,000	20.83%

- Based on financial data, Project UK has a shorter payback (by just over 6 months), so if liquidity is an issue, then the firm should opt for this venture.

- However, ARR is higher if the firm opts for Project HK; although both are significantly higher than any return from savings at a bank.

- Overall, on financial grounds, Project HK seems to be the better option if business is prepared to wait a further 6 months or so before it achieves payback.

- In addition, investment appraisal methods should consider the qualitative factors that affect the investment and the business. For example, there needs to be a consideration of organizational objectives and the views of stakeholders.