[MUSIC PLAYING]

As we mentioned in an earlier lesson, the Internal Rate Of Return is an investment evaluation method that produces the discount rate at which the net present value of cost equals the net present value of the benefits.

The higher of the project's IRR, the more desirable it is to undertake the project. A firm should in theory take all of the projects that are available that exceed its cost of capital. However, investment may limit the availability of funds. And so projects have to be ranked.

After we have analyzed the cash flows, both the revenues and expenses, and know the time of the life of the project will cover, we could calculate the IRR using an app or spreadsheet software.

Let's look at an example. Here is a web app for the initial investment of a $100,000 project. Notice we've said that we spend $100,000 at t0. And then in year 1 we earn $25,000. In year 2 we earn 30,000. In year 3 we earn 30,000. In year 4, we earn $38,000. And the last year of the project, year 5, we earn $29,000.

What is the discount rate that makes the present value of these inflows in years 1 through 5 equal to our initial investment of $100,000? The internal rate of return is 15.119%. This project should be accepted if 15.119 is greater than the hurdle rate for project evaluation.

The IRR has some advantages to its methodology. As a rate, it's clear and it's easy to understand. An investment is considered acceptable if its rate of return is greater than your minimum acceptable rate of return. It also has the advantage that it recognizes the time value of money in value and cash flows.

There are also disadvantages to the internal rate of return. The first disadvantage is that it can overstate the rate of return for a project who assumes cash flows are not reinvested at a rate lower than the calculated internal rate of return. This reflects the concept of reinvestment rate risk.

It also does not consider the cost of capital. Therefore, it should not be used to compare projects of different durations and risk. Also, in the case of positive cash flows being followed by negative ones, and then again by positive ones, the internal rate of return may have multiple values.

In a situation where a company is considering mutually exclusive projects, meaning they will only do one of a set of projects, sometimes the IRR can rank one project ahead of the other when the other

has a higher net present value. When this happens, which one should be selected?

In this case, the one with the higher net present value should be selected. Why? Because the business wants a higher dollar return, not necessarily just the higher interest rate.

Let's review the comments on the internal rate of return. The IRR is one of the project investment tools that produces the discount rate or the net present value when the cost of the investment equals zero. The higher the internal rate of return, the more desirable the project is. It could be calculated using spreadsheet software or a web app.

Advantages of the IRR include that it is clear and easy to understand. It uses cash flows that recognize the time value of money, and can be easily compared to the company's minimum acceptable rate of return.

There are also disadvantages. It can overstate the rate of return for a project using cash flows that can't be invested at the calculated internal rate of return. It does not consider the cost of capital. So it should not be used to compare projects of different durations.

And finally, it should not be used to evaluate mutually exclusive projects because it could present a favorable rate of return for one project when the academic value of another project is actually greater.

This is Dr. Bob Nolley. And I'll see you in the next lesson.

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