Chapter 2 Case 1

Christoffer Baltgren, 2010-10-15

Present Values, the objectives of the firm, and Corporate Governance

To find the present value of $10 000 we must first have the Discount factor. Discount factor = 1/1+r.

Example:

- If in this investment we have an interest rate of 10%: Our discount factor is $\frac{1}{1,1} = 0,9091$

To find the present value of $10 000 we multiply with our discount factor 0,9091.

Example:

- $10 000 *0,9091 = $9091

Accept only investments that have a positive net present value (NPV). To see if the NPV is positive you take your present value – investment. Which means that we can not pay more than $9,091 to get a positive NPV.

Example:

- Assume you invest 9 000$ for one year ago (C_0), your investment is today worth $10 000. To see if the NPV is positive you take the PV – Invest = $9 091 – $9 000 = $91. NPV is positive.

To see how the rate of the return of the investment is, you take profit ($C_1 – C_0$)/investment = return

Example:

- $\frac{(\$10\,000-\$9\,000)}{\$9\,000} = 11,1\%$

Chapter 2 Group work

Christoffer Baltgren, 2010-10-15

Present Values, the objectives of the firm, and Corporate Governance

Investment alternative 1:

Suppose that today you can buy a real estate for $120,000, according to your own calculations the property shuld be worth at least $130,000 in one year. Your interest rate is 5 %.

- What is the present value?
- Is the NPV of your investment positive?
- Should we make the investment, justify you answer.

“a safe dollar is worth more than a risky one” - To judge the risk of the above investment compare you know that a secure government bond provides a guaranteed return of 5 %; you can now see that the risk of real estate investment increases significantly. You must now calculate the risk of rate of return. Your new interest rate is 10 %.

- What is the NPV?
- What is the return of the investment?
- Is $120 000 still a good price to pay for the real estate?

Investment alternative 2:

You have an offer to buy a larger part of tools from a neighbor for $40,000. You have worked as a salesman for a long time and you know that you can get at least $55,000 for this party when you sell it after one year.

- What is the return of the investment?
- If you have a rate of interest of 15% what is the present value?
- Can you get a positive net present value?
- Shod you invest your money here?

Quiz:

- What means by C_0
- Is C_0 usually positive or negative?
- Why is it so important to have a positive NPV?

Answer

Investment alternative 1:

- PV = $\frac{1}{1{,}05} * \$13\,000 = \$123\,810$
- NPV = PV – Invest = $123 810 – $120 000 = $3 810
- Yes, NPV is positive and the return is over 5 %

… … … … …

- NPV = $-120 000 + $118 182 = - $1 818
- Return = $\frac{Profit}{investment} = \frac{(\$130' - \$120')}{\$120'} = 8{,}3\%$
- No, NPV are negative.

Investment alternative 2:

- Return = $\frac{(\$55\,000 - \$40\,000)}{\$40\,000} = 37{,}5\%$
- PV = $\frac{55\,000}{1{,}15} = 47\,826$
- NPV = -40 000 + 47 826 = 7 826
- Yes, it is a good investment

Quiz

- Cash flow at time 0 (that is, today)
- Negative, here comes the investment
- The rate of return of your investment most be higher than the opportunity cost of capital