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ACCA F9

Financial Management

财务管理

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Part D investment appraisal II

1. Investment decisions without DCF
2. Investment decisions with DCF
3. Payback period

Investment decision——Considering DCF

Discounted cash flow:

Discounted cash flow, or DCF for short, is an investment appraisal technique which takes into account both the timings of cash flows and also total profitability over a project's life

有考虑DCF的投资决策方法有两种：NPV & IRR

Investment decision——Considering DCF

Three important points about DCF：

- DCF looks at the cash flows of a project, not the accounting profits
- Only future incremental cash inflows and outflows are considered
- The timing of cash flows is taken into account by discounting them

Investment decision——Considering DCF

Compounding

Calculation of future value

$$FV = PV\,(1 + r)^n$$ 以复利为基础

FV is the future value of the investment with interest
PV is the initial or 'present' value of the investment
r is the compound rate of return per time period, expressed as a proportion
n is the number of time periods

Discounting

Calculation of present value

$$PV = FV \frac{1}{(1+r)^n}$$

Annual cash flows in perpetuity

When the cost of capital is r, the cumulative PV of $1 per annum in perpetuity is $1/r.

Investment decision——Considering DCF

The discount factor——which is r in our previous formula

如何选取r？
usually the cost of capital——2 aspects

- It is the cost of funds that a company raises and uses（learn in Part E）
- The return that investors expect to be paid for putting funds into the company

区分 cost of capital 以及 cost of borrowing

Investment decision——Considering DCF

简单的NPV计算：

Net present value or NPV is the value obtained by discounting all cash outflows and inflows of a capital investment project by a chosen target rate of return or cost of capital.

Year	0	1	2	3	4
Cash flow	(100000)	60000	80000	40000	30000
Discount factor	1	0.870	0.756	0.658	0.572
PV of cash flow	(100000)	52200	60480	26320	17160

NPV = 56160

Investment decision——Considering DCF

Discount tables for the PV of $1

Annuity tables

如何查表？ 表中数值的含义？

Investment decision——without cash flow discount

真题变形：

A company is evaluating an investment project with the following forecast cash flows：

Year	0	1	2	3	4
Cash flow （m）	（6.5)	2.4	3.1	2.1	1.8

Calculate the NPV of this project with the discount rate of 15%

NPV=0.343m

Thank You!