Investition und Finanzierung

Tutorium Nr. 5

Bei Fragen, Anmerkungen oder Kritik:
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Aufgabe 35 (6A9)

CALCULATING PAYBACK PERIOD AND NPV

Hideoshi Software has the following mutually exclusive projects.

Year	Project A (¥)	Project B (¥)
0	- 5.500	- 4.000
1	4.000	2.500
2	5.500	1.200
3	500	3.000

a) If the appropriate discount rate is 10 per cent, which of these two projects should be chosen?

b) Suppose Hideoshi uses the NPV rule to rank these two projects. Which project should be chosen if the appropriate discount rate is 10 per cent?

Zu Aufgabe 35 (6A9) - Interpolation

Companies can calculate a more precise value using fractional years. To calculate the fractional payback period, find the fraction of year 2's cash flows that is needed for the company to have cumulative undiscounted cash flows of ¥5,000.

Divide the difference between the initial investment and the cumulative undiscounted cash flows as of year 2 by the undiscounted cash flow of year 2.

Payback period = 1 + (¥5,500 – ¥4,000) / ¥5,500

Payback period = 1.27

Aufgabe 36 (6A11)

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CALCULATING DISCOUNTED PAYBACK

An Investment project has annual cash inflows of € 7.000, € 7.500, € 8.000 and € 8.500, and a discount rate of 10 per cent.
What is the discounted payback period for these cash flows if the initial cost is € 8.000? What if the initial cost is € 13.000? What if it is € 18.000?

Aufgabe 37 (6A13)

AVERAGE ACCOUNTING RETURN

Bluerock Group has invested € 8.000 in a high-tech project lasting three years.

Depreciation (= Abschreibung) is € 4.000, € 2.500 and € 1.500 in year 1, 2 and 3, respectively. The project generates pre-tax income of € 2.000 each year.

The pre-tax income already includes the depreciation expense. If the tax rate is 25 per cent, what is the project's average accounting return (AAR)?

Lösung zu Aufgabe 37 (6A13)

First, we need to determine the average book value of the project. The book value is the gross investment minus accumulated depreciation.

	Purchase date	Year I	Year II	Year III
Gross Investment	8000 €	8000 €	8000 €	8000 €
Less accumulated depreciation	0 €	4000 €	6500 €	8000 €
= net investment	8000 €	4000 €	1500 €	0 €

Aufgabe 38 (6A14)

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CALCULATING IRR

Calculate the NPV of the following project for discount rates of 0, 50 and 100 per cent.

What is the IRR of the project?

Year	0	1	2
Cash flow	- £ 7.000	£ 5.000	£ 20.000

Aufgabe 39 (6A6)

PROBLEMS WITH IRR

Review the main problems that arise when one uses only IRR to evaluate potential projects.